

Analysis of Findings from the First Sixteen Tiger Team Assessments



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Glossary of Abbreviations and Acronyms

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

AAO	Amarillo Area Office
AEA	Atomic Energy Act
AEMR	Annual Environmental Monitoring Reports
AF	Audit Finding
AL	Albuquerque Operations Office
ALARA	As Low As Reasonably Achievable
ALO	Albuquerque Operations Office
ANL	Argonne National Laboratory
AS	Aviation Safety
AST	Aboveground Storage Tank
AX	Auxiliary Systems
BHO	Brookhaven Area Office (DOE)
BMP	Best Management Practices
BMPF	Best Management Practice Findings
BNL	Brookhaven National Laboratory
CAA	Clean Air Act
CAD	Computer Aided Design
CAM	Continuous Air Monitor
CAR	Corrective Action Reporting
CDR	Conceptual Design Report
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CF	Compliance Findings
CFR	Code of Federal Regulations
CH	Chicago Operations Office (DOE)
CME	RCRA Comprehensive Groundwater Monitoring Evaluation document
CMS	Corrective Measures Study
CPAF	Cost Plus Award Fee
CS	Nuclear Criticality Safety
Cu	Copper
CUP	Consumption User Permit
CWA	Clean Water Act
CY	Calendar Year
DAO	Dayton Area Office
DAP	Discipline Action Plan or Draft Action Plan
DARA	Disposal Area Remedial Action
DAS, SHQA	Deputy Assistant Secretary for Safety, Health and Quality Assurance
DB	Davis-Bacon Act
DEP	Department of Environmental Protection

DER	Department of Environmental Regulations
DER	Department of Environmental Restoration
DHS	Department of Health Services
DNA	Defense Nuclear Agency
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOE-HQ	Department of Energy, Headquarters (Germantown or Forrestal)
DOE-OR	Department of Energy - Oak Ridge Operations Office
DOE-RL	Department of Energy - Richland Operations Office
DOE-UE	U.S. Department of Energy - Uranium Enrichment
DOE-WVPO	U.S. Department of Energy - West Valley Project Office
DP	Defense Programs
DST	Double-Shell Tank
EA	Environmental Assessment
EC	Environmental Compliance
EG&G Mound	EG&G Mound Applied Technologies, Inc.
EH	Office of the Assistant Secretary for Environment, Safety and Health (EH-1)
EH&S	Environment, Health, and Safety
EHW	Extremely Hazardous Waste
EID	Environmental Information Document
EIS	Environmental Impact Statements
EM	Office of Environmental Restoration and Waste Management
EM	Environmental Monitoring
EP	Emergency Preparedness
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act (also known as SARA Title III)
ER	Environmental Restoration
ER	Office of Energy Research (DOE)
ERDA	Energy Research and Development Agency
ERG	Emergency Response Guide
ESH&QA	Environment, Safety, Health, and Quality Assurance
EWP	Electrical Work Permit
FCAA	Federal Clean Air Act
FCWA	Federal Clean Water Act
FDA	Food and Drug Administration
FEA	Federal Energy Administration
FFA	Federal Facility Agreement
FFCA	Federal Facility Compliance Agreement
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FMPC	Feed Materials Products Center
FONSI	Finding of No Significant Impact
FP	Fire Protection
FR	Facility Safety Review

FR	Federal Register
FS	Feasibility Study
FTE	Full-Time Employee
FUSRAP	Formerly Utilized Sites Remedial Action Program
FWPCA	Federal Water Pollution Control Act
F&WS	Fish and Wildlife Service
FY	Fiscal Year
GAO	U.S. Government Accounting Office
GDP	Gaseous Diffusion Plant
GE	General Electric
GEND	General Electric Neutron Devices Department
GMP	Goundwater Monitoring Plan
GMW	General Metal Works
GOP	General Operating Procedure
GPS	Gas Purification System
GW	Ground Water
GWT	Generator Waste Tracking
HAMMER	Hazardous Materials Management and Emergency Response
HARM	Hazardous Atomospheric Release Model
HAW	High-Activity Waste
HAZWDDD	Hazardous Waste Development, Demonstration and Disposal
HAZWRAP	Hazardous Waste Remedial Action Programs
HCD	Hazards Control Department
HCDW	Hazardous Chemical Defense Waste
HCRMP	Hanford Cultural Resources Management Plan
HE	High Explosives
HEHF	Hanford Environmental Health Foundation
HEIS	Hanford Environmental Information System
HEPA	High-Efficiency Particulate Air
HI&E	Hazards Identification and Evaluation
HIRAC	Hazardous Information Record and Control
HL	High Level (hazardous) waste
HM	Hazardous Materials
HMCP	Hazardous Materials Control Policy
HMIS	Hazardous Materials Information System
HMT0	Hazardous Materials Transportation Office
HP	Health Physics
HP	Health Protection
HPFW	High-Pressure Fire Water
HPIMS	Health Physics Information Management System
HQ	Headquarters
HRS	Hazard Ranking System
HRWC	Hazardous and Radiological Waste Control
H&S	Health and Safety
HSM	Health and Safety Manual

HSWA	Hazardous and Solid Waste Amendments
HSWMP	Hanford Site Waste Management Plan
HVAC	Heating, Ventilation, and Air Conditioning
HW	Hazardous Waste
HWM	Hazardous Waste Management
HWP	Hazardous Work Permit
HWVP	High-Level Waste Vitrification Plant
IAG	Interagency Agreement
IAP	Installation Assessment Program
ID	Idaho Operations Office
IDHL	Immediately Dangerous to Health and Life
IG	DOE Inspector General
IH	Industrial Hygienist
IHE	Insensitive High Explosive
ILW	Intermediate-Level Waste
INEL	Idaho National Engineering Laboratory
INEPA	Interview National Environmental Policy Act
INPO	Institute of Nuclear Power Operations
IP	Internal Procedures
IRT	Incident Response Team
ITP	In-Tack Precipitation
IWPF	Industrial Wastewater Pretreatment Facility
IWS	Inactive Waste Site
JCS	Job Control System
JHA	Job Hazard Analysis
JTA	Job Task Analysis
KAR	Kentucky Administrative Regulations
KCAO	Kansas City Area Office
KCP	Kansas City Plant
KEH	Kaiser Engineers Hanford Company
LAER	Lowest Achievable Emission Rate
LANL	Los Alamos National Laboratory
LAW	Low-Activity Waste
LCO	Limiting Conditions of Operation
LDF	Laser Demonstration Facility
LDR	Land Disposal Restrictions
LGSTF	Liquefied Gaseous Fuels Spill Test Facility
LLNL	Lawrence Livermore National Laboratory
LLRDF	Low-Level Radiological Disposal Facility
LLRW	Low-Level Radioactive Waste
LLW	Low-Level Waste
LPG	Liquified Propane Gas
LSD	PNL Laboratory Safety Department

LUST	Leaking Underground Storage Tank Program
LWDF	Liquid Waste Disposal Facility
MA	Maintenance
MA	Management Agreement or Management Assessment
MAA	Materials Access Area
MCS	Measurement Control Standard
MCL	Maximum Contaminant level
MCLGS	Maximum Concentration Limit Guidelines
MCM	Maximum Critical Mass
MD	Management Directive
MDA	Methylenedianiline
MDA	Minimum Detectable Activity
MFL	Maximum Foreseeable Loss
MG	Management Guide
MMC	Martin Marietta Corporation
MMES	Martin Marietta Energy Systems
M&O	Management and Operations
M&O	Management and Organization
MORT	Management Oversight Risk Tree
MOU	Memorandum of Understanding
MPC	Maximum Permissible Concentrations
MRR	Medical Research Reactor (also know as BMRR)
MS	Medical Services
MSDS	Material Safety Data Sheets
MSHA	Mine Safety and Health Administration
MSSA	Master Safeguards and Security Agreement
MTF	Memoranda-To-File
MWMF	Mixed Waste Management Facility
MWSF	Mixed Waste Storage Facility
MWTA	Medical Waste Tracking Act
NAAQS	National Ambient Air Quality Standards
NCA	Noise Control Act
NCC	NEPA Compliance Committee
NCP	National Oil and Hazardous Substances Pollution Contingency Plan (also known as National Contingency Plan)
NCR	Nonconformance Report
NCS	Nuclear Criticality Safety
NE	Nuclear Energy
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NIM	Nuclear Incident Monitor
NIOSH	National Institute Of Occupational Safety & Health
NOD	Notice of Deficiency

NOI	Notice of Intent
NOIC	Nuclear Operations Improvement Council
NOS	Not Otherwise Specified
NOV	Notice of Violation
NP	Noteworthy Practice
NPDES	National Pollutant Discharge Elimination System
NQA	Nuclear Quality Assurance
NRC	Nuclear Regulatory Commission
NRC	National Response Center
NRDC	Natural Resources Defense Council
NTS	Nevada Test Site
NTSO	Nevada Test Site Office
NTSB	National Transportation Safety Board
NUREG	Nuclear Regulations
NV	U.S. Department of Energy Nevada Operations Office
OA	Organization and Administration
OEPA	Ohio Environmental Protection Agency
OHIS	Occupational Health Information System
OHM-TADS	Oil & Hazardous Material Technical Assistance Data System
O&I	Operations and Inspection Standards
OJT	On-The-Job Training
OM	Operating Methods
O&M	Operation and Maintenance
OP	Operating Procedure
OPTS	Office of Pesticides and Toxic Substances
OR	Oak Ridge Operations Office
ORDP	Organic Removal Demonstration Plant
ORGDP	Oak Ridge Gaseous Diffusion Plant
ORNL	Oak Ridge National Laboratory
OS	Occupational Safety
OSA	Office of Safety Appraisals
OSHA	Occupational Safety and Health Administration/Act
OSWER	Office of Solid Waste and Emergency Response
PA	Preliminary Assessment
PAO	Pinellas Area Office
PCB	Polychlorinated Biphenyls
PCS	Procurement Control System
PDWS	Primary Drinking Water Standard
PEL	Permissible Exposure Limit
PFP	Plutonium Finishing Plant
PGDP	Paducah Gaseous Diffusion Plant
PICSES	Plant Instrumentation Surveillance Calibration and Evaluation System
PM	Preventive Maintenance
PM	Project Manager

PNL	Pacific Northwest Laboratory (SOE) - Battelle
PORTS	Portsmouth Gaseous Diffusion Plant
PP	Personnel Protection
PRA	Probability Risk Analysis
PRMP	Plutonium Recovery Modification Project
PSO	Program Senior Officials
PSR	Project Status Report
PT	Packaging and Transportation
PTC	Permit to Construct
PWTSF	Process Waste Interim Treatment and Storage Facility

QA	Quality Assurance
QAM	Quality Assurance Manual
QC	Quality Control
QER	Quality Event Report
QIR	Quality Investigation Report
QPP	Quality Program Plan
QV	Quality Verification

RAD	Radiation
RARA	Radiation Area Remedial Action
RCAP	RCRA Corrective Action Plan
RCCP	Radioactive Contamination Control Policy
RCRA	Resource Conservation and Recovery Act
RCW	Recirculating Cooling Water
R&D	Research and Development
RD/RA	Remedial Design/Remedial Action
REIRS	Radiation Exposure Information Reporting System
RFA	RCRA Facility Assessment
RFAO	Rocky Flats Area Office
RFD	Request for Disposal
RFI/CMS	RCRA Facility Investigation/Corrective Measures Study
RHO	Rockwell Hanford Operation
RI	Remedial Investigation
RI	Rockwell International
RIDS	Records Inventory and Disposition Schedule
RI/IR	Recordable Injury/Illness Rate
RLO	Richland Operations Office
RMW	Radioactive Mixed Waste
ROD	Record of Decision
ROR	Radiation Occurrence Report
RP	Radiation Protection
RPR	Radiological Problem Report
RPS	Radiation Protection Standard
RU	Reprocessed Uranium
RWBG	Radioactive Waste Burial Ground
RWM	Radioactive Waste Management

RWP	Radiation Work Permit
SA	Safety Assessment/Appraisal
S & A	Sampling and Analysis
SAA	Satellite Accumulation Area
SAD	Safety Analysis Document
SAN	San Francisco Operation Office
SAR	Safety Analysis Report
SARA	Superfund Amendments and Reauthorization Act
SCDHES	South Carolina Department of Health and Environmental Control
SCP	Spill Control Plan
SCTF	Source Collection and Treatment Facilities
SDWA	Safe Drinking Water Act
SEN	Secretary of Energy Notice
S & EP	Safety and Environmental Protection
SEPC	State Emergency Planning Commission
S&H	Safety and Health
SHA	Safety & Health Assessment
SHQA	Safety, Health, and Quality Assurance
SI	Special Issues
SIC	Standard Industrial Code
SIP	State Implementation Plan
SWMU	Solid Waste Management Unit
SMARTS	Specifications and Management Applications for Regulated Tank Systems
SNLL	Sandia National Laboratories, Livermore
S&OH	Safety and Occupational Health
SOW	Statement of Work
SPCC&C	Spill Prevention, Control, Countermeasures and Contingency Plan
SPDES	State Pollutant Discharge Elimination System
SPP	Standard Practice Procedure
SPMS	Safety Performance Measurement System
SR	Savannah River Operations Office
SRC	Safety Review Committee
SRS	Savannah River Site
SS	Security/Safety Interface
SSB	Soils/Sediments/Biota
SST	Single-Shell Tank
STP	Sewage Treatment Plant
SW	Surface Water
SWAT	Solid Waste Water Quality Assessment Test
SWDA	Solid Waste Disposal Act
SWIMS	Solid Waste Information Management System
SWM	Solid Waste Management
SWMU	Solid Waste Management Unit
SWP	Safety Work Permit

TC	Training and Certification
TCM	Toxic and Chemical Materials
TCMP	Toxic Control Monitoring Program
TEGD	Technical Enforcement Guidance Document
TEP	Technical Evaluation Program
TMS	Training Management System
TOE	Technical Operations Evaluation
TPA	Tri-Party Agreement
TRL	Tritium Research Laboratory
TRU	Transuranic
TS	Technical Support
TS	Toxic and Chemical Material
TSA	Technical Safety Appraisal
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, or Disposal
TTA	Tiger Team Assessment
TTLWD	Temporary Low-Level Waste Disposal Site
UE	Uranium Enrichment
UF ₆	Uranium Hexafluoride
UOR	Unusual Occurrence Report
UST	Underground Storage Tank
UV	Ultraviolet
V&V	Verification and Validation
WAA	Waste Acceptance Criteria
WAA	Waste Accumulation Area
WCF	Waste Concentration Facility
WEMS	Waste Environment Management System
WESP	Waste Encapsulation and Storage Facility
WHC	Westinghouse Hanford Company
WHC-CM	Westinghouse Hanford Company Environmental Compliance Manual
WIDS	Waste Identification Database System
WIPP	Waste Isolation Pilot Plant
WM	Waste Management
WMCO	Westinghouse Materials Company of Ohio
WS	Worker Safety
WSRC	Westinghouse Savannah River Company
WTSD	Waste Treatment Storage and Disposal
WTP	Water Treatment Plant
WVDP	West Valley Demonstration Program
WVNS	West Valley Nuclear Services
WVPO	West Valley Project Office
yd	yard
Zn	Zinc

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Executive Summary

EXECUTIVE SUMMARY

The Assistant Secretary for Environment, Safety, and Health has performed an analysis of the findings from the first sixteen Tiger Team assessments. The sixteen assessments included in this analysis are:

- Rocky Flats Plant
- West Valley Demonstration Project
- Feed Materials Production Center
- Y-12 Plant
- Pantex Facility
- Mound Plant
- Portsmouth Gaseous Diffusion Plant
- Nevada Test Site
- Kansas City Plant
- Pinellas Plant
- Savannah River Site
- Lawrence Livermore National Laboratory
- Brookhaven National Laboratory
- Sandia National Laboratory Livermore
- Hanford Site
- Paducah Gaseous Diffusion Plant

The results of the analysis are provided to all Departmental elements for evaluation and appropriate application within line organizations.

The analysis includes an identification of the problems and deficiencies common to the Department's facilities, a synopsis of the findings for all sixteen assessments, a statistical summary of the findings by frequency of occurrence, the executive summaries of all sixteen assessments, and a listing of the titles of all findings.

Weaknesses and deficiencies in the following areas are proving to be key problems at DOE facilities:

- **MANAGEMENT AND OVERSIGHT OF ES&H ACTIVITIES:** ES&H authority and responsibilities are not well defined or understood. Facilities tend to operate in a reactive mode and have either not implemented, or are slow to implement, comprehensive management systems to ensure compliance with ES&H requirements. The facilities are lacking adequate self-assessment programs to ensure that ES&H deficiencies are identified, reported, and corrected. In addition, Operations Offices and Area Offices provide insufficient oversight of day-to-day contractor activities.

- **CONDUCT OF OPERATIONS/FORMALITY AND DISCIPLINE:** Implementation of effective ES&H programs is hampered by the lack of sufficient formality and discipline in ES&H management systems. Acceptance of conditions or practices which clearly do not satisfy applicable ES&H requirements is a common problem at DOE facilities. A prime example is the widespread lack of comprehensive Safety Analysis Reports for many moderate and high risk facilities. Other examples include inconsistent application of quality assurance/quality control, lack of comprehensive follow-up, lack of trend analysis, and lack of adequate documentation (e.g., NEPA, RCRA, and CERCLA).
- **COMMUNICATION OF ES&H POLICY:** Although there is evidence of improvement, the Department has not succeeded in communicating ES&H policy to all levels of DOE and contractor staff. ES&H directives and guidance which communicate these policies are not widely distributed, are often unclear, and do not contain needed supplementary guidance. Cost-plus-award-fee plans and contract structures need improvement to be effective as management and incentive tools. A consistent set of performance expectations and technical requirements must be communicated throughout the entire system.

The results show that the message of the Secretary's Ten-Point Plan and the emphasis on compliance with environment, safety and health requirements must continue to be emphasized and reinforced. Steps to eliminate the "business as usual" approach to compliance are still required in the Departmental infrastructure. It is essential that the Secretary's policy of compliance be effectively implemented down through the chain of command through use of Orders, guidance, employee performance objectives, and contractor performance evaluations.

- **RESOURCES/TRAINING:** Major difficulties exist in obtaining sufficient numbers of staff with appropriate qualifications to carry out program activities in a manner which will ensure full compliance with ES&H requirements. Compounding the problem are difficulties associated with recruiting highly skilled and experienced professionals and obtaining security clearances in a timely manner.

Staff resource requirements need to be identified and documented. The Department also needs to find ways to speed up the process of bringing new people on board (including security processing). In addition, the Department's training programs require expansion and improvement to ensure understanding, communication, and implementation of ES&H requirements (e.g., RCRA and OSHA).

- **OCCUPATIONAL SAFETY AND HEALTH:** The Department of Labor's OSHA review of the workplaces at Y-12, Mound, Pantex, Savannah River, Lawrence Livermore, Brookhaven, Sandia Livermore, Hanford and Paducah identified relatively large numbers of areas of non-compliance. The more important areas of non-compliance include construction activities, machine guarding, electrical safety, use of toxic substances, and walking/working surfaces. These areas generally reflect relatively high risks of injury or death to small numbers of workers.

Immediate attention needs to be focused on workplace safety and health. The root cause for numerous OSHA deficiencies is the lack of attention assigned by management to OSHA compliance. The bottom line is that DOE does not have in place programs that routinely identify, let alone prevent, non-compliance with OSHA requirements.

The Department of Labor (DOL) in its recent report, Evaluation of the U.S. Department of Energy's Occupational Safety and Health Program For Its Government-Owned Contractor-Operated Facilities (December 1990), concluded that DOE remains a production-oriented organization and that concerns for safety and health are not being reflected as a priority in resource allocation decisions and planning by DOE and contractor managers. The Secretary's directives, contained in the March 20, 1991 memorandum entitled, "Strengthening Line Management and Accountability in Department of Energy (DOE) Contractor Worker Safety and Health Programs," reflect the significance of DOL's findings and the need for immediate action. The Secretarial directives are designed to build upon existing health and safety initiatives and to further ensure strengthened line accountability to and capabilities for full compliance with OSHA requirements.

- **KEY TECHNICAL ISSUES:** Deficiencies in each of the following technical areas/programs were identified:
 - **Radiological Protection** - system design and procedures for control of radioactive contamination;
 - **Emergency Preparedness** - procedures and public involvement;
 - **Waste Management** - waste characterization storage, treatment, and disposal;
 - **Inactive Waste Sites** - planning and oversight/quality assurance; and
 - **Environmental Monitoring** - sampling and laboratory quality assurance programs and practices.

The Department needs to focus on the weaknesses and deficiencies in these key areas and the findings listed in the attached materials as it continues to develop and implement self-assessment programs. The information from these self-assessment programs will be key to the establishment of a proactive management system that embodies the Secretary's environment, safety, and health goals and objectives.

Section 1

Introduction

1.0 INTRODUCTION

On June 27, 1989, the Secretary of Energy, Admiral James D. Watkins, U.S. Navy (Retired), announced a Ten-Point Initiative to strengthen environmental protection and waste management activities at the U.S. Department of Energy (DOE). The third initiative calls for the establishment of independent Tiger Teams to assess DOE's major operating facilities and laboratories. As of October 1990, sixteen Tiger Team assessments were completed and formally reported to the Secretary. The following comprehensive analysis of the findings from those sixteen assessments is offered to help DOE managers in their day-to-day identification of ES&H problems.

1.1 PURPOSE

The purpose of this report is to provide the Secretary of Energy and all DOE managers with an analysis and summary of the findings and root causes identified by the first sixteen Tiger Team assessments.

1.2 SCOPE

The analysis includes the findings and root causes from the first sixteen Tiger Team assessment reports that were performed over the course of about a year. The assessments listed below in chronological order are:

- Rocky Flats Plant
- West Valley Demonstration Project
- Feed Materials Production Center
- Y-12 Plant
- Pantex Plant
- Mound Plant
- Portsmouth Gaseous Diffusion Plant
- Nevada Test Site
- Kansas City Plant
- Pinellas Plant
- Savannah River Site
- Lawrence Livermore National Laboratory
- Brookhaven National Laboratory
- Sandia National Laboratories at Livermore, California
- Hanford Site
- Paducah Gaseous Diffusion Plant

ES&H issues are addressed in this analysis under the same five assessment areas used in the Tiger Team reports (i.e., Root Causes, Environment, Safety and Health, Occupational Safety and Health, and Management and Organization).

The analysis of findings and root causes addresses the following ES&H areas:

- DOE-wide ES&H compliance with applicable Federal, State and local regulations, requirements, permits, agreements, orders and consent decrees;
- compliance with ES&H-related DOE Order requirements;
- adequacy of DOE and site contractor ES&H management programs; communication, planning, organization, resources, and training;
- conformance with applicable "best" or "accepted industry practices" (best management practices); and
- root causes identified in Section 2 of the Tiger Team assessment reports.

1.3 APPROACH

Findings and root causes from each of five assessment areas were reviewed for frequency of occurrence. A general profile of the common problem areas at DOE facilities was generated by using this information. A synopsis of the findings, root causes, and a listing of all finding titles is provided for DOE line managers and workers to perform further analysis of the ES&H findings.

Section 2 of this analysis presents a summary of root causes identified in the Tiger Team assessment reports. Sections 3 through 6 present an analysis of findings from the Environmental, Safety and Health, Occupational Safety and Health, and Management and Organization sections of the assessments (respectively).

The Environmental section of this analysis is subdivided using the same format as the Tiger Team reports. This ensures that individual findings are not "recategorized" in a manner inconsistent with the intention of the original Tiger Teams. It also ensures consistency with the Tiger Team assessment reports currently loaded on the Safety Performance Measurement System (SPMS). The Tiger Team database on SPMS contains the complete text of the final assessment reports and corresponding action plans. This analysis and the SPMS database can be a valuable compliance tool for the Operation Offices. This same methodology is used in the Safety and Health section of this report.

Environmental findings are identified as either "compliance" findings (CF) or "Best Management Practice" findings (BMP). Compliance findings are conditions, that in the judgement of the assessment team, may not satisfy applicable Federal, state or local environmental regulations, DOE Orders, internal site ES&H operating standards, enforcement actions, agreements with regulatory agencies, or permit conditions. BMP findings are conditions, that in the judgement of the Environmental team, do not conform with accepted industry practices. Varying

state regulations may cause inconsistency among similar CF and BMP findings. However, this distinction is maintained to ensure consistency with the individual Tiger Team reports, the SPMS Tiger Team database, and earlier Secretarial direction.

The Safety and Health section utilizes the Technical Safety Appraisal (TSA) format. This means that the analysis of the Health and Safety concerns ("concern" is a TSA term equivalent to the Tiger Team environmental term "finding") is subdivided according to the standard TSA appraisal disciplines. The Safety and Health portion of the Tiger Team assessments was nearly always conducted using the TSA process. Assessments that did not use the TSA process included the Feed Materials Production Center (FMPC), Y-12, Mound and Pantex. Safety and Health issues were not addressed at all in the Rocky Flats Plant (RFP) assessment.

Analysis of OSHA compliance used the 1B summary findings from the nine sites where a full OSHA compliance assessment was conducted. These sites are Y-12, Mound, Pantex, Savannah River, Lawrence Livermore, Brookhaven, Sandia Livermore, Hanford, and Paducah. Analysis of OSHA compliance at the remaining sites (i.e., West Valley, FMPC, Portsmouth, Nevada Test Site, Kansas City Plant, and Pinellas plant) used data collected under the appropriate Safety and Health discipline (i.e., Personnel Protection, Worker Safety, Industrial Hygiene, and Occupational Safety).

Analysis of Management and Organization (M&O) findings reveals key management area problems that may potentially impact seriously site compliance with ES&H requirements. The Rocky Flats Plant assessment did not address Management and Organization issues, therefore, it is not included in the M&O portion of the analysis.

This analysis examines findings identified between August 1989 (Rocky Flats assessment) and July 1990 (Paducah assessment). Over the course of the year; criteria used by the Tiger Teams have evolved, departmental regulatory environment has changed, and corrective actions have begun at these facilities. These factors are not reflected in this analysis.

A number of Noteworthy Practices were identified through the Tiger Team process. Although these practices are not examined in this analysis, a compilation of the Noteworthy Practices identified through July 31, 1990 (the first thirteen assessments) is available to all DOE elements.

Section 2

Analysis of Root Causes

2.0 ROOT CAUSE ANALYSIS

This section analyzes the common underlying causes (root causes) of the findings or concerns found in the Environment, Safety and Health, Occupational Safety and Health, and Management and Organization sections. Addressing the root cause to a problem will ostensibly prevent the problem from recurring. As the Tiger Team process evolved, the emphasis on root cause analysis increased, as did the scope and sophistication of the analysis. Fourteen of the sixteen assessments in this analysis contain a separate section devoted to root cause analysis.

The common underlying causes identified by the Tiger Teams vary in degree, ranging from probable causal factors to root causes (the cause that when removed or corrected, will eliminate the potential for a similar problem or incident recurrence). To examine all common underlying causes, the analysis consolidated causal factors, probable root causes and root causes and examined the product for frequency of occurrence.

An analysis of root causes reveals three general root causes common to a majority of the assessment reports.

- ES&H compliance is not emphasized as a primary goal. In the Safety and Health discipline, complacency or lack of attention exist because workers do not perceive this to be important. Other workers feel that ES&H compliance is incompatible with research or line position duties.
- Monitoring programs, assessment controls, and corrective action implementation programs are insufficient. A number of the reports show that the facilities have not been able to develop and implement self-assessment plans/programs. Furthermore, facilities fail to identify existing ES&H problems.
- Management is ineffective in assessing or enforcing compliance at the facilities. Management systems and controls should be reviewed and revised to include accountability, monitoring feedback, repairing and oversight performance to ensure implementation of required ES&H objectives. Lack of effective management at the facilities impedes ES&H programs.

Other common root causes identified by the Tiger Teams include failure to implement Federal, State, local and DOE policy; insufficient training (especially within the Safety and Health discipline); inadequate budgetary controls; and a need for technical staff.

The following pages contain a summary of root causes identified at fourteen facilities (excluding Rocky Flats and Kansas City Plant). The root causes are broken down into the Environment, Safety and Health, Occupational Safety and Health, and Management and Organization areas for each facility.

2.1 ROCKY FLATS PLANT (RFP) ROOT CAUSES

The Rocky Flats Plant Assessment report does not contain a summary level description of root causes. Root causes are discussed only at the finding level in the report. Therefore, a summary of RFP root causes is not included here.

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2.2 WEST VALLEY DEMONSTRATION PROGRAM (WVDP) ROOT CAUSES

2.2.1 Environmental Assessment

- With radioactive waste management and environmental cleanup as the site's primary mission, management of attendant hazardous wastes was not viewed as a major source of concern. This perception was reinforced by feedback from EPA and the State which, while acknowledging these compliance issues, indicated a lower priority in terms of regulatory action.
- The contractor's organization has been increasing over the past year, but remains inadequate. This has limited effective response to compliance issues and delayed implementation of hazardous waste management programs.
- Priority for ES&H has tended to focus on risk reduction rather than administrative compliance. DOE and contractor response to key ES&H appraisal findings has been slow and subject to competing programmatic priorities related to reducing risks associated with high-level radioactive waste management.
- Responsibilities for NEPA determinations are not being implemented according to established authorities and procedures. The NE authority for making NEPA determination is being executed by the WVDP site office. The ID policies and procedures being used at WVDP are not uniformly consistent with DOE policies. Inadequate headquarters line program direction and oversight has permitted a fragmented approach (addressed in Secretary Watkins' 10-point initiative of June 1989).

2.2.2 Safety and Health Assessment

- WVDP is a facility in transition from a short-term mission of radioactive waste processing and facility decontamination and decommissioning, to one which will take decades to accomplish. Commitments made to safety in a short-term project content are not adequate for a long-term program.
- The nature of many of the concerns identified indicates weakness in the WVNS critical self-assessment program resulting from management under-appreciation of potential consequences. Inattention to detail, lack of rigorous implementation of requirements in some areas, and shortcomings in safety knowledge, are not being surfaced for attention.
- Insufficient onsite safety staffing has been identified as a primary reason for WVNS's inability to meet some planned safety objectives and come into full compliance with DOE Orders. It also contributes to lack of timely corrective actions.

2.2.3 Management and Organization Assessment

- Management views radioactive waste management and environmental cleanup as its primary mission, therefore, hazardous waste management was not viewed to be a major concern at this site.
- There is insufficient staff devoted to carry out ES&H line and oversight responsibilities which has delayed identification and correction of ES&H non-compliance. There is difficulty in recruiting and retaining qualified personnel which has left current DOE and contractor positions unfilled.
- Management conveys ES&H objectives through two principal mechanisms: formally by written communications, and informally by implication and deed. Neither mechanism has been accurately conveying the goals and priorities of DOE in ES&H at WVDP. For example, the CPAF criteria used for WVNS had not until the most recent trimester included environmental compliance as a specific criteria factor.
- DOE and contractor response to key ES&H appraisal findings in non-nuclear area has been slow and subject to competing programmatic priorities related to reducing the risks posed by the high-level waste.
- The transmission to and response by WVDP for environmental policies and issues originated by DOE headquarters has not been efficient.

2.3 FEED MATERIALS PRODUCTION CENTER (FMPC) ROOT CAUSES

2.3.1 Executive Summary¹

- Competing priorities preclude focusing adequate resources on environmental compliance, safety upgrades, and well-structured management systems. This results in acceptance of conditions that do not meet regulatory requirements or the extension of remediation of these conditions beyond what should be reasonably acceptable to DOE and the regulatory community.

2.3.2 Summary of Root Causes

- Compromise of the mandate for ES&H compliance.
- Acceptance of non-compliance conditions.
- Inadequate enforcement of the ES&H requirements.
- Absence of actions on the evaluations of independent review groups over an extended time period.
- Some major accomplishments to reduce impacts to the environment or the public but few actual compliance activities completed.
- Slippage in plans for characterization of waste.
- History of not staffing adequately for ES&H.
- Slippage in plans for remediation of silos and off-site groundwater.
- Slippage in plans for required safety assessments and operating limits.
- Less than full use of current design criteria to evaluate new and existing facilities.

¹In this assessment, Root Causes were identified in the Executive Summary of the report.

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2.4 OAK RIDGE Y-12 PLANT ROOT CAUSES²

2.4.1 Environmental Assessment

The reasons or probable root causes responsible for the delay in upgrading the Y-12 H&S program include the following predominant beliefs that, until recently, were held by management:

- Existing programs were sufficient to protect the H&S of employees
- Changing H&S expectations were not necessary or cost effective,
- Substantial compliance, but not necessarily strict compliance, to DOE H&S regulations was what was expected,
- Managers and workers are insufficiently trained to recognize and prevent lapses in commonly understood safety practices,
- Absence of an effective program to inspect for safety hazards that would require either timely variances or funding for abatement.

Although these probable root causes apply to H&S, they were reinforced by conditions applicable to both H&S and Environment, including the following:

- The recency of DOE's transition to emphasizing the importance of ES&H concerns,
- Historically inadequate DOE oversight,
- Confusion within DOE over what entity was to provide oversight,
- Inadequate DOE staff resources,
- Insufficient budgeted outlays, and
- An antiquated physical plant.

²Taken from Section 2.0 of the Assessment Report, "Key Findings and Noteworthy Practices."

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2.5 PANTEX PLANT ROOT CAUSES

2.5.1 Executive Summary³

- Resources available are insufficient to accomplish the job as presently defined.
- ES&H policy is promulgated in numerous orders at the Headquarters, AL, and AAO level. They are inadequate to ensure their correct and timely implementation.
- The site contractor does not approach the management of information in an integrated manner, and lacks adequate records and tracking system for ES&H matters. The support organization is primarily production-oriented.
- Operations at the Pantex Plant are reactive in nature relative to ES&H. This is due to unconsolidated audit activity, reporting requirements generated by these audits, non-integrated planning and budgeting processes, lack of objectively stated expectations in the cost plus award fee plan and the inadequate number of trained/qualified staff.
- Problems in attracting technically competent employees from the finite nationwide pool of qualified manpower.
- Lack of an objective, well documented and clearly articulated technical basis for assessing risk of facilities and operations at the Pantex Plant.

³In this assessment, Root Causes were identified in the Executive Summary of the report.

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2.6 MOUND PLANT ROOT CAUSES⁴

- Operations at EG&G Mound are characterized by a high level of informality.
- Previous history has fostered a sense of complacency at the Mound Plant.
- Communication of ES&H objectives, requirements, and expectations both by DOE to the Mound Plant and within EG&G Mound has not been fully effective.
- Current resource levels at AL, Dayton Area Office (DAO), and EG&G Mound are less than adequate to properly implement ES&H program activities.

⁴Taken from Section 2.0 of the Assessment Report, "Key Findings and Noteworthy Practices."

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2.7 PORTSMOUTH GASEOUS DIFFUSION PLANT (PORTS) ROOT CAUSES

2.7.1 Environmental Assessment

- The single most commonly cited concern in the environmental area was a need for more effective oversight. PORTS staff have been in a reactive mode on environmental matters. Requirements of the workload include striving to adequately address concerns raised by regulators, maintaining the paperwork required by the regulations, keeping up with shifting guidance from DOE, and reacting to the latest issues raised by outside auditors. This workload has minimized their ability to drive the environmental process: to plan monitoring programs, to conduct regular inspections, and to ensure the application of good management practices.
- A second concern that surfaced in the environmental assessment was the failure to completely implement established policies. Specific examples of this failure exist in findings addressing inconsistencies with either national, DOE, or site policies. Many of the findings concerning NEPA are examples of the failure to fully implement national and DOE policies. Examples of inconsistencies with site policies include actions taken in a manner inconsistent with the Environmental Control procedures (e.g., inconsistent application of the NEPA checklist) or with site hazardous materials transport policy (e.g., failure to placard vehicles on site).
- A third reason for many of the findings is rooted in the lack of documented procedures for many of the environmental activities conducted at the site. Lack of procedures is usually considered a surface, not a root cause, for audit deficiencies. However, at PORTS, the environmental assessment identified this concern on such a pervasive scale that it deserves addressing as an issue itself.

A lack of documented procedures provides the potential for inappropriate actions to be taken by new or inexperienced personnel. The environmental responsibilities of PORTS, and all other industrial facilities, have grown substantially in the past few years. This trend will continue. PORTS can be expected to increasingly turn to new staff and additional contractors to fulfill these new responsibilities. These new individuals can not be expected to be knowledgeable in the details of the many environmental activities that are conducted if the procedures by which these activities are conducted are not documented.

2.7.2 Safety and Health Assessment

- Formality and discipline in the conduct of operations is inadequate. While the basic elements of a sound ES&H program are in place at the plant, the incompleteness and inadequate enforcement of procedures, documentation, and quality assurance hampers effectiveness. This is evidenced by a majority of the Team findings, but most notably in contamination control (e.g., RP-2, administrative procedures for controlling contaminated equipment not exercised; eating and drinking in contaminated areas), industrial safety (e.g., IS-1, work permit systems are not rigorously followed), and maintenance (e.g., MA-2, procedures not consistently used or kept current).
- Lack of technical self-sufficiency in safety. Instituting a more vigorous approach to ES&H as envisioned by Martin Marietta Energy Systems (MMES) management will entail expanded staff resources (numbers and qualifications), as well as a better informed management and workforce. In the recent past, PORTS has relied on external reviews to "calibrate" the status of its safety program. The lack of adequate staff capabilities manifests itself in several key findings in training (e.g., TC-1, operating philosophy and training/examination methods lead to operators committing procedures to memory, rather than gaining an understanding of what they are doing), criticality safety (e.g., CS-2, operating personnel interviewed had minimal knowledge of the fundamentals of criticality safety), and radiation protection (health physics staff resources have not been adequate to implement required elements of the radiation protection program).
- Historic risk-based approach to uranium contamination undercuts effective implementation of ALARA (as low as reasonably achievable). Although fundamental changes in contamination control practice are being instituted in response to DOE 5480.11, progress is hampered by a workplace culture tolerant of workplace contamination. Based on past bioassay data (and measurement thresholds), intakes have been low, which has served to reinforce this view. This root issue is reflected in the "immediate action concerns" identified by the Team in Buildings 720, 705, and 700, as well as in findings RP-2 (regarding effective administrative procedures not being exercised for control of contaminated equipment), RP-5 (lack of contamination posting and periodic surveys), and RP-6 (interim contamination control procedures not fully implemented).
- Oversight by DOE and contractor line management is inadequate. Although key changes to workplace practice were being ordered by PORTS management, little feedback existed on how effectively they were being implemented. The routine in-plant surveillance program required by PORTS procedure has not been implemented effectively. (A more rigorous program has since been required for Buildings 720, 705, and 700.) Reliance has been placed on outside reviewers to find problems, which underscores the

lack of native capabilities. First-line supervisory enforcement of even minimal safety provisions (e.g., prohibition on eating, drinking, and smoking in contaminated areas) was lacking. As a consequence, day-to-day accountability to safety requirements and procedures is poor. This root cause is reflected in findings for industrial hygiene (e.g., IH-20, eating and drinking in Buildings 700 and 720), radiation protection (e.g., RP-8, inadequate technician resources to support required surveys), and in the overall number of observable deficiencies found in the Team's limited walk-throughs.

2.7.3 Management and Organization Assessment

- **Performance Versus Compliance-Based Measurement**

PORTS has historically demonstrated low levels of lost work injury and low employee exposure. As long as these numerical safety indicators remained low, the past perception has been that the intent of codes and standards, regulations, and procedures was being met. Based on interviews with PORTS management, this appears to have been true independent of whether the origin of the requirement was a DOE- or a company-prescribed policy or procedure. Evidence suggests that both have been casually applied in some instances without an established system of feedback to measure safety performance. There appears to have been no sustained emphasis to evolve to a more compliance-based system of safety performance measurement in the absence of appraisals or regulatory actions.

For environmental protection, the response has been dramatically different. Full compliance to increasingly more stringent Federal and state regulations has been mandated by DOE/ORO as a goal. Concerted efforts have been pursued with the state and EPA Region V to promulgate a Federal Facility Compliance Agreement and Compliance Order, respectively. A conservative remedial program to control PCBs, RCRA wastes, and air emissions has been put in place. The contrast between safety and environmental protection programs is clear from a comparison of the findings of the health and safety team and those of the environmental team, as well as through interviews with plant personnel. This contrast is exemplified in observed contamination control and OSHA performance when compared to RCRA compliance issues, where a rigid compliance environment has dictated a highly disciplined approach to compliance.

The attainment of low levels of injury and dose, and the absence of an effective feedback on in-plant safety performance, has led to an internally inconsistent approach by management to ES&H compliance. Despite the presence of mandated standards in DOE Orders, we conclude that DOE has not established the same level of incentive to attain compliance in the health and safety area as in those undergoing high-visibility regulatory compliance proceedings.

- **Industrial Versus Nuclear Environment**

The history of the PORTS facility has been dominated by management to industrial standards rather than nuclear standards. The operating culture has retained its more industrial character rather than reflecting today's nuclear expectations for several reasons, including 1) the operating contractor (Goodyear for all but the last three years), 2) the composition of the workforce (industrial/agricultural background), 3) low turnover (many employees have worked their entire careers at the facility), and 4) limited opportunity for infusion of new thinking (most employees are trained on site to current procedures). The formality and discipline of operations represented by the Institute of Nuclear Power Operations (INPO) good practices, for example, have not been infused into the workplace at PORTS.

Consensus does not exist within DOE as to the degree of formality with which operations at PORTS should be conducted. The lack of in-house knowledge on this issue will make such a determination more difficult. However, the nature of the risk to employees, the public, and the environment, is sufficiently different from that associated with reactor operation that consideration should be given to a graded approach to applying nuclear precepts to PORTS operation. Such an approach would dictate a more formalized and disciplined operation than currently demonstrated at PORTS, but not one more appropriate for the source term and technological complexities associated with nuclear reactors.

- **Reactive Versus Anticipatory Management**

The operating contract for the PORTS facility was assumed by MMES in November 1986. The contract transition did not provide for a corporate ES&H assessment of the operation as was the case for the Hanford and Savannah River transitions. Management at MMES commented that this assessment was considered unnecessary because of the retention in the program of prior uranium enrichment managers and their resultant familiarity with PORTS performance. However, it is clear that just such a corporate assessment is being pursued.

During the past three year period (1986-1989), the operation has been the subject of a TSA, an environmental survey, a security and safeguards inspection, as well as a number of internal and external audits and appraisals. Management has responded to each review individually with little cause analysis and prioritization of identified corrective actions. The result has been a series of action plans, which has effectively saturated the contractor's ability to deal effectively with evolving ES&H needs.

The contractor prides itself on customer responsiveness and consequently has not challenged, on either a technical or resource allocation basis, those findings that may have been considered questionable. This has led to a

situation where the contractor has acquiesced to DOE and has not been a dominant force in critical self-assessment. In some instances, the contractor's implementation of an externally prescribed corrective action results in a safety practice which is incoherent or illogical. The overall credibility of the safety program suffers in the eyes of PORTS employees and external auditors when this occurs.

MMES management is aware of both of these behaviors. They intend to address the first behavior by a structured Uranium Enrichment Improvement Program and through a root cause/lessons learned action plan. These programs are still developing, and a judgment cannot yet be made as to their effectiveness.

The second behavior pattern, that of the responsive (or reactive) contractor, does not appear to be addressed in actions taken to date by contractor management. In addition, DOE incentives (past and proposed award fee performance objectives) do not appear to have effectively challenged the contractor to deliver a product with a greater sense of ownership (e.g., current Cost Plus Award Fee and ES&H objectives).

- **Changing Standards**

The PORTS facility was designed in the 1950's when performance standards were dramatically different than they are today. Occupational safety, radiation protection, environmental monitoring, and security standards are examples of areas that have undergone significant change in the past ten years. The complexity of dealing with this challenge is two-fold; first, the facility design cannot be easily retrofitted to accommodate design changes. Second, the new requirements have been imposed incrementally so that the response to one creates real barriers to the achievement of a later set of requirements. Until recently the contractor has not taken an opportunity to stand back and evaluate the collective effect of the new requirements. As a consequence of this, the PORTS organization appears to be struggling with the challenge of compliance with contemporary ES&H expectations. In some cases, this appears to have been exacerbated by mixed signals from DOE relative to practices that would be viewed as compliant. This phenomenon is most pronounced in the interaction between security and nuclear material safeguards requirements, and those for radiation protection and waste management. Operations, ES&H, and security personnel, both at MMES and at the DOE level, have not dealt effectively with these conflicts.

- Management views the PORTS mission to be one of providing economically competitive enrichment services. It performs this mission in a budgetary environment controlled both by marketplace forces and the traditional governmental budgetary controls (i.e., Congressional controls on operating and capital expenditures). Decisionmaking in this environment has suffered from the adverse effects of both budgeting controls. For example, staff

reductions were made in areas associated with ES&H performance (e.g., training support) to balance budget with revenues; however, because of government constraints, the program is unable to borrow capital to take advantage of favorable power costs and establish an operating reserve that could fund ES&H upgrades.

2.8 NEVADA TEST SITE (NTS) ROOT CAUSES

2.8.1 Environmental Assessment

- The first collection of findings relate to NV oversight of ES&H responsibilities delegated to site users. Although each of the findings alone may not be considered significant, taken together they represent a significant source of the environmental problems identified during the assessment.
- The root cause for this finding was the assumption that the users were uniquely qualified for ES&H management in these areas because of their special technical expertise in weapons devices. The Environmental Team believes that these also are probable root causes for the findings it identified.
- There appears to be a lack of regular presence at the NTS by responsible NV environmental personnel.
- The probable root cause for this finding is that the reorganization of responsibilities is a massive undertaking that is not yet complete.
- Lack of complete understanding of the breadth and significant implications for day-to-day activities of the environmental regulations because of limited staff experience.

2.8.2 Safety and Health Assessment

Because of the severe time constraints, the team was unable to conduct any indepth analysis of the 102 concerns expressed in the Safety and Health area to identify probable root causes. Some which seemed obvious include the following:

- Several of the concerns relate to inconsistent application of safety principles, particularly in the disciplines of training, radiation protection, industrial hygiene, electrical safety and hazards communication. Although, for the most part, contractor performance in these specific areas is deemed competent, the inconsistencies indicate a definite absence of NV direction (performance objectives and goals, standard guidance, etc.) in the ES&H programs.
- Several concerns point to the lack of contractor internal review of ES&H programs. This root cause is similar to the lack of NV oversight, and contributes to similar continuation and lack of identification of safety deficiencies.

- Complacency is attributed, as a root cause, to an evident lack of attention, because a planned safety activity is no longer perceived to be important by the workers.

2.8.3 Management and Organization Assessment

- The cultural changes and organizational learning required to effect the desired division of ES&H responsibilities constitute a massive undertaking that will require an intense effort to complete.
- NV oversight of these user functions needs to be enhanced and specific roles and responsibilities of NTSO in regard to ES&H oversight of user activities need to be developed.
- This situation is a historical perception that, because the user organizations have exclusive technical expertise in nuclear weapons devices, they are uniquely qualified to assure effective ES&H, both implementation and oversight, in the test areas, tunnels and assembly areas.

2.9 KANSAS CITY PLANT (KCP) ROOT CAUSES

The Kansas City Plant Assessment report does not contain a summary level description of root causes. Root causes are discussed only at the finding level in the report. Therefore, a summary of KCP root causes is not included here.

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2.10 PINELLAS PLANT ROOT CAUSES

2.10.1 Environmental Assessment

- The waste generators are not sensitive to waste management and environmental concerns, and are thus unaware of the DOE Orders and the General Electric Neutron Devices (GEND) policies which require minimization of radioactive waste.
- The competing demand of performing line management functions with ES&H activities has overburdened the PAO and GEND ES&H staffs to the extent that they are unable to exercise a routine oversight role.
- Deficiencies can be traced to lack of quality assurance and to the low priority assigned by Plant management to environmental radiation issues, given the relatively small amounts of radioactive materials subject to potential release.
- A lack of technical oversight of these activities at both the Pinellas Plant (PAO and GEND) and at AL.
- Lack of staff resources necessary to carry out effective planning, and management's decision to assign less importance to environmental requirements relative to other operational concerns.
- Failure of Pinellas Plant management and cognizant AL officials to implement current DOE policy on environmental compliance coupled with the conflicting signals given to the Pinellas County Air Quality Division by PAO.

2.10.2 Safety and Health Assessment

- The ES&H organization has a dual role of performing line safety responsibilities as well as independent safety overview. A disciplined safety and health culture has not been fully accepted at the Pinellas Plant.
- A QA program has not been developed and established for the nonweapons related functions such as health, safety, and quality verification.
- A management program to develop, control, and document site-wide operations and functions has not been established for health and safety purposes.
- Finally, AL and PAO have not required GEND to provide: 1) a safety assessment of site activities to establish ranking of hazards as well as relative risks of operations; and 2) the safety oversight functions required by DOE for the site-wide operations, health and safety performance, follow-ups for safety concerns, or UORs and lessons-learned activities.

2.10.3 Management and Organization Assessment

- Emphasis on production has traditionally overshadowed interest in fully complying with environment, safety and health requirements. There is a perception shared by PAO and GEND, that GEND has been for many years satisfactorily achieving DOE's expectations. This perception has been reinforced by actions by DOE, such as appraisals and award fee determinations. Expectations now are clearly changing, but AL, PAO and GEND are having some difficulty adjusting rapidly enough.
- There is a widespread mindset that the Pinellas Plant poses no unusual or unique risks. The surrounding high density of similar light industry has contributed to the sense that environment, safety and health risks to the community are acceptably low. The plant personnel did not fully appreciate the need to quantify the risks associated with the plant's operations. Operation of the plant since 1957 gives no indication of adverse effects to the surrounding population.

2.11 SAVANNAH RIVER SITE (SRS) ROOT CAUSES

2.11.1 Environmental Assessment

- New regulatory requirements and uncertainty of regulatory interpretations by regulatory agencies, Westinghouse Savannah River Company (WSRC), DOE-SR, and DOE-HQ.
- The WSRC has not completely implemented its waste management compliance program through effective oversight and clearly documented waste management guidance. Resolution of issues and regulatory interpretation with EPA and the South Carolina Department of Health and Environmental Control (SCDHEC) should facilitate implementation of this program.
- The lack of formality in developing regulatory interpretations, incomplete and rapidly changing interpretations of regulatory requirements, inadequate facility upgrades, and inadequate oversight of facilities.
- These deficiencies can be attributed to inadequate implementation of DOE policy, inadequate management oversight, and inadequate procedures.
- The probable causal factors for these deficiencies can be attributed to inadequate policy implementation, time constraints being inconsistent with the complexity of appraisal reports, and inadequate personnel training and supervision relative to the development of environmental data.
- DOE-SR and WSRC are not effectively communicating management expectations, responsibilities, authorities, and accountabilities across and within organizations.
- DOE SR and WSRC management are not obtaining enough accurate information reflecting actual performance and status to determine all the actions necessary to meet commitments and expectations.
- DOE-SR and WSRC are not providing sufficient training to their personnel in specific expectations, supervisory management skills, and management policies, programs, and procedures.
- DOE-SR and WSRC have not agreed upon an implementation strategy incorporating near-term goals, priorities, and feedback mechanisms for performance improvement initiatives.
- WSRC Quality Assurance organizations are not adequately proactive or effective in providing independent oversight of SRS operations.

Although not a root cause in themselves, these additional causal factors were identified to be of enough significance to highlight as contributing causes.

- Management does not always implement steps to ensure high standards are demanded and maintained. Where these standards are not being met, management does not always take on-the-spot, effective corrective actions in order to promote their expectations.
- WSRC Management is not requiring effective system and process review for determining SRS risk/hazard assessments for facilities, personnel and equipment.

2.12 LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL) ROOT CAUSES

2.12.1 Environmental Assessment

At the tier closest to the findings are four potential root causes: (1) insufficient procedures, (2) insufficient training, (3) lack of performance indicators, and (4) poor communications.

- While the first tier root causes relate directly to most of the findings, the question that has to be answered is why these problems exist. The Environmental Subteam has concluded that the second tier root cause is that LLNL has not developed or carried out a comprehensive, integrated plan that effectively implements DOE's environmental policies.
- As with the first tier root causes, the second tier has an underlying cause. The Environmental Subteam has concluded that ineffective policy implementation is a consequence of the past failure of SAN and LLNL to acknowledge and communicate that environmental objectives are more important than programmatic objectives. During the onsite portion of the assessment, the Environmental Subteam saw little evidence of a strong SAN presence with regard to environmental concerns; nor did interviews with LLNL managers at various levels indicate that they sufficiently emphasized environmental priorities. This situation applies to members of the Environmental Protection Department as well as others throughout LLNL. There are three general manifestations of this that lead to the first and second tier root causes.
- (1) Managers at all levels do not understand their role in environmental protection, (2) LLNL management does not understand strategies for the implementation of environmental protection programs, and (3) managers do not have sufficient technical knowledge of environmental protection.

2.12.2 Safety and Health Assessment

Five root causes have been identified for the deficiencies in LLNL safety performance:

- SAN and LLNL management have not established controls that are effective in verifying compliance with safety procedures and requirements.
- Weaknesses in training and a lack of formality in safety-related operations have resulted in widespread non-compliance.
- Senior management involvement and independent verification of adequate safety is lacking.

- DOE has not exercised close safety oversight of LLNL.
- There is an expectation and assumption of safety rather than an inquisitiveness to challenge a suspect assessment or demonstrate its safety.

2.12.3 Occupational Safety and Health Assessment

- The deficiencies identified during this assessment exist largely as a consequence of the lack of training, procedures, and an audit program.
- Some supervisors are not carrying out their responsibilities in the areas of available and accessible MSDSs, labeling of containers with a description of the contents and hazard rating, and consistently communicating safety information to working-level employees.
- Lack of site-wide strategic planning, management policies, and implementation plans reduces the effectiveness of LLNL's response to DOE directives and government regulations.
- DOE's ability to oversee LLNL operations is hampered because DOE Headquarters has not clearly defined its expectations for SAN's role.

2.13 BROOKHAVEN NATIONAL LABORATORIES (BNL) ROOT CAUSES

2.13.1 Environmental Assessment

For the Environmental Subteam findings as a group, 16 causal factors were identified as contributing factors. However, some of these causal factors contributed more frequently than others to individual findings. The five causal factors that appeared most frequently are policy implementation, procedures, reviews and appraisals, resources, and training. Other causal factors appeared less frequently.

- Policy implementation appeared most frequently (i.e., in 80 percent of the findings). In many cases, the inability of BNL to fully implement Federal, State, local, DOE, or BMP standards appeared to result from other causal factors, including procedures, reviews and appraisals, resources, and training.
- Procedures appeared as a causal factor in 40 percent of the findings. In these findings, BNL procedures, such as standard operating procedures (SOPs) or Safety Guides needed to ensure implementation of Federal, State, local, DOE, or BMP standards, were either absent or incomplete, or were not being followed correctly by all applicable personnel.
- Reviews and appraisals also appeared as a causal factor in 40 percent of the findings. This factor appeared to contribute to findings in two distinct ways. In the first case, BNL had not been able to implement corrective actions in response to findings from previously conducted reviews and appraisals or had not prevented the problems, once corrected, from recurring. In the second case, BNL internal review processes were either missing or flawed and subsequently failed to identify existing problems.
- Lack of resources appeared as a causal factor in 23 percent of the findings. In these findings, BNL was typically already aware of the problem but had not corrected the problem due to a lack of financial and personnel resources. In some cases, BNL had assigned a low priority to correcting the finding due to the perception that the problem had comparatively little risk. A significant example of this is the key finding on the lack of adequate identification and characterization of emissions, effluents, and soils. In other findings, the lack of resources could be attributed to the DOE funding process for large-scale capital projects under which corrective actions need to be identified and budgeted several years prior to beginning construction.
- Training appeared as a causal factor in 20 percent of the findings. In these findings, personnel had been inappropriately excluded from existing training programs or training programs were either incomplete or missing.

2.13.2 Safety and Health Assessment

- CH, BHO, and BNL management have not established controls which would be effective in verifying compliance with safety procedures and requirements.
- BNL management has not established an effective mechanism to promulgate comprehensive safety policy to all levels or to provide feedback on its effectiveness.
- Weakness in training and a lack of formality in safety-related operations have resulted in widespread non-compliance with Federal regulations and DOE Orders.
- Lack of definitive site-wide safety policies has resulted in inconsistent safety performance throughout the laboratory.
- CH and BHO have not exercised close safety oversight of BNL; frequent effective inspections, assessments, and followups required to assure an appropriate level of safety performance are absent.
- A rigorous approach to safety is still viewed by many at BNL as incompatible with the research-oriented mission of the laboratory.

2.13.3 Occupational Safety and Health Assessment

BNL does not lack the technical expertise to address the violations of the OSHA regulations. The S&EP staff has ample knowledge, skill, and ability to correct these problems. However, the apparent violations, which were found after inspecting approximately 10 percent of the facilities, indicate that there is not an effective and active program to identify and correct OSHA violations. Causal factors identified include the following:

- BNL does not have a stated policy in their Safety Manual of compliance with OSHA regulations.
- Discussions with employees indicate that active communication between the S&EP Division and the operating programs needs improvement.
- Autonomy of operating programs is not a reason for inadequate oversight and assistance to research and other programs with their occupational safety and health problems. If there were a more active involvement by S&EP, the many apparent OSHA violations would not have been present.

2.13.4 Summary of Probable Root Causes

The Team believes that the probable root causes of the assessment findings and concerns identified during this TTA are as follows:

- Senior DOE and contractor management have not uniformly accepted the need for high-level attention to the new ES&H expectations. This emphasis on ES&H has presented a challenge to senior DOE and BNL management, in terms of meeting ES&H requirements with a minimum impact on research.
- DOE and BNL appear to underestimate the difficulty of meeting ES&H requirements. The new expectation of meeting all DOE and regulatory requirements all of the time, along with major technical complexities, requires a level of effort and expertise that goes beyond the level that has been allocated to date.
- BNL management lacks control of the ES&H program. BNL does not appear to recognize the consistency and formality needed to meet current DOE ES&H goals and expectations; in that, Laboratory-wide controls on safety- and environment-related activities through the requirement and enforcement of SOPs are not required.
- The BNL Director does not have an adequate system of checks and balances in the ES&H program. A lack of independence in the appraisal program is not offset by sufficient external oversight. The overall DOE and BNL oversight program is inadequate and does not provide the quality of information needed for DOE and BNL management to make the best ES&H decisions.

2.13.5 Safety and Health Assessment Summary

Safety is considered a line responsibility at BNL, and safety responsibility and authority flow from the Laboratory Director down through Department and Division Heads to the working level. However, disconnects in the lines of communication provide major contributions to deficiencies in the safety performance of the Laboratory.

Several root causes may be identified for the deficiencies in BNL safety performance:

- CH, BHO, and BNL management have not established effective controls for verifying compliance with safety procedures and requirements.
- BNL management has not established an effective mechanism to promulgate comprehensive safety policy to all levels or to provide feedback to establish its effectiveness.

- Weakness in training and a lack of formality in safety-related operations have resulted in widespread non-compliance with Federal regulations and DOE Orders.
- Lack of definitive site-wide safety policies has resulted in inconsistent safety performance throughout the laboratory.
- CH and BHO have not exercised close safety oversight of BNL. Frequent effective inspections, assessments, and followups required to ensure an appropriate level of safety performance are absent.
- A rigorous approach to safety is still viewed by many at BNL as incompatible with the research-oriented mission of the laboratory.

2.13.6 Management Assessment

It is important to note that the ever changing ES&H requirements that various Federal, State, and local governments impose on BNL operations are outside the control of the DOE-HQ program Offices, CH, BHO, and BNL. This presents a major management challenge that must be factored into all aspects of the BNL ES&H program. During this TTA, DOE nuclear safety requirements, for example, were being rewritten, and the Clean Air Act was being amended. Federal, State, and local regulations change frequently.

Factors that were more within the control of these organizations were the following probable root causes:

- DOE and BNL management have not uniformly accepted the need for high-level attention to the new ES&H expectations.
- DOE and BNL have underestimated the difficulty of meeting ES&H requirements.
- BNL management's lack of control of the ES&H program.
- BNL lacks an adequate system of checks and balances in the ES&H area.

2.14 SANDIA NATIONAL LABORATORIES, LIVERMORE (SNLL) ROOT CAUSES⁵

- SNL, Livermore has not developed a management framework and process by which ES&H functions and requirements will be implemented in a consistent and sustainable manner.
- SNL, Livermore's planning an implementation of the ES&H program is hampered by the lack of effective leadership.
- SNL, Livermore has not developed an implementation strategy incorporating goals, priorities, and feedback mechanisms.
- SNL, Livermore's management does not obtain enough information reflecting actual ES&H performance and status to determine all the actions necessary to meet commitments and expectations.
- The SNL, Livermore quality assurance (QA) organization is not effective in fulfilling its independent oversight function.
- SNL, Livermore and AL are not providing sufficient training to their personnel in ES&H technical disciplines, specific expectations supervisory management skills, and management policies, programs and procedures.

⁵Taken from Section 2.0 of the Assessment Report, "Key Findings, Noteworthy Practices, and Root Causes."

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2.15 HANFORD SITE ROOT CAUSES

2.15.1 Environmental Assessment

- The responsible people are not adequately considering the risks associated with long-term storage of radioactive and mixed waste. This led to inadequate design of the storage facilities, containers, and methods, thus providing inadequate barriers and controls to prevent possible release of the wastes.
- Failure to develop procedures appropriate for managing an activity of the scope and complexity of the Tri-Party Agreement (TPA) and failure to develop adequate QA for the programs involved.
- Policy regarding waste management at DOE facilities are changing. Past policies did not adequately consider the risk of disposal of radioactive and hazardous waste to the soil column and thus, failed to provide barriers and controls sufficient to prevent widespread contamination of groundwater.
- There is failure to fully implement the policies on the monitoring of radioactive effluents, embodied in DOE Orders, and failure to adhere to internal procedures developed to implement those policies.
- Failure to make timely responses to change in the EPA regulations governing radioactive air emissions.
- Failure to develop procedures that would be effective in implementing DOE policy on control of environmental radiological contamination and failure to allocate sufficient resources to keep ahead of this growing problem.
- Failure to consistently implement DOE policy on ES&H across all the Hanford Site programs.

2.15.2 Safety and Health Assessment

- The Richland Operations Office (DOE-RL) staff have not taken personal responsibility for public and worker health and safety, and quality products.
- Hanford Site contractors have not conducted regular, critical, self appraisals of activities that can impact public and worker health and safety and that can generate lessons learned that can lead to correction of the causes of the problems.
- Line personnel, including the DOE-RL staff, have not taken personal responsibility for public and worker health and safety, and quality products.

- Both discipline of operations to ensure adherence to procedures and ability to recognize and respond appropriately to off-normal conditions need improvement.
- Line personnel are not adequately trained to discharge their safety and health responsibilities.
- The contractors and DOE-RL are still catching up from years of neglecting safety and health issues. They are reactive rather than proactive in addressing issues.
- Involvement of workers and their immediate supervisors in establishing safe and effective procedures is not used as a universal approach to effective management by all contractors.
- Insufficient resources are devoted to identifying and solving health, safety, and quality issues by all contractors and in ensuring adequate workplace performance by DOE-RL.
- There needs to be routine prevention or limitation of workplace safety and health hazards.

2.15.3 Management and Organization Assessment

- Management has not accomplished the necessary safety culture change.
- ES&H planning at the Hanford Site is inadequate.
- Management's ability to achieve ES&H goals is inhibited by inadequate monitoring, assessment, and corrective action implementation.

2.16 PADUCAH GASEOUS DIFFUSION PLANT (PGDP) ROOT CAUSES

2.16.1 Environmental Assessment

- Lack of formal procedures to control environmental protection activities.
- Environment-related training at PGDP is too informal to ensure that personnel understand their roles and responsibilities in protecting the environment.
- PGDP does not have an effective system for monitoring environmental protection programs. Sufficient formal quality assurance oversight is not in place on a site-wide basis for environmental programs. Where formal inspections or appraisal are in use, the findings are not sufficiently well tracked trended, or used in a way that allows early identification of problem areas and development of comprehensive corrective actions.
- The oversight role has not been effective in identifying technical weaknesses in environmental programs.

2.16.2 Safety and Health Assessment

- There is no integrated approach to implementing management initiatives.
- DOE oversight of and guidance to contractor management are not completely effective.
- The contractor commitment to full compliance with DOE Orders and mandatory standards has not been sufficient.
- Resources for timely implementation of programs are inadequate.
- Management has not been committed to a rigorous and formalized approach to site operations.

2.16.3 Management Assessment

- Exponential growth and complexity of ES&H compliance requirements, limited ability of DOE to rapidly expand its ES&H capabilities, and institutional inertia within DOE have precluded the Department from providing effective ES&H oversight. Furthermore, the relatively low profile of PGDP has diminished the attention of DOE to resolution of this problem.
- The ability to implement the commitment of ES&H excellence depends upon the willingness of MMES to provide the site with the necessary technical self sufficiency, support and guidance.

- **Lack of sufficient incentives for MMES to devote time, attention, resources, and know how to PGDP for the site to perform ES&H with the excellence required by DOE's ES&H initiatives.**

Section 3

Analysis of Environmental Assessment

3.0 ANALYSIS OF ENVIRONMENTAL ASSESSMENT

This section presents environmental problems identified most frequently at the first sixteen Tiger Team assessed sites.

Tiger Team environmental assessments use the following environmental technical disciplines:

- Air
- Surface water
- Groundwater
- Toxic and Chemical Materials
- Waste management
- Quality Assurance (QA)
- Radiation
- Inactive waste sites and releases
- Environmental Monitoring
- National Environmental Policy Act (NEPA)

Both compliance findings (CF) and best management practice findings (BMP) are developed under each of these disciplines. Compliance findings are based on Federal, State, and local regulations/requirements, and DOE Orders. Best management practice findings are based on accepted industry practices. This format is consistent with the method used by the Tiger Teams to code and identify findings.

It is important to note that similar findings may be identified as compliance at one facility and BMP at another, depending on the state in which the facility is located (e.g., an air compliance finding in one state may be a best management practice in another state). Using the format of the Tiger Team reports ensures that this analysis does not "recategorize" individual findings in a manner inconsistent with the intentions of the original Tiger Team.

Several specific environmental findings are consistently found at nearly all DOE facilities. Analysis of environmental findings reveals significant problems in the following areas.

- **Air** - Deficient air effluent source monitoring programs persist, compromising the integrity of atmospheric release characterization data; and inadequate ambient air surveillance monitoring programs exist, resulting in questionable or non-existent data.
- **Surface Water** - Discharges that may require permits are currently not included in existing permits or have not had a determination made by the appropriate regulatory agency; monitoring reports are not fulfilling regulatory requirements; Spill Prevention Control and

Countermeasures (SPCC) plans are either inadequate or inadequately implemented (ultimately this could lead to an environmental release); wastewater discharges do not comply with concentration limitations defined under National or State Pollutant Discharge Elimination System (NPDES, SPDES) or local pretreatment permits; sampling and analysis programs for potable water and waste water discharges are deficient; and/or facilities are performing inadequate environmental monitoring of liquid releases.

- **Waste Management** - RCRA and non-RCRA administrative and technical inadequacies exist associated with inadequate waste characterization, storage tank inspections, accumulation area inspections, inspection follow-ups, and documentation at solid waste landfills; and deficiencies exist in monitoring and maintenance of stored waste, RCRA training for hazardous waste generators, and storage of Land Disposal Restricted (LDR) waste on sites for purposes other than those allowed.
- **Radiation** - Environmental radiation monitoring programs are plagued by quality assurance deficiencies (e.g., inadequate site-specific procedures, inadequate documentation of practices, deficient execution of programs, and deficient reporting of results in annual Environmental Monitoring Reports).
- **Inactive Waste Sites** - Planning and implementation of inactive waste site response actions are not performed in accordance with DOE CERCLA Order 5400.4 and the National Contingency Plan (NCP) (40 CFR 300); and CERCLA response or RCRA corrective action activities are not adequately planned, monitored, and conducted.
- **NEPA** - Common deficiencies in the NEPA area include: inadequate Environmental Impact Statements (EISs) for new facilities, improperly used Memoranda to File (MTF) documents for NEPA determinations, inappropriately used DOE NEPA guidelines, and inadequate NEPA review before initiation of projects.

The following pages detail the general problem areas described above. Appendix C lists the environmental compliance and best management finding titles by site.

3.1 AIR

The purpose of the air portion of the assessment is to assess the facility's current operating practice with regard to 1) regulations promulgated under the Clean Air Act, 2) DOE Orders and 3) management practices.

3.1.1 AIR COMPLIANCE FINDINGS

3.1.1 .1 Air-Effluent-Source Monitoring Deficiencies

Fifty percent of the sites assessed had deficiencies that could compromise the complete or accurate characterization of the substances exhausted or vented to the atmosphere.

Supporting findings:

PGDP A/CF-2	SNLL A/CF-2
PGDP A/CF-4	PORTS A/CF-5
BNL A/CF-3	Pinellas A/CF-2
RFP Air/AF-1	Pinellas A/CF-5
RFP Air/AF-2	Pinellas A/CF-6
Hanford A/CF-1	LLNL A/CF-1

3.1.1.2 Ambient Air Surveillance Monitoring Deficiencies

Twenty-five percent of the sites had deficiencies related to the surveillance monitoring activities that resulted in poorly defensible data or no data at all.

Supporting findings:

PGDP A/CF-3	Pantex Air/CF-1
RFP Air/AF-3	Pantex Air/CF-2
LLNL A/CF-2	

3.1.1.3 Lack of Air Permits

Sixty-three percent of the sites had findings related to the lack of permits to construct, permits to operate, or deficiencies in existing permits for air pollutant sources or air pollution control devices.

Supporting findings:

PGDP A/CF-7	SNLL A/CF-1
BNL A/CF-1	KCP-1
RFP Air/AF-4	WVDP 3.2.1
Hanford A/CF-6	PORTS A/CF-1
LLNL A/CF-7	Pinellas A/CF-1
LLNL A/CF-8	

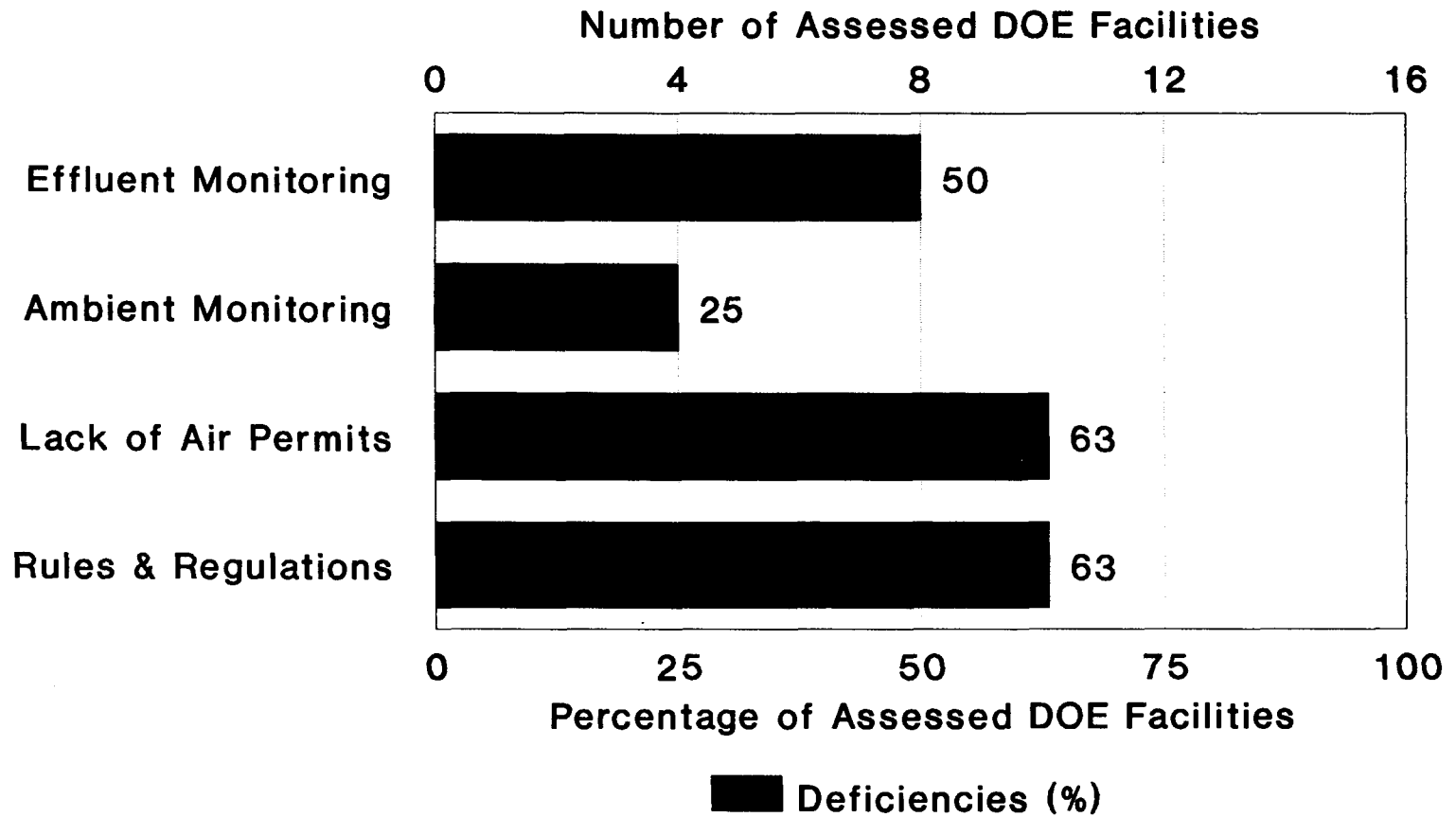
3.1.1.4 Noncompliance with Air Rules and Regulations

Sixty-three percent of the sites had findings that described operations that were not conducted in accordance with Federal, state, or local rules and regulations.

Supporting findings:

PDGP A/CF-8	Y-12 CF-3.5.1.2.1
SRS A/CF-1	PORTS A/CF-2
RFP Air/AF-5	PORTS A/CF-3
Hanford A/CF-2	PORTS A/CF-4
Hanford A/CF-3	Pinellas A/CF-3
Hanford A/CF-4	Pinellas A/CF-7
LLNL A/CF-4	Pinellas A/CF-8
LLNL A/CF-5	LLNL A/CF-7
LLNL A/CF-6	BNL A/CF-4
LLNL A/CF-8	BNL A/CF-5

Air Compliance Findings



3.1.2 AIR BEST MANAGEMENT PRACTICE FINDINGS

3.1.2.1 Air-Effluent-Source Monitoring Deficiencies

Fifty percent of the sites assessed had deficiencies that could result in an inadequate characterization of substances being exhausted to the atmosphere.

Supporting findings:

SRS A/BMP-8	Pinellas A/BMPF-5
Hanford A/BMPF-3	Hanford A/BMPF-9
NTS A/BMPF-1	Pantex Air/BMPF-2
Mound A/BMPF-2	WVDP 3.3.3
Y-12 BMPF-3.5.1.3.7	WVDP 3.3.4

3.1.2.2 Airborne Effluent Control Program Deficiencies

Sixy-three percent of the sites had deficiencies related to inadequate control of emissions or to inadequate inspection, testing, and maintenance of control equipment.

Supporting findings:

BNL A/BMPF-2	Y-12 BMPF-3.5.1.3.10
Hanford A/BMPF-5	Y-12 BMPF-3.5.1.3.15
Hanford A/BMPF-7	SNLL A/BMPF-1
Hanford A/BMPF-8	Mound A/BMPF-5
Hanford A/BMPF-10	WVDP 3.3.6
LLNL A/BMP-1	PORTS A/BMP-2
Y-12 BMPF-3.5.1.3.4	Pinellas A/BMPF-2
Y-12 BMPF-3.5.1.3.8	Pinellas A/BMPF-3

3.1.2.3 Ambient Air Surveillance Monitoring Deficiencies

Sixty-three percent of the sites had findings that related to surveillance monitoring deficiencies, such as poor monitor siting or inadequate monitoring devices.

Supporting findings:

BNL A/BMPF-1	KCP-2
BNL A/BMPF-5	WVDP 3.3.1
BNL A/BMPF-6	WVDP 3.3.2
SRS A/BMP-2	PORTS A/BMP-1
SRS A/BMP-7	Pinellas A/BMPF-1
Hanford A/BMPF-4	Pinellas A/BMPF-5
Y-12 BMPF-3.5.1.3.3	Mound A/BMPF-1
SNLL A/BMPF-2	

3.1.2.4 Meteorological Monitoring Program Deficiencies

Fifty percent of the sites had findings that related to deficiencies in the meteorological data acquisition program, which have the potential to adversely affect dose assessments, emergency response activities, and impact analysis of airborne releases.

Supporting findings:

BNL A/BMPF-4	PORTS A/BMP-5
SRS A/BMP-4	Mound A/BMPF-3
SRS A/BMP-6	KCP-3
Y-12 BMPF-3.5.1.3.14	WVDP 3.3.5
SNLL A/BMPF-3	WVDP 3.3.7

3.1.2.5 Inventory of Air Emission Sources Lacking

Forty-four percent of the sites assessed had findings related to the lack of a source inventory.

Supporting findings:

BNL A/BMPF-3

Mound A/BMPF-4

SRS A/BMP-4

PORTS A/BMP-3

Hanford A/BMPF-2

PORTS A/BMP-4

Y-12 BMPF-3.5.1.3.11

Pinellas A/BMPF-4

3.1.2.6 Emissions of Substances that are Likely to Become Regulated

Thirty-one percent of the sites had emissions of substances that are being evaluated by the EPA for regulation.

Supporting findings:

PGDP A/BMP-1

Y-12 BMPF-3.5.1.3.13

PGDP A/BMP-2

Pantex Air/BMPF-1

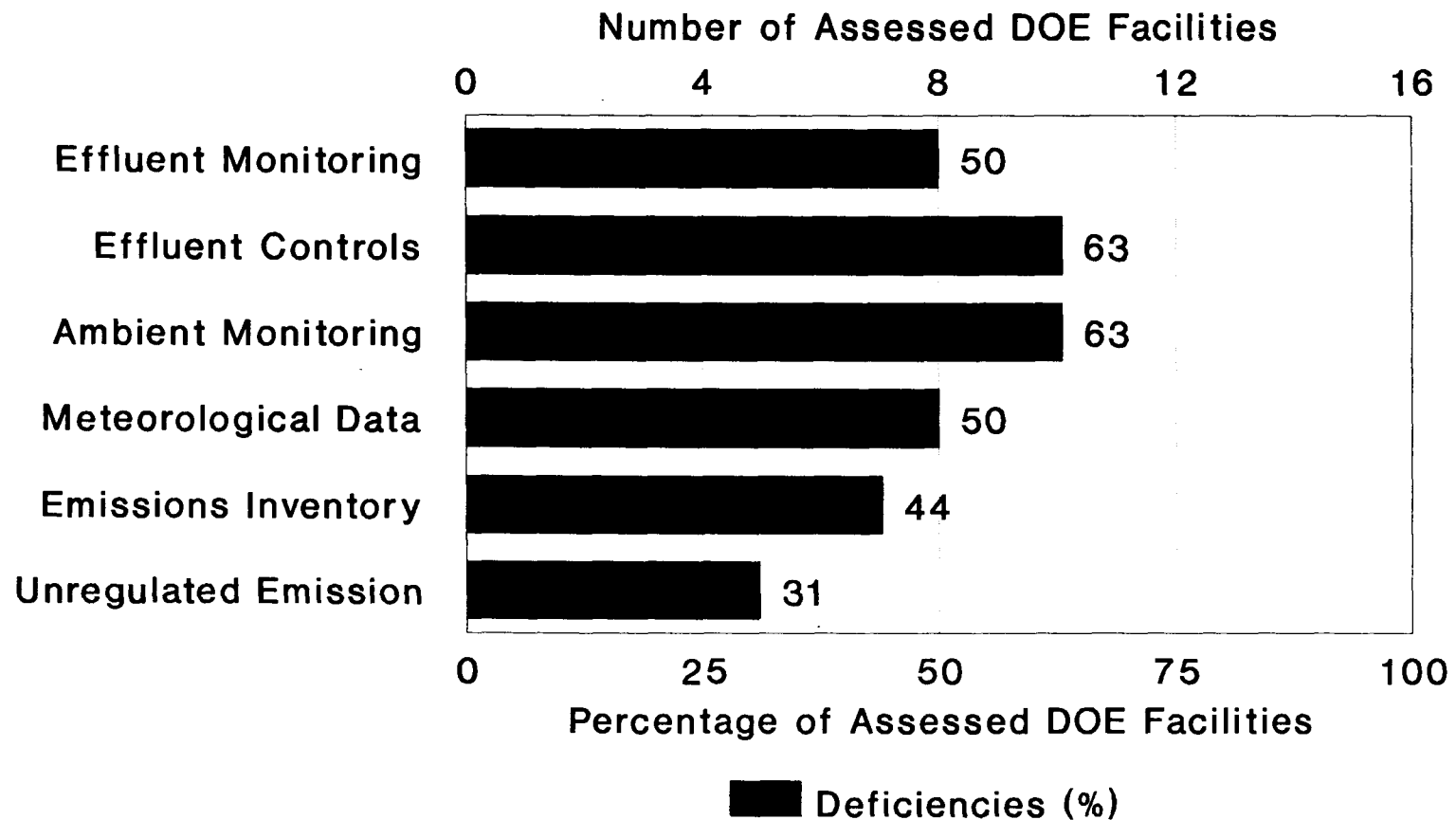
RFP Air/BMP-1

Y-12 BMPF-3.5.1.3.9

Hanford A/BMPF-1

Air

Best Management Practice Findings



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3.2 SURFACE WATER

The protocol for the assessment of surface water is governed primarily by the Clean Water Act and the Safe Drinking Water Act.

3.2.1 SURFACE WATER COMPLIANCE FINDINGS

3.2.1.1 Unpermitted Discharges

Eighty-one percent of the sites assessed had surface water releases (of either source or pollutant characteristics) that should but are not regulated under currently applicable NPDES permits.

Supporting findings:

BNL SW/CF-1	Y-12 3.5.3.2.4
FMPC E-17	Pantex SW/CF-1
KCP-6	Pinellas SW/CF-4
LLNL SW/CF-3	PORTS SW/CF-2
LLNL SW/CF-4	RFP SW/AF-3
LLNL SW/CF-5	SNLL SW/CF-3
Mound SW/CF-3	WVDP 5.2.3
NTS SW/CF-6	

3.2.1.2 Deficient NPDES, SPDES, or Drinking Water Monitoring Reports

Seventy-five percent of the sites assessed thus far have not been submitting properly prepared monitoring reports that fulfill all requirements of the regulatory agencies involved.

Supporting findings:

BNL SW/CF-4	PGDP SW/CF-2
Hanford SW/CF-2	Pantex SW/CF-3
Hanford SW/CF-3	Pinellas SW/CF-1
Hanford W/CF-8	PORTS SW/CF-4
NTS SW/CF-1	RFP SW/AF-1
NTS SW/CF-4	SNLL SW/CF-1
NTS SW/CF-8	SRS SW/CF-6
Y-12 3.5.3.2.2	WVDP 5.2.6

3.2.1.3 Deficient SPCC Plans and Best Management Practices

Sixty-three percent of the sites assessed had Spill Prevention Control and Countermeasures (SPCC) Plans that are either inadequate or inadequately implemented. Uncontrolled spills could potentially release oil and/or hazardous materials because prevention measures are deficient.

Supporting findings:

FMPC E-17	Pinellas SW/CF-6
KCP-8	PORTS SW/CF-5
KCP-9	SNLL SW/CF-2
LLNL SW/CF-2	SRS SW/CF-3
Mound SW/CF-2	SRS SW/CF-4
Pantex SW/CF-2	WVDP 5.2.4

3.2.1.4 Non-Compliance with NPDES, SPDES, or Pretreatment Permit Requirements

Fifty-six percent of the sites assessed had wastewater discharges that are not in compliance with concentration or load limitations defined in the site's NPDES, SPDES, or local pretreatment permits.

Supporting findings:

BNL SW/CF-2	Y-12 3.5.3.2.3
FMPC E-17	Pantex SW/CF-3
FMPC E-19	Pinellas SW/CF-2
Hanford SW/CF-6	PORTS SW/CF-3
KCP-7	WVDP 5.2.2

3.2.1.5 Deficiencies in Monitoring, Sampling, or Analysis Programs

Fifty percent of the sites assessed had inadequate sampling and/or analysis programs for potable water, wastewater discharges or environmental monitoring of liquid releases.

Supporting findings:

BNL SW/CF-3	PGDP SW/CF-3
FMPC E-21	Pinellas SW/CF-3
Hanford SW/CF-7	Pinellas SW/CF-5
NTS SW/CF-7	PORTS SW/CF-1
PGDP SW/CF-1	RFP SW/AF-4
PGDP SW/CF-2	

3.2.1.6 BFP/CC Program Inadequacies

Thirty-eight percent of the sites assessed have weaknesses in their potable water protection systems (e.g., deficient backflow prevention (BFP) devices and/or administrative cross-connection (CC) controls).

Supporting findings:

Hanford SW/CF-5	PGDP SW/CF-4
Mound SW/CF-1	SRS SW/CF-1
NTS SW/CF-2	WVDP 5.2.1

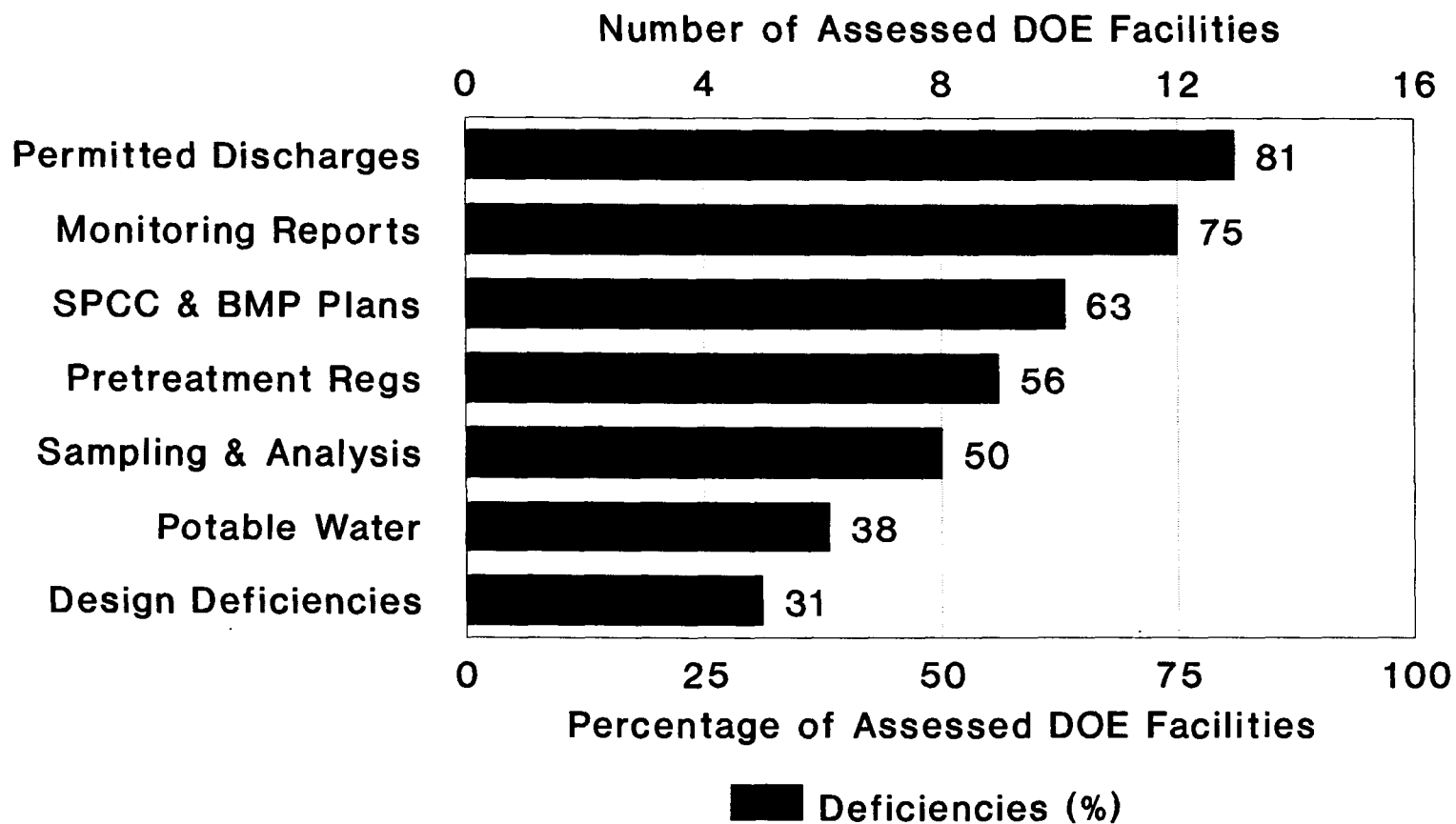
3.2.1.7 Design Deficiencies Contributing to Non-Compliance with Requirements

Thirty-one percent of the sites assessed have water supply or wastewater treatment system design deficiencies that significantly impact the sites' ability to consistently comply with all regulatory requirements.

Supporting findings:

FMPC E-17	Pinellas SW/CF-2
Hanford SW/CF-4	RFP SW/AF-3
LLNL SW/CF-4	RFP SW/AF-5
LLNL SW/CF-5	RFP SW/AF-7

Surface Water Compliance Findings



3.2.2 SURFACE WATER BEST MANAGEMENT PRACTICE FINDINGS

3.2.2.1 Monitoring, Sampling, and Analysis Program Inadequacies

Sixty-three percent of the sites assessed had shortcomings in their monitoring, sampling and/or analysis programs that were not severe enough to contribute to compliance problems, but were of sufficient concern to lead to best management practice findings.

Supporting findings:

BNL SW/BMPF-1	PORTS SW/BMP-3
BNL SW/BMPF-4	PORTS SW/BMP-5
FMPC E-21	RFP SW/BMP-2
Hanford SW/BMPF-2	SNLL SW/BMPF-1
KCP-10	SNLL SW/BMPF-2
LLNL SW/BMP-1	SRS SW/BMP-5
NTS SW/BMPF-1	SRS SW/BMP-7
Pinellas SW/BMPF-2	SRS SW/BMP-9

3.2.2.2 Water or Wastewater System Design Deficiencies

Fifty-six percent of the sites assessed had design deficiencies leading to loss of efficiency or reliability. These deficiencies were not direct contributors to non-compliance with regulations.

Supporting findings:

BNL SW/BMPF-5	Pantex SW/BMPF-4
Hanford SW/BMPF-4	Pinellas SW/BMPF-2
LLNL SW/BMP-2	Pinellas SW/BMPF-5
Mound SW/BMPF-1	PORTS SW/BMP-7
PGDP SW/BMP-1	PORTS SW/BMP-10
Pantex SW/BMPF-1	RFP SW/BMP-2
Pantex SW/BMPF-2	RFP SW/BMP-4

3.2.2.3 Inadequate Spill Control Programs

Forty-four percent of the sites assessed had obvious deficiencies in spill prevention and control programs that could lead to release of oils or hazardous materials to the environment.

Supporting findings:

Mound SW/BMPF-1	PORTS SW/BMP-8
Y-12 3.5.3.3.1	PORTS SW/BMP-9
Pantex SW/BMPF-2	RFP SW/BMP-1
PORTS SW/BMP-6	SRS SW/BMP-1
PORTS SW/BMP-7	WVDP 5.3.1

3.2.2.4 Lack of Appropriate Standard Operating Procedures (SOPs)

Thirty-one percent of the sites assessed had either incomplete or nonexistent standard operating procedures (SOP) for operating and maintaining treatment systems, field instruments, monitoring stations, sampling, analysis, and general conduct of operations (in some cases, existing SOPs omitted key steps in processes).

Support findings:

BNL SW/BMPF-4	RFP SW/BMP-3
FMPC E-21	SRS SW/BMP-6
PORTS SW/BMP-1	SRS SW/BMP-8
PORTS SW/BMP-5	

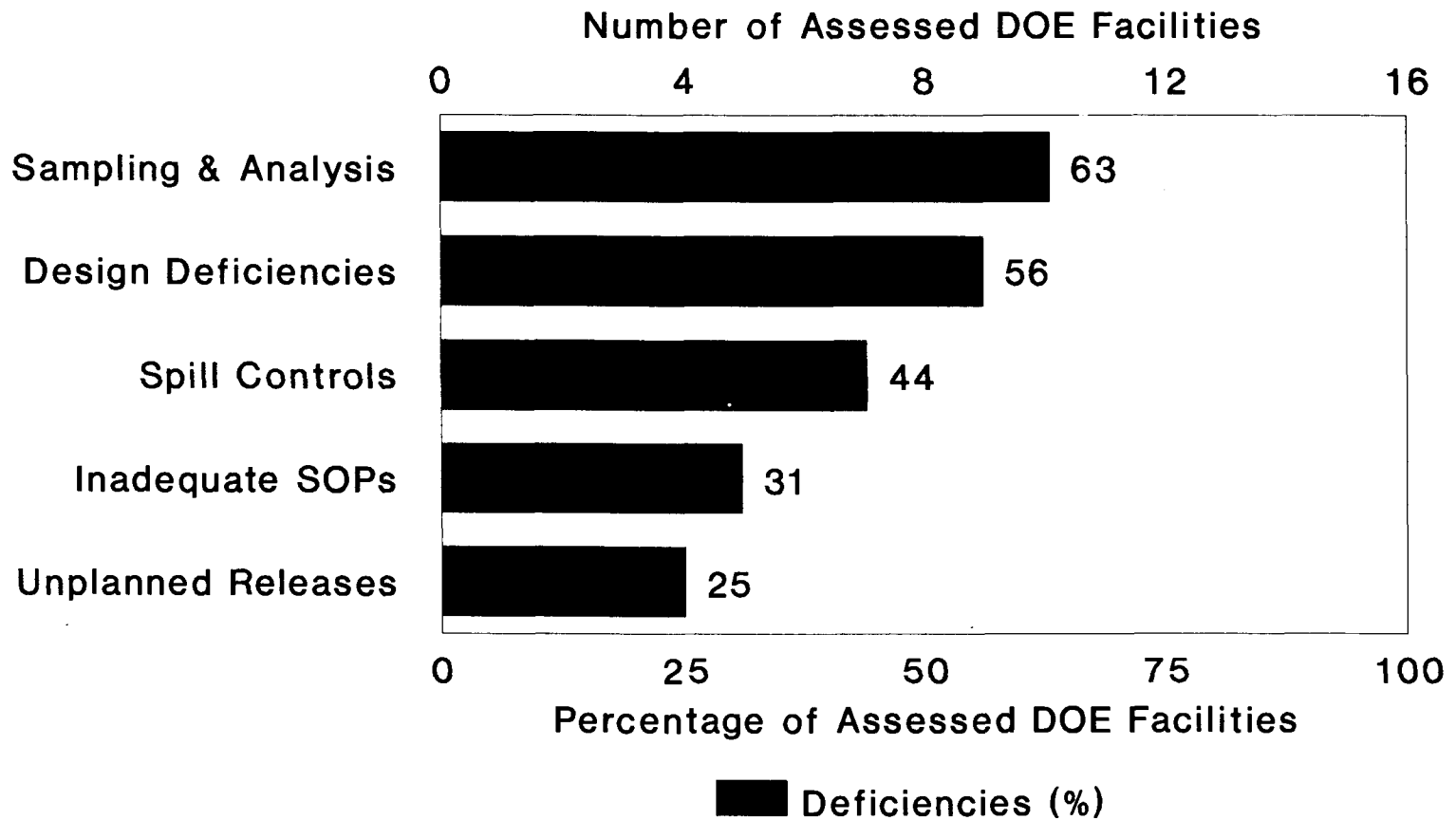
3.2.2.5 Potential Unplanned Releases

Twenty-five percent of the sites assessed had deficiencies in alarms, or sensors that were out of service or set at a level inappropriate for providing ample notice of possible releases to the environment.

Supporting findings:

BNL SW/BMPF-1	PORTS SW/BMP-10
Pinellas SW/BMPF-5	SNLL SW/BMPF-1
PORTS SW/BMP-9	

Surface Water Best Management Practice Findings



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3.3 GROUNDWATER

The groundwater portion of the assessment should focus on groundwater monitoring activities as they relate to environmental programs and practices at the facility. This assessment should provide the overall status of the groundwater quality and groundwater monitoring program in relation to the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA).

NOTE: The Nevada Test Site assessment addressed groundwater and hydrogeological issues in the Inactive Waste Site section of the report. To maintain consistency with the Tiger Team reports and the Tiger Team module on the SPMS database, the NTS groundwater and hydrogeological findings have not been recategorized under the groundwater media. Therefore, this section of the analysis is based on 15 Tiger Team assessments.

3.3.1 GROUNDWATER COMPLIANCE FINDINGS

3.3.1.1 Inadequate Characterization of the Hydrogeologic Regime and/or Determination of the Rate and Extent of Groundwater Contamination

Forty-seven percent of the sites assessed have not adequately characterized the hydrogeologic regime and/or adequately defined the rate and extent (horizontal and vertical) of groundwater contamination.

Supporting findings:

BNL GW/CF-1

Hanford GW/CF-2

KCP-13

Pinellas GW/CF-2

PORTS GW/CF-1

RFP GW/AF-1

SNLL GW/CF-1

3.3.1.2 Inadequate or Improper Abandonment of Groundwater Wells

Twenty-seven percent of the sites assessed have groundwater wells that have been abandoned improperly or inadequately and/or lack the documentation that the wells have been abandoned according to applicable regulations. In addition to these compliance findings, three sites had similar best management practice findings.

Supporting findings:

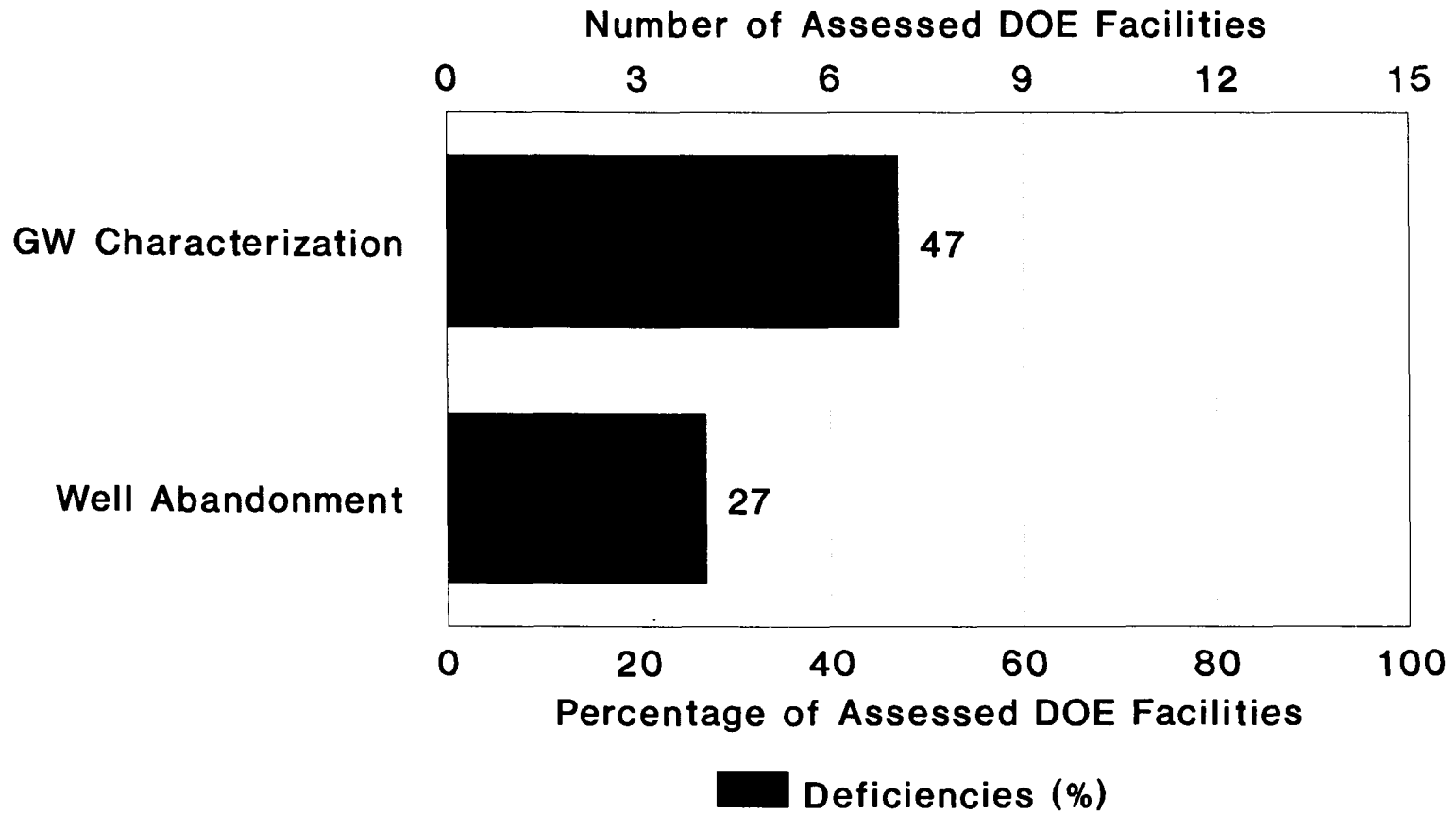
BNL GW/CF-4

KCP-14

Pinellas GW/CF-3

WVDP 6.2.1

Groundwater Compliance Findings



3.3.2 GROUNDWATER BEST MANAGEMENT PRACTICE FINDINGS

3.3.2.1 Well Construction and Maintenance, Identification, and Security

Forty percent of the sites assessed use: monitoring wells of unknown or improper construction for monitoring purposes; wells not maintained properly; wells inadequately secured to prevent tampering; and/or wells inadequately marked with an identification code and the reference survey point.

Supporting findings:

BNL GW/BMPF-2	KCP-16
Mound GW/BMPF-1	Pinellas GW/BMPF-1
RFP GW/BMP-1	Y-12 3.5.4.3
RFP GW/BMP-5	

3.3.2.2 Groundwater Sampling Procedures

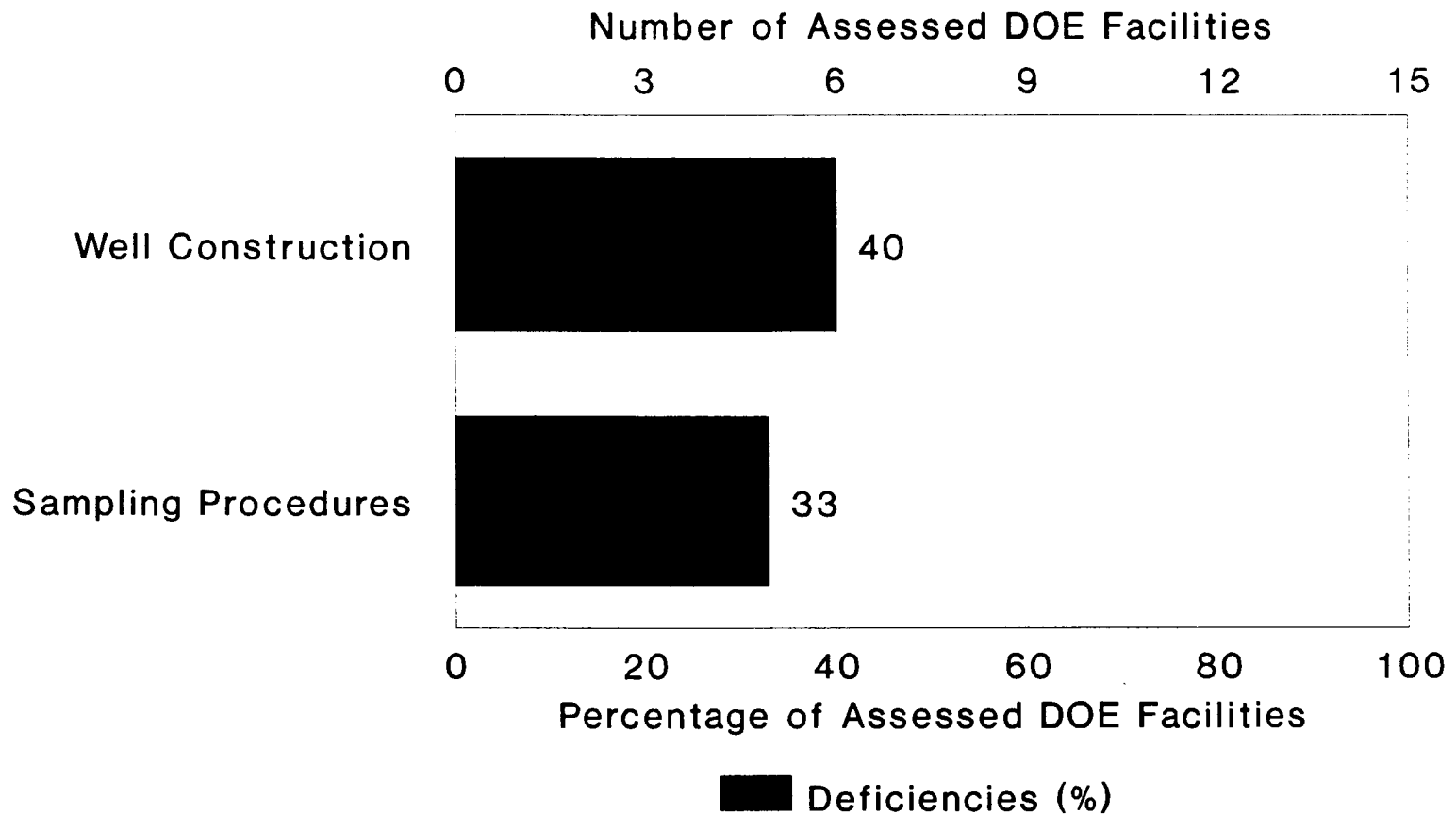
Thirty-three percent of the sites assessed did not follow sampling and decontamination procedures that are established by industry practice and technical guidance.

Supporting findings:

BNL GW/BMPF-3	KCP-17
RFP GW/BMP-3	WVDP 6.3.2
Y-12 3.5.4.3.2	

Groundwater

Best Management Practice Findings



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3.4 WASTE MANAGEMENT

The purpose of the waste management portion of the assessment is to assess the facility's current operations for consistency with 1) regulations promulgated under RCRA, 2) State solid waste management and disposal regulations, 3) DOE Orders, and 4) best management practices. The assessment should address the management of hazardous, radioactive, mixed (hazardous and radioactive), nonhazardous and solid waste.

3.4.1 WASTE MANAGEMENT COMPLIANCE FINDINGS

3.4.1.1 Waste Identification/Characterization

Eighty-one percent of the sites assessed to date are not adequately identifying or characterizing hazardous, radioactive, or mixed waste streams to ensure proper management. One additional site had this issue identified as a best management practice finding.

Supporting findings:

NTS WM/CF-1	RFP WM/AF-6
KCP 3.5.4.2.19	RFP WM/AF-9
KCP 3.5.4.2.20	RFP WM/AF-10
LLNL WM/CF-3	WVDP 7.2.2
LLNL WM/CF-4	FMPC E-06
LLNL WM/CF-11	FMPC E-07
BNL WM/CF-3	Pantex WM/CF-5
Hanford WM/CF-4	Pantex WM/CF-8
Hanford WM/CF-6	Mound WM/CF-1
PGDP WM/CF-1	PGDP WM/CF-2SRS WM/CF-6
SNLL WM/CF-2	

3.4.1.2 Inspection Practices at Waste Management Facilities

Fifty-six percent of the sites assessed to date are deficient in their inspection practices. Deficient practices include RCRA storage tank inspections not complete and not performed daily, RCRA accumulation area inspections not complete and not performed weekly, lack of inspection follow-up, and lack of inspections and documentation at a solid waste landfill.

Supporting findings:

SRS WM/CF-6	Pantex WM/CF-7
SRS WM/CF-8	Pantex WM/CF-8
LLNL WM/CF-9	Pantex WM/CF-12
BNL WM/CF-5	Y-12 3.5.5.2.4
BNL WM/CF-6	Mound WM/CF-3
RFP WM/AF-7	PORTS AWM/CF-2
FMPC E-08	PORTS AWM/CF-4

3.4.1.3 Waste Minimization

Thirty-eight percent of the sites assessed to date are deficient in their waste minimization plans or practices. Examples include unnecessary commingling of radioactive and nonradioactive wastes, inadvertent contamination of nonhazardous waste with hazardous waste, incomplete, deficient or missing waste minimization plans, informal and undocumented minimization programs, and lack of adequate facilities and procedures for proper waste reduction. Two additional sites had this issue identified as a best management practice finding.

Supporting findings:

Pinellas WM/CF-1	Hanford WM/CF-6
KCP 3.5.4.3.24	PGDP WM/CF-7
LLNL WM/CF-6	SNLL WM/CF-1

3.4.1.4 RCRA Personnel Training

Fifty percent of the sites assessed to date are deficient in their RCRA hazardous waste training programs. Hazardous waste generator personnel at sites with interim status facilities do not receive training for waste identification and handling. Personnel do not receive annual retraining. Job titles and descriptions and training program descriptions have not been documented. Three sites also had this issue identified as a best management practice finding.

Supporting findings:

FMPC E-05	SRS WM/CF-1
FMPC E-08	KCP 3.5.4.2.23
WVDP 7.2.1	LLNL WM/CF-7
WVDP 7.2.2	Hanford WM/CF-6
Mound WM/CF-5	PGDP WM/CF-3

3.4.1.5 Determining RCRA Applicability

Thirty-eight percent of the sites assessed to date are not adequately determining whether RCRA regulations apply to a specific material, process, or facility. Two additional sites had this issue identified as a best management practice finding.

Supporting findings:

RFP WM/AF-6	Pantex WM/CF-8
FMPC E-06	NTS WM/CF-2
FMPC E-07	BNL WM/CF-1
Mound WM/CF-2	

3.4.1.6 Outdoor Storage of Low Level Waste (LLW)

Thirty-one percent of the sites assessed to date are not adequately maintaining Low Level Waste (LLW) stored outdoors. Deficiencies include storage of waste in uncovered piles and long term storage where containers are allowed to deteriorate. Two additional sites had this issue identified as a best management practice finding.

Supporting findings:

FMPC E-04

Y-12 3.5.5.2.2

NTS WM/CF-6

PGDP WM/CF-5

PORTS AWM/CF-5

3.4.1.7 Management of Classified Waste

Twenty-five percent of the sites assessed to date have problems managing their classified wastes. These problems include unnecessary commingling of radioactive wastes with nonradioactive classified wastes, improper disposal of classified TRU wastes, storage of classified land-disposal-restricted hazardous wastes, improperly labeled classified hazardous waste, and inadequate characterization of classified hazardous wastes.

Supporting findings:

Pantex WM/CF-2

NTS WM/CF-3

Pantex WM/CF-3

KCP 3.5.4.2.18

Pinellas WM/CF-1

KCP 3.5.4.2.19

3.4.1.8 Storage of Land-Disposal-Restricted Hazardous and Mixed Wastes

Sixty-nine percent of the sites assessed to date are storing LDR wastes on-site for purposes other than accumulating sufficient quantities to facilitate proper recovery, treatment, or disposal. (NOTE: The major root cause of this problem is the lack of adequate and/or available treatment capacity.) One additional site had this issue identified as a best management practice finding.

Supporting findings:

SRS WM/CF-7

RFP WM/AF-2

PORTS AWM/CF-1

RFP WM/AF-5

KCP 3.5.4.2.18

RFP WM/AF-8

LLNL WM/CF-10

RFP WM/AF-9

PGDP WM/CF-9

FMPC E-03

SNLL WM/CF-3

Y-12 3.5.5.2.1

Pantex WM/CF-3

Mound WM/CF-9

3.4.1.9 Management of Solvent- and Lead Solder-Contaminated Wastes as Nonhazardous Waste

Thirty-eight percent of the sites assessed to date are managing Solvent- and Lead Solder-Contaminated wastes streams as nonhazardous solid waste.

Supporting findings:

SRS WM/CF-3

LLNL WM/CF-4

Pinellas WM/CF-2

BNL WM/CF-7

KCP 3.5.4.2.24

PGDP WM/CF-1

3.4.1.10 RCRA Contingency Plans

Thirty-eight percent of the sites assessed to date are deficient in their RCRA contingency plans. Deficiencies include missing or deficient plans, copies of the contingency plan not present at RCRA facilities or distributed to off-site emergency authorities, and agreements with off-site emergency authorities that do not address hazardous waste.

Supporting findings:

FMPC E-05

SRS WM/CF-10

WVDP 7.2.1

BNL WM/CF-8

WVDP 7.2.2

PGDP WM/CF-12

Mound WM/CF-7

3.4.1.11 Site Closure

Thirty-eight percent of the sites assessed to date are experiencing problems involving performing site closure and developing closure plans, incomplete closure, and carrying out closure not in accordance with the approved plan. One additional site had this issue identified as a best management practice finding.

Supporting findings:

FMPC E-05

Y-12 3.5.5.2.6

Mound WM/CF-4

Hanford WM/CF-6

NTS WM/CF-2

SNLL WM/CF-5

NTS WM/CF-4

3.4.1.12 Operation of Solid Waste Landfills

Twenty-five percent of the sites assessed to date have problems in the operation of on-site nonhazardous solid waste landfills. Deficiencies include inadequate inspections, recordkeeping, reporting, access control, employee training, procedures, erosion control, and sign posting. One additional site had this issue identified as a best management practice finding.

Supporting findings:

NTS WM/CF-9

BNL WM/CF-5

NTS WM/CF-10

PGDP WM/CF-8

Y-12 3.5.5.2.5

3.4.1.13 Recordkeeping

Thirty-one percent of the sites assessed are not maintaining complete records of their waste management activities. Examples include incomplete solid waste landfill inspection and operation records, incomplete hazardous waste treatment facility treatment records, and incomplete radioactive waste certification discrepancy reports.

Supporting findings:

FMPC E-05	NTS WM/CF-5
FMPC E-08	BNL WM/CF-5
Pantex WM/CF-6	PGDP WM/CF-8

3.4.1.14 Aisle Space

Thirty-eight percent of the sites assessed to date are not maintaining adequate aisle space in their hazardous waste storage facilities.

Supporting findings:

RFP WM/AF-4	Y-12 3.5.5.2.4
Pantex WM/CF-11	KCP 3.5.4.2.22
PORTS AWM/CF-2	BNL WM/CF-6

3.4.1.15 Segregation of Incompatible Wastes

Thirty-one percent of the sites assessed to date are not storing incompatible wastes in separate areas.

Supporting findings:

FMPC E-08	KCP 3.5.4.2.22
SRS WM/CF-9	BNL WM/CF-6
Mound WM/CF-6	

3.4.1.16 Container and Tank Integrity

Twenty-five percent of the sites assessed to date are not adequately maintaining or testing the integrity of waste storage vessels. Deficiencies include rusted, dented, or bulging containers; dropped containers; inadequate inspections, engineering certifications, or cathodic protection to ensure tank integrity; and use of retrievable burial facilities for waste storage. One additional site had this issue identified as a best management practice finding.

Supporting findings:

FMPC E-08	Hanford WM/CF-3
SRS WM/CF-8	Hanford WM/CF-6
SRS WM/CF-9	Hanford WM/CF-8
BNL WM/CF-3	

3.4.1.17 Excessive Quantities of Hazardous Waste at Satellite Storage Areas

Twenty-five of the sites assessed to date are storing quantities of hazardous waste in satellite storage areas in excess of the 55 gallon limit.

Supporting findings:

RFP WM/AF-1	NTS WM/CF-8
FMPC E-08	PGDP WM/CF-1

3.4.1.18 Labeling and Dating Hazardous Waste Accumulation and Storage Containers

Fifty percent of the sites assessed to date are not adequately labeling or marking containers or tanks used to accumulate or store waste. One additional site also had this issue identified as a best management practice finding.

Supporting findings:

RFP WM/AF-1	Pantex WM/CF-2
RFP WM/AF-3	Pantex WM/CF-8
FMPC E-03	LLNL WM/CF-5

FMPC E-08

BNL WM/CF-3

SRS WM/CF-2

BNL WM/CF-6

NTS WM/CF-8

SNLL WM/CF-6

3.4.1.19 Storage Containers Not Closed

Thirty-one percent of the sites assessed to date have waste not accumulated and stored in closed containers. This category includes hazardous waste containers as well as contaminated LLW not bagged to prevent the spread of contamination.

Supporting findings:

FMPC E-08

BNL WM/CF-3

Pantex WM/CF-10

BNL WM/CF-6

NTS WM/CF-8

SNLL WM/CF-6

3.4.1.20 Secondary Containment

Thirty-one percent of the sites assessed to date have inadequate secondary containment around containers or tanks storing hazardous waste. These findings include facilities that do not have secondary containment and facilities where the secondary containment is cracked.

Supporting findings:

FMPC E-08

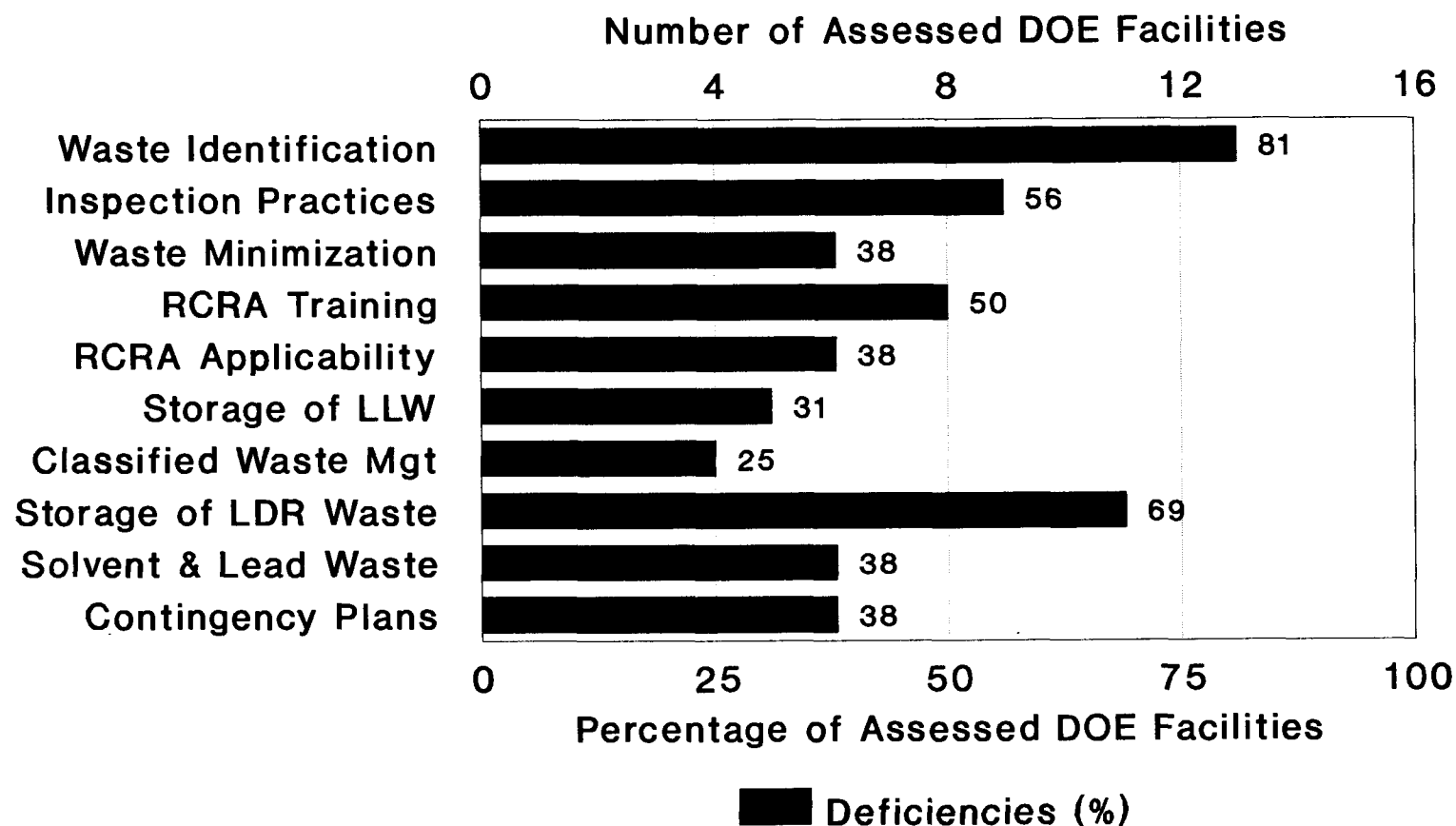
Y-12 3.5.5.2.3

SRS WM/CF-8

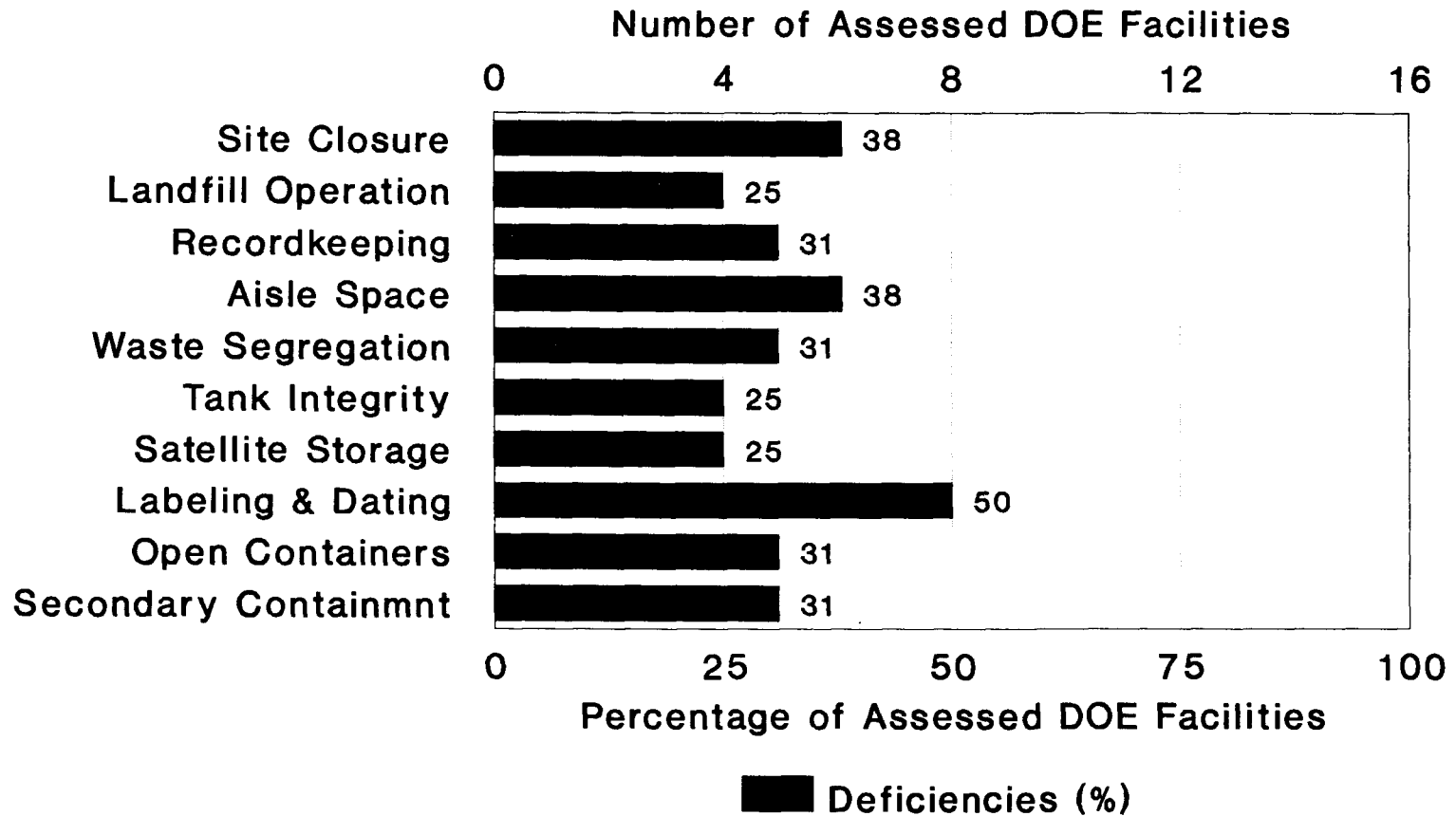
PGDP WM/CF-1

Pantex WM/CF-4

Waste Management Compliance Findings



Waste Management Compliance Findings (Continued)



3.4.2 WASTE MANAGEMENT BEST MANAGEMENT PRACTICE FINDINGS

3.4.2.1 Management of Waste in Storage

Sixty-three percent of the sites assessed to date are not adequately monitoring or maintaining waste in storage. Specific deficiencies include deteriorating facilities, deteriorating waste containers, or deteriorating waste forms; lack of secondary containment; inadequately equipped, maintained, sized, or constructed facilities; inadequate labeling or packaging; inadequate inventorying; lack of procedures; and nonimplemented procedures.

Supporting findings:

RFP WM/BMP-4	SRS WM/BMP-6
RFP WM/BMP-5	SRS WM/BMP-11
RFP WM/BMP-6	SRS WM/BMP-14
RFP WM/BMP-9	PORTS AWM/BMP-2
RFP WM/BMP-13	PORTS AWM/BMP-3
FMPC E-04	PORTS AWM/BMP-4
Y-12 3.5.5.3.1	KCP 3.5.4.3.25
Y-12 8.5.5.3.7	KCP 3.5.4.3.28
Mound WM/BMPF-1	LLNL WM/BMP-3
Mound WM/BMPF-2	LLNL WM/BMP-4
Hanford WM/BMPF-1	BNL WM/BMPF-2
BNL WM/BMPF-3	

3.4.2.2 Waste Minimization

Thirty-one percent of the sites assessed in the second group are not adequately minimizing their generation of hazardous, radioactive, mixed, and solid wastes. Deficiencies include incomplete waste minimization plans, incomplete implementation of minimization plans, lack of procedures, inadequate procedures, and inadequate segregation of recyclable materials.

Supporting findings:

PORTS AWM/BMP-1	LLNL WM/BMP-1
Pinellas WM/BMPF-1	LLNL WM/BMP-2
Hanford WM/BMPF-5	SRS WM/BMP-1

3.4.2.3 Waste Analysis and Characterization Practices

Twenty-five percent of the sites assessed are not adequately analyzing or characterizing wastes to ensure proper handling and/or characterization or analysis is not performed in a timely manner.

Supporting findings:

RFP WM/BMP-3	FMPC E-06
WVDP 7.3.3	Y-12 3.5.5.3.3

3.4.2.4 Waste Tracking

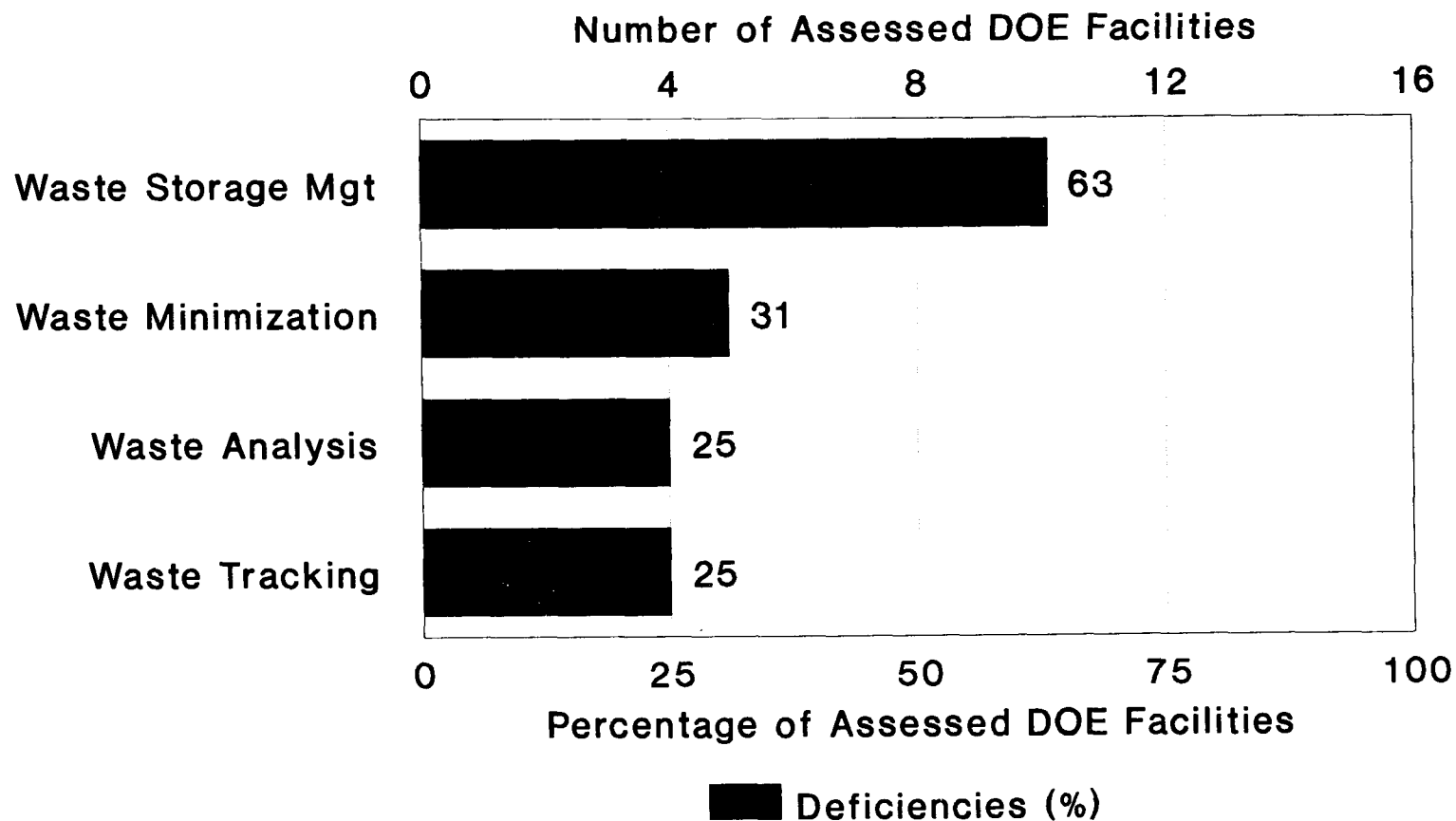
Twenty-five percent of the sites assessed to date do not have adequate waste tracking systems.

Supporting findings:

WVDP 7.3.2	PORTS AWM/BMP-3
Y-12 3.5.5.3.2	Hanford WM/BMPF-2

Waste Management

Best Management Practice Findings



3.5 TOXIC AND CHEMICAL MATERIALS

The toxic substance portion of the assessment is an analysis of current facility operations with regard to 1) regulations promulgated under the Toxic Substances Control Act (TSCA), 2) recommended guidance under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), 3) DOE Orders, and 4) best management practices. The assessment should address the management of toxic and chemical materials, polychlorinated biphenyls (PCBs), asbestos, and FIFRA-related chemicals.

3.5.1 TOXIC AND CHEMICAL MATERIALS COMPLIANCE FINDINGS

3.5.1.1 PCB Waste In Storage For Disposal Longer Than One Year

Thirty-eight percent of the sites assessed have PCB wastes in storage for disposal longer than the one year storage period allowed. The PCB wastes are contaminated with radionuclides, making standard disposal options unavailable.

Supporting findings:

Hanford TCM/CF-1

SRS TCM/CF-1

Mound TCM/CF-1

PORTS THMM/CF-6

PGDP TCM/CF-3

Y-12 3.5.6.2.1

3.5.1.2 Inadequate PCB Waste Storage Facilities

Twenty-five percent of the sites assessed have inadequate PCB waste storage facilities including lack of continuous berms and impermeable floors, inadequate roof and walls, and lack of adequate secondary containment volume.

Supporting findings:

KCP-30

BNL TS/CF-2

RFP AF-6

PORTS THMM/CF-5

3.5.1.3 Inadequate PCB Labeling Activities

Thirty-eight percent of the sites assessed have PCB waste containers not labeled with the date the containers were placed in storage for disposal, improperly labeled PCB transport vehicles, and/or inadequately labeled access areas to PCB equipment.

Supporting findings:

PORTS THMM/CF-3	Mound TCM/CF-1
PORTS THMM/CF-4	RFP AF-5
BNL TS/CF-3	RFP AF-2
Hanford TSCA/CF-3	RFP AF-3
NTS TCM/CF-2	

3.5.1.4 Inadequate PCB Annual Reports

Thirty-one percent of the sites assessed have inadequate PCB Annual Reports. Examples of reporting inadequacies include failure to meet the specified report preparation deadline, missing site file copies of the report, failure to prepare the report, and failure to provide all the required PCB information. An additional BMP finding on the PCB Annual Report was developed for another site.

Supporting findings:

Mound TCM/CF-1	NTS TCM/CF-1
Pinellas TSCA/CF-1	SNLL TCM/CF-1
RFP CF-9	

3.5.1.5 Combustible Material Near PCB Transformers

Twenty-five percent of the sites assessed were found to have combustible materials within five meters of PCB transformers.

Supporting findings:

RFP CF-2	NTS TCM/CF-2
Hanford TSCA/CF-2	PORTS THMM/CF-2

3.5.1.6 PCB Spill Reporting or Cleanup Deficiencies

Thirty-one percent of the sites assessed have deficiencies with regard to PCB spill reporting or cleanup including failure to begin cleanup action of a PCB spill within 48 hours, failure to meet PCB spill cleanup concentration guidelines, and lack of site standard operating procedures (SOPs) for site personnel spill response activities. Two other additional sites had BMP findings developed concerning PCB spill reporting or cleanup deficiencies.

Supporting findings:

PGDP TCM/CF-1

NTS TCM/CF-2

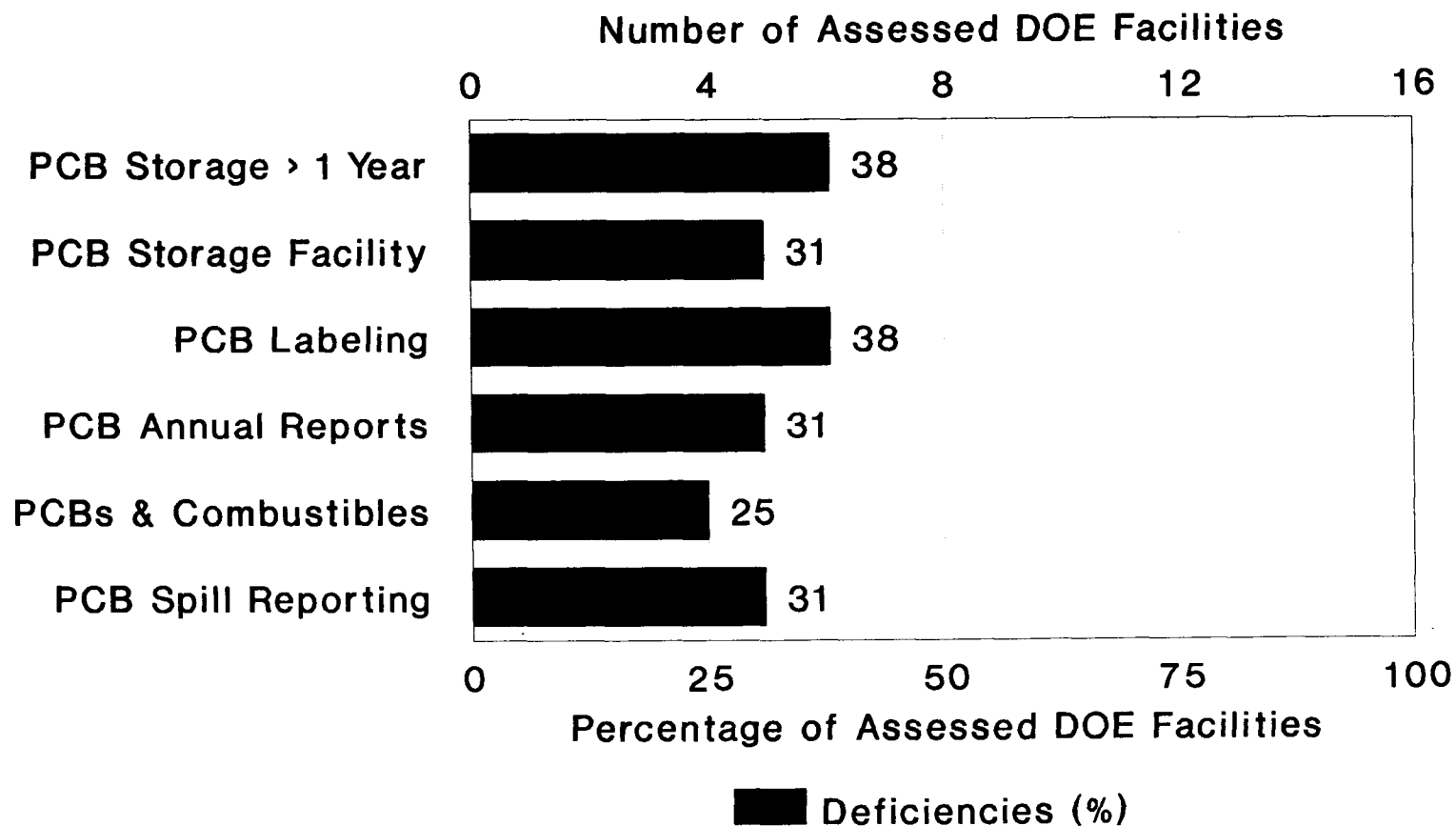
PGDP TCM/CF-2

LLNL TCM/CF-2

RFP CF-8

PORTS THMM/CF-1

Toxic and Chemical Materials Compliance Findings



3.5.2 TOXIC AND CHEMICAL MATERIALS BEST MANAGEMENT PRACTICE FINDINGS

3.5.2.1 Deficiencies in Pesticide Control Programs

Forty-four percent of the sites assessed have deficiencies in their pesticide control programs. Pesticide storage problems include inadequate ventilation, fire protection, secondary containment, hazard notification, flooring, aisle space, and container labeling. Inadequacies in pesticide program management include procedures inconsistent with site policy, lack of a formalized training program, lack of audits or surveillances, inadequate site contractor/DOE interfacing, and the lack of formal procedures. An additional compliance finding was developed for another site concerning pesticide storage facilities.

Supporting findings:

LLNL TCM/BMP-5	Hanford TSCA/BMPF-3
PORTS THMM/BMPF-2	Y-12 3.5.6.2.3
PGDP TCM/BMPF-2	BNL TS/BMPF-1
Mound TCM/BMPF-3	BNL TS/BMPF-2

3.5.2.2 Inadequate Secondary Containment for Aboveground Storage Tanks (ASTs)

Forty-four percent of the sites assessed have inadequate secondary containment for ASTs. Examples of inadequate secondary containment include the absence of secondary containment, insufficient containment capability, noncontinuous secondary containment, and the use of permeable soils for dike construction. Additional compliance findings concerning inadequate secondary containment for ASTs were developed for three other sites.

Supporting findings:

Mound TCM/BMPF-1	Hanford TSCA/BMPF-2
PGDP TCM/BMPF-3	NTS TCM/BMPF-1
RFP TCM/BMP-1	WVDP 8.3.2
RFP TCM/BMP-5	Y-12 3.5.6.3.3

3.5.2.3 Incompatible Material Storage

Twenty-five percent of the sites assessed have storage of incompatible material (e.g., containers of acidic and basic materials within the same containment structure). Additional compliance findings concerning incompatible material storage were developed for two other sites.

Supporting findings:

Hanford TSCA/BMPF-1

WVDP 8.3.1

LLNL TCM/BMPF-2

Y-12 3.5.6.3.4

3.5.2.4 Absence of Secondary Containment for Product Chemicals

Forty-four percent of the sites assessed have no secondary containment at numerous product chemical storage locations. Additional compliance findings concerning the lack of secondary containment for product chemicals were developed for two other sites.

Supporting findings:

Mound TCM/BMPF-2

WVDP 8.3.3

RFP TCM/BMP-4

PORTS THMM/BMP-4

Hanford TSCA/BMPF-2

Y-12 3.5.6.3.3

LLNL TCM/BMP-1

3.5.2.5 Deficiencies in Product Chemical Management Programs

Thirty-eight percent of the sites assessed have deficiencies in their product chemical management programs. Examples of program deficiencies include inadequate identification of empty chemical containers, lack of site policies for unused chemicals, inadequate or absent labeling of product chemical storage cabinets, leaking product chemical containers, inadequate storage cabinet inspections, lack of secondary containment, and lack of formal procedures for product chemical management. Additional compliance findings concerning deficiencies in product chemicals management programs were developed for three other sites.

Supporting findings:

SRS TCM/BMPF-1

NTS TCM/BMPF-2

SRS TCM/BMPF-2

NTS TCM/BMPF-4

SRS TCM/BMPF-4

Pantex TCM/MBPF-1

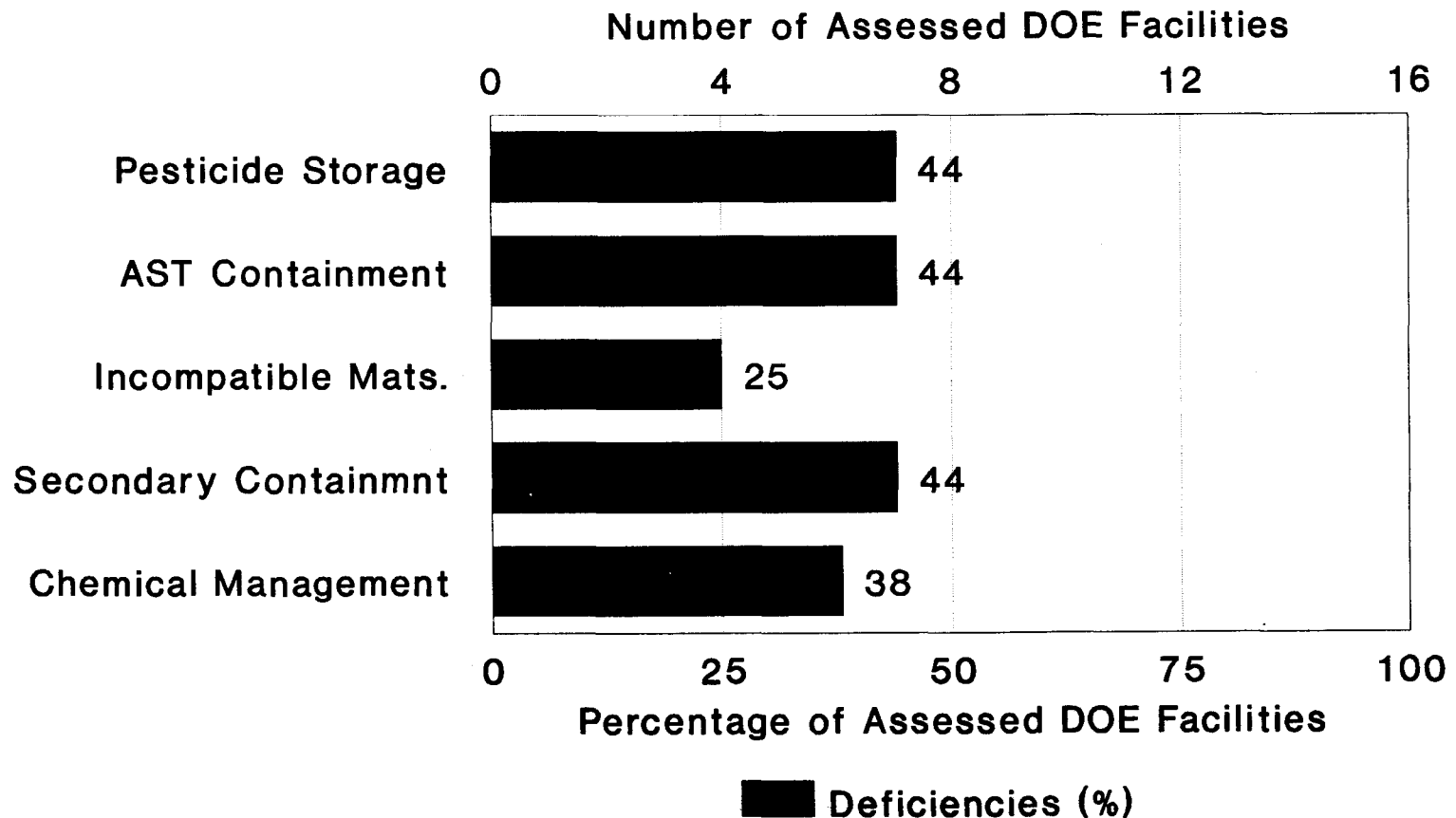
SRS TCM/BMPF-7

PORTS THMM/BMP-4

RFP TCM/BMP-6

WVDP 8.3.4

Toxic and Chemical Materials Best Management Practice Findings



3.6 QUALITY ASSURANCE

The quality assurance portion of the assessment should focus on quality assurance activities as they relate to environmental programs and practices at the facility. This assessment should provide the overall status of the quality assurance program audits applicable to environmental actions.

3.6.1 QUALITY ASSURANCE COMPLIANCE FINDINGS

3.6.1.1 Deficiencies in Chain-of-Custody

Nineteen percent of the sites assessed have deficiencies in chain-of-custody procedures or activities. Two examples of these deficiencies are noncompliance with site chain-of-custody procedures and improper or nonexistent procedural documentation. Additionally, two other sites had similar BMP findings concerning chain-of-custody activities.

Supporting findings:

Hanford QA/CF-1

Pinellas QA/CF-2

Mound QA/CF-1

3.6.1.2 Inadequate Oversight of Subcontractor Analytical Laboratory Performance

Forty-four percent of the sites assessed have inadequate oversight of subcontractor analytical laboratory performance including. Specific examples include lack of audits of laboratory performance and lack of site procurement policies for including QA specifications in subcontracts with analytical laboratories.

Supporting findings:

LLNL QA/CF-3

KCP-41

SNLL QA/CF-2

Hanford QA/CF-4

Pinellas QA/CF-1

SRS QA/CF-4

BNL QA/CF-1

3.6.1.3 Inadequate Quality Assurance Documentation

Thirty-eight percent of the sites assessed have inadequate QA documentation. Specific examples include: lack of QA Manuals; lack of QA Project Plans; lack of Environmental Monitoring Plans; QA Manuals inconsistent with site QA policies; and outdated QA documentation.

Supporting findings:

LLNL QA/CF-1	Pantex QA/CF-1
LLNL QA/CF-4	SNLL QA/CF-1
LLNL QA/CF-7	NTS QA/CF-1
Hanford QA/CF-6	Hanford QA/CF-3
SRS QA/CF-3	Hanford QA/CF-5

3.6.1.4 Deficiencies in Environmental Sampling and Analysis Procedures

Forty-four percent of the sites assessed have deficiencies in environmental sampling and analysis procedures including lack of and/or outdated procedures, lack of a formal procedure revision system, and inadequate documentation of procedures.

Supporting findings:

LLNL QA/CF-4	KCP-42
RFP QA/AF-1	Pinellas QA/CF-2
RFP QA/AF-2	PGDP CF-5
BNL QA/CF-2	PGDP CF-2
FMPC E-22	

3.6.1.5 Lack of QA Program Independence

Nineteen percent of the sites assessed lack QA program independence which is characterized by an organizational conflict of interest. Additionally, a BMP finding was developed concerning the lack of QA program independence for another site.

Supporting findings:

LLNL QA/CF-5

RFP QA/AF-1

PGDP QA/CF-1

3.6.1.6 Deficiencies in Laboratory Program Audit System

Fifty-six percent of the sites assessed have deficiencies in laboratory program audit systems. These deficiencies include lack of QA audits, lack of formal procedures for audits, lack of follow-up or corrective actions, delays in performing and responding to audits, and lack of site policy for QA audits. Additionally, a BMP finding was developed concerning deficiencies in laboratory program audits for another site.

Supporting findings:

LLNL QA/CF-1

KCP-41

LLNL QA/CF-3

SNLL QA/CF-1

LLNL QA/CF-4

NTS QA/CF-1

LLNL QA/CF-6

Pinellas QA/CF-1

SRS QA/CF-2

RFP QA/AF-1

SRS QA/CF-4

PGDP QA/CF-1

Hanford QA/CF-1

3.6.1.7 Lack of Data Tracking or Systematic Reviews of Data

Twenty-five percent of the sites assessed have a lack of data tracking or systematic reviews of data. These deficiencies include a lack of acceptance criteria for data, lack of formal data validation procedures, lack of a method for tracking anomalous data, and lack of a data review system. Additionally, BMP findings were developed concerning data tracking and systematic reviews for three other sites.

Supporting findings:

LLNL QA/CF-3	Hanford QA/CF-5
LLNL QA/CF-5	RFP QA/AF-1
LLNL QA/CF-6	RFP QA/AF-2
LLNL QA/CF-7	PGDP QA/CF-3
LLNL QA/CF-9	

3.6.1.8 Inadequate QA Training Programs

Twenty-five percent of the sites assessed have inadequate QA training programs. Examples of these inadequacies include lack of a training program, lack of formal procedures for a QA training program, and incomplete training records.

Supporting findings:

LLNL QA/CF-1	FMPC E-22
LLNL QA/CF-6	SNLL QA/CF-1
PGDP QA/CF-5	

3.6.1.9 Inadequate QC Program for Laboratory Analyses

Twenty-five percent of the sites assessed have inadequate QC programs for laboratory analyses. Examples of inadequacies include lack of blind spike samples and/or control charts, delays in preparation of control charts, ineffective external proficiency testing programs, expired laboratory standards, and lack of formal acceptance criteria for QC data.

Supporting findings:

WVDP 10.2.2

SRS QA/CF-1

LLNL QA/CF-3

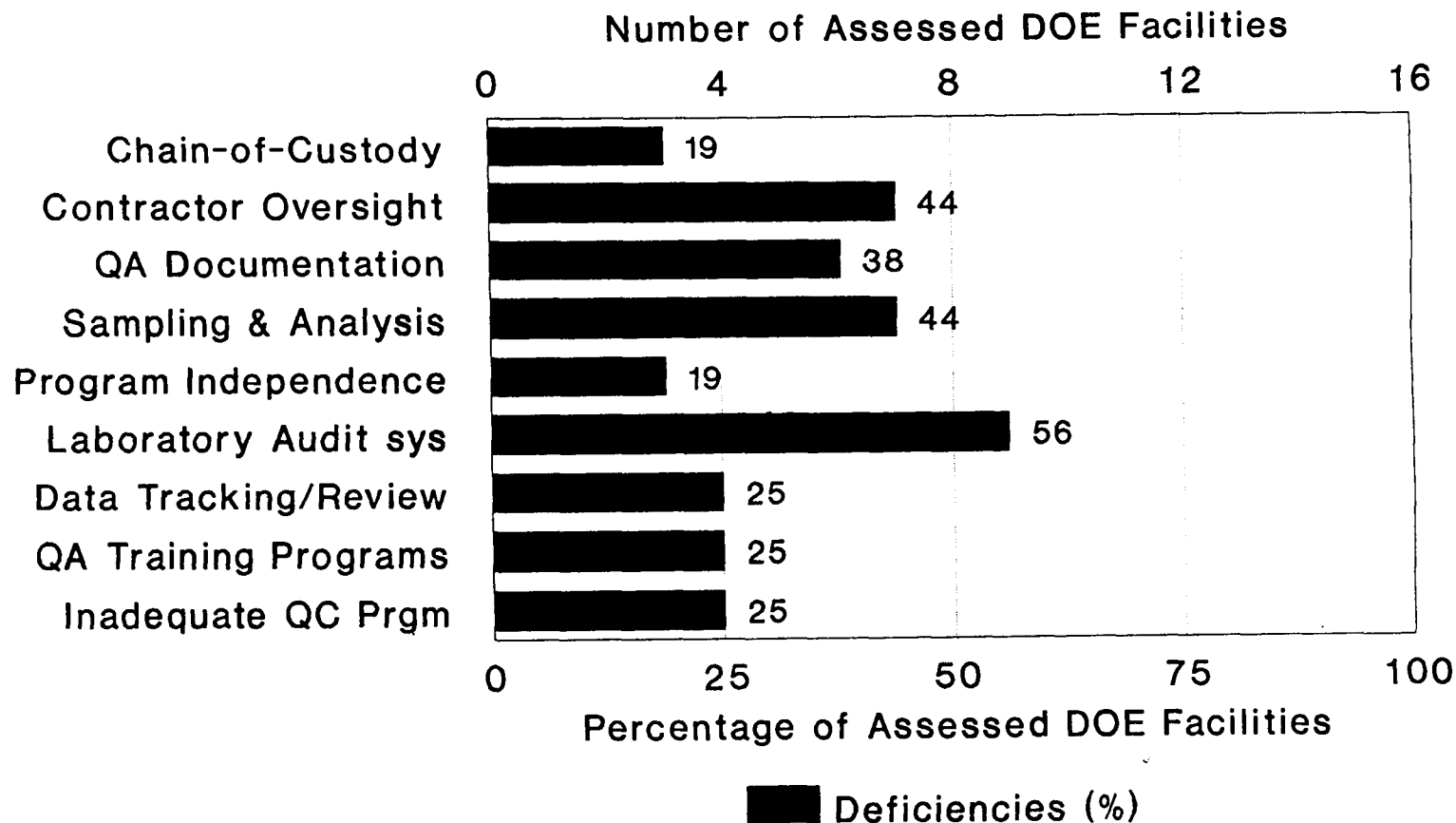
PGDP QA/CF-4

LLNL QA/CF-4

LLNL QA/CF-9

LLNL QA/CF-5

Quality Assurance Compliance Findings



3.6.2 QUALITY ASSURANCE BEST MANAGEMENT PRACTICE FINDINGS

3.6.2.1 Insufficient Oversight of Contractor Laboratories

Twenty-five percent of the sites assessed have inadequate oversight of contractor laboratories. All sites found to have this deficiency had no subcontract laboratory oversight program.

Supporting findings:

PORTS QA/BMP-6

LLNL QA/BMP-1

SNLL QA/BMPF-1

Mound QA/BMPF-1

3.6.2.2 Deficiencies with Environmental Sampling and Analysis Procedures

Forty-four percent of the sites assessed have deficiencies with environmental sampling and analysis procedures. Specific examples include lack of and/or outdated procedures, lack of a formal procedure revision system, and inadequate documentation of procedures.

Supporting findings:

PORTS QA/BMP-1

Y-12 3.5.7.3.2

Pantex QA/BMPF-2

Hanford QA/BMPF-1

RFP QA/BMP-2

SRS QA/BMPF-1

BNL QA/BMPF-2

SRS QA/BMPF-2

3.6.2.3 Inadequate QC Program for Laboratory Analyses

Thirty-one percent of the sites assessed have inadequate QC programs for laboratory analyses. Examples of inadequacies include lack of blind spike samples and/or control charts, delays in preparation of control charts, ineffective external proficiency testing programs, expired laboratory standards, and lack of formal acceptance criteria for QC data.

Supporting findings:

PORTS QA/BMPF-2

NTS QA/BMPF-1

PORTS QA/BMPF-5

NTS QA/BMPF-2

RFP QA/BMP-1

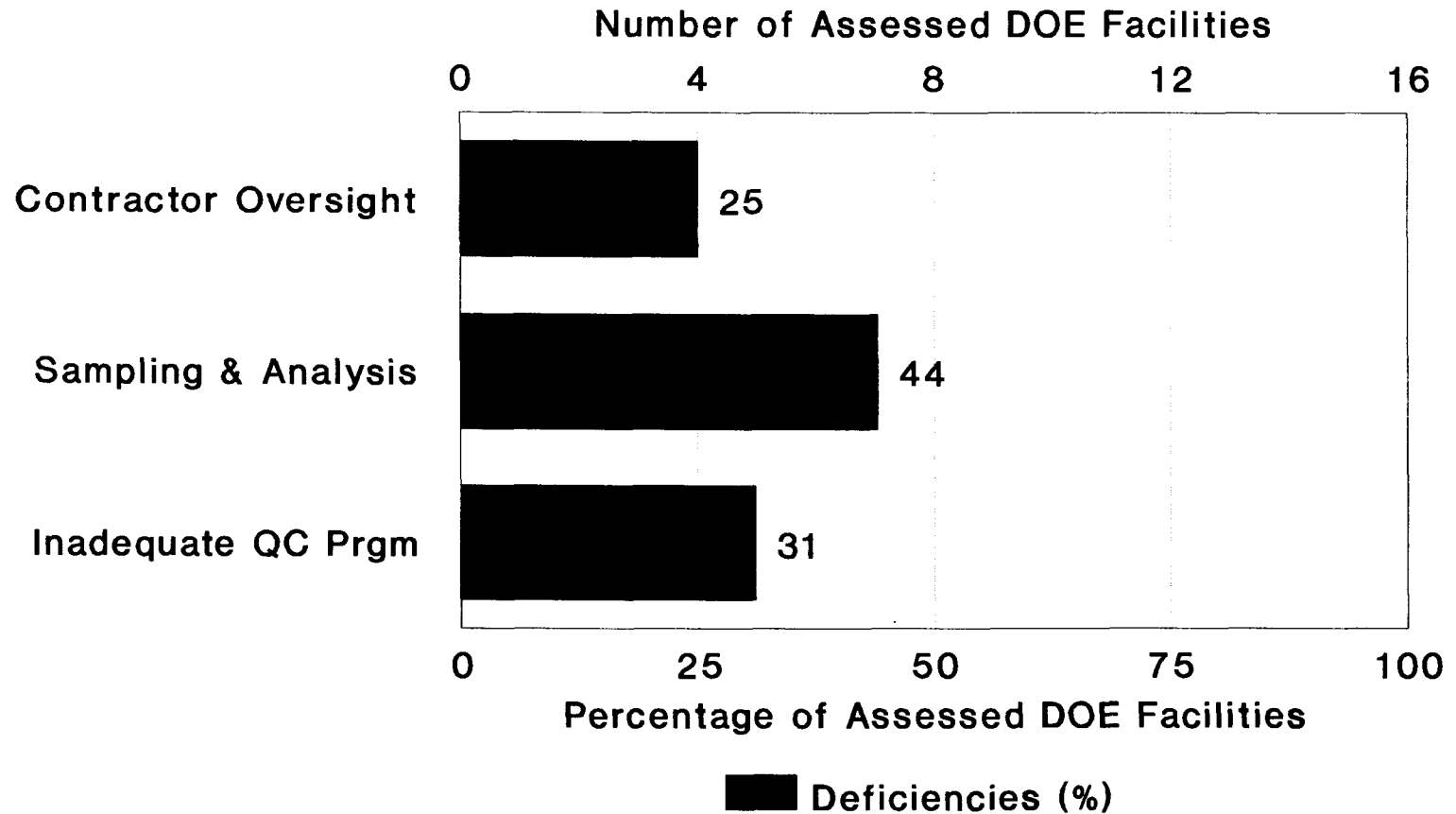
NTS QA/BMPF-3

Pinellas QA/BMPF-1

BNL QA/BMPF-2

Quality Assurance

Best Management Practice Findings



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3.7 RADIATION

The purpose of the radiation portion of the assessment is to assess current facility operations with respect to applicable radiological environmental regulations and DOE Orders. The overall goal of the assessment is to evaluate the impact of the facility on the radiological conditions of the environment and its contribution to the radiation exposure of the public.

NOTE: The Kansas City Plant assessment addressed radiological issues only as a waste management concern. Therefore, the breakdown presented below is based on 15 Tiger Team assessments.

3.7.1 RADIATION COMPLIANCE FINDINGS

3.7.1.1 Radiation Dose Evaluation

Eighty percent of the facilities assessed had deficiencies in the evaluation of radiation doses to members of the public. Specific deficiencies include failure to address all potential exposure pathways and radionuclides, no documentation of the rationale for excluding pathways and radionuclides, no documentation of the rationale for excluding pathways and radionuclides from dose calculation, and inadequate procedures.

Supporting findings:

RFP RAD/CF-1	Pinellas RAD/CF-1
Mound R/CF-1	WVDP 9.2.1
Pantex RAD/CF-1	LLNL RAD/CF-1
NTS RAD/CF-2	LLNL RAD/CF-3
NTS RAD/CF-1	LLNL RAD/CF-4
PORTS RAD/CF-1	LLNL RAD/CF-5
Hanford RAD/CF-4	SNLL RAD/CF-1
Y-12 3.5.8.2.1	PGDP RAD/CF-3

3.7.1.2 Quality Assurance

Sixty-seven percent of the facilities assessed had deficiencies in the quality assurance applied to radiological environmental programs. The deficiencies applied to varied programs such as dose assessment, environmental monitoring, radioactive waste management, and radioanalysis. Deficiencies included a lack of formal quality assurance programs, inadequate recordkeeping, failures to validate computer programs, a lack of performance indicators, and a failure to review data. This limits the ability of the facilities to verify the effectiveness of their programs.

Supporting findings:

RFP RAD/AF-2	Y-12 3.5.8.2.2
RFP RAD/AF-3	SRS RAD/CF-4
RFP RAD/AF-4	WVDP 9.2.1
RFP RAD/AF-5	LLNL RAD/CF-1
PORTS RAD/CF-1	LLNL RAD/CF-2
Pinellas RAD/CF-1	LLNL RAD/CF-6
Pinellas RAD/CF-2	PGDP RAD/CF-1
BNL RAD/CF-2	PGDP RAD/CF-4
Hanford RAD/CF-1	PGDP RAD/CF-5
Y-12 3.5.8.2.1	

3.7.1.3 Effluent Monitoring and Control

Forty-seven percent of the facilities assessed had deficiencies in programs to monitor and control releases of radiological effluents to the environment. Deficiencies include failure to assess all potential effluent sources, no formal monitoring programs, inadequate sitewide monitoring standards, failure to accurately and completely report releases, no documentation of design basis, poor controls on batch releases, and a lack of environmental ALARA programs. These deficiencies limit the ability of the facilities to support the validity of the effluent release data.

Supporting findings:

PORTS RAD/CF-2

PGDP RAD/CF-5

Pinellas RAD/CF-1

PGDP RAD/CF-6

SRS RAD/CF-1

Hanford RAD/CF-1

SRS RAD/CF-2

Hanford RAD/CF-5

SRS RAD/CF-4

LLNL RAD/CF-2

Y-12 3.5.8.2.2

LLNL RAD/CF-5

Y-12 3.5.8.2.3

3.7.1.4 Environmental Surveillance

Forty-seven percent of the facilities assessed had deficiencies in radiological environmental surveillance programs. Deficiencies included the failure to assess all appropriate radionuclides and environmental media. This category also includes inaccurate and incomplete reporting of environmental surveillance data. These deficiencies have the potential to lead to inaccurate or non-representative evaluation of a facility's impact on the environment.

Supporting findings:

Mound R/CF-1	PGDP RAD/CF-4
NTS RAD/CF-1	PGDP RAD/CF-8
PORTS RAD/CF-3	LLNL RAD/CF-3
BNL RAD/CF-2	LLNL RAD/CF-4
PGDP RAD/CF-1	LLNL RAD/CF-5
PGDP RAD/CF-2	Hanford RAD/CF-1

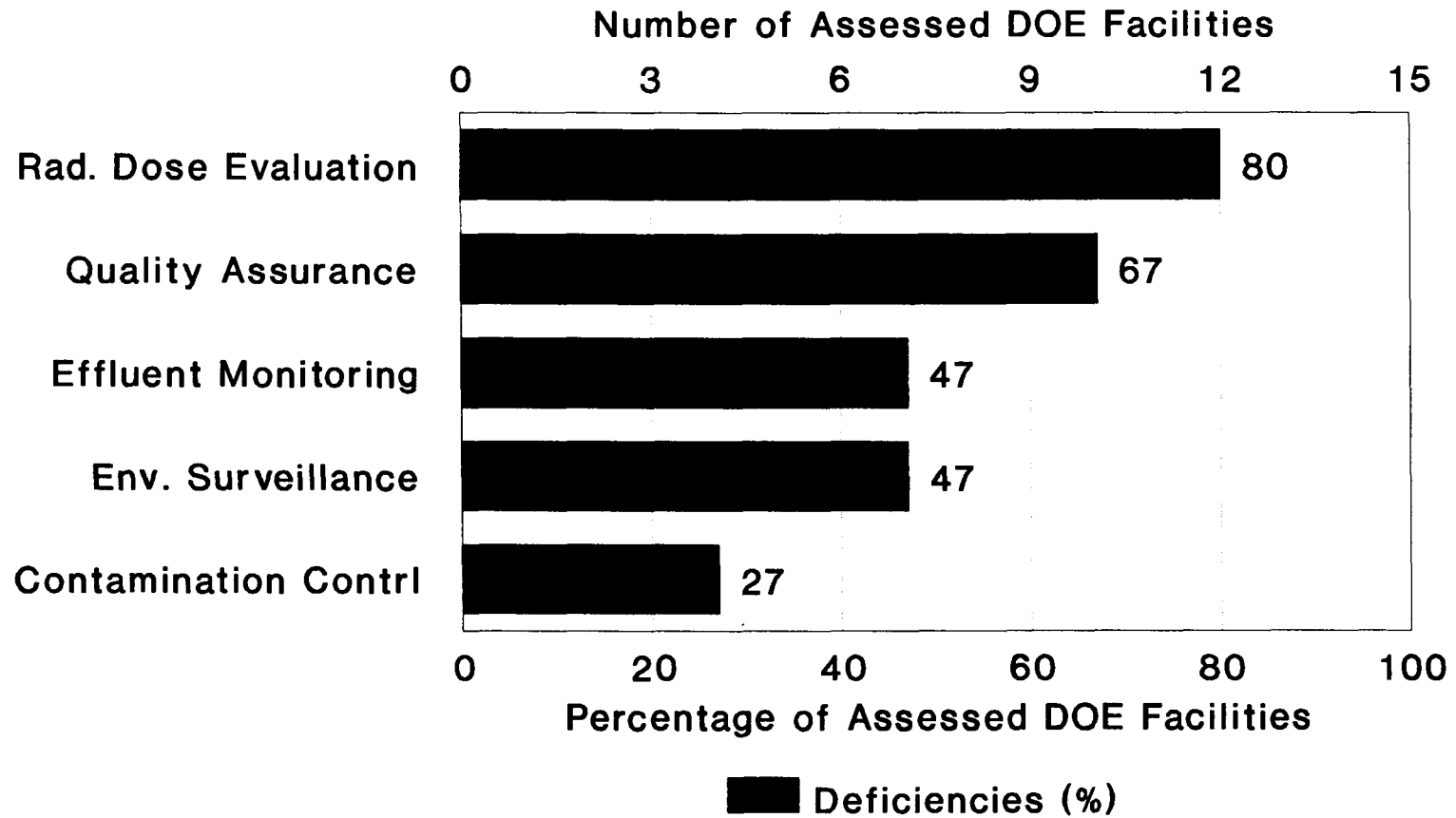
3.7.1.5 Control of Contaminated Materials and Buildings

Twenty-seven percent of the facilities assessed had deficiencies related to the control of contaminated facilities and equipment. Deficiencies primarily focused on inadequate decontamination and decommissioning programs and control of the release of contaminated materials for unrestricted use.

Supporting findings:

BNL RAD/CF-1	Hanford RAD/CF-2
SRS RAD/CF-3	Hanford RAD/CF-3
LLNL RAD/CF-6	Hanford RAD/CF-6

Radiation Compliance Findings



3.7.2 RADIATION BEST MANAGEMENT PRACTICE FINDINGS

3.7.2.1 Environmental Monitoring

Sixty percent of the facilities assessed had environmental surveillance and effluent monitoring programs that were managed inconsistently with best management practices. This could lead to monitoring less accurate than desirable. In addition, reporting of these data was often deficient and could lead to misunderstandings and misuse of the data.

Supporting findings:

Pinellas RAD/BMPF-1	LLNL RAD/BMP-1
SNLL RAD/BMPF-1	FMPC E-19
Pantex RAD/BMPF-1	FMPC E-20
Pantex RAD/BMPF-3	FMPC E-21
Pantex RAD/BMPF-4	BNL RAD/BMPF-1
Pantex RAD/BMPF-6	SRS RAD/BMPF-1
Y-12 3.5.8.3.1	WVDP 9.3.1

3.7.2.2 Formality of Environmental Programs

Forty-seven percent of the facilities assessed had weaknesses in the formality of environmental programs. This has led to inconsistent practices regarding monitoring, labeling, and handling of radioactive materials.

Supporting findings:

SNLL RAD/BMPF-1	SRS RAD/BMPF-2
Pantex RAD/BMPF-1	SRS RAD/BMPF-3
Pantex RAD/BMPF-2	Hanford RAD/BMPF-1
Y-12 3.5.8.3.1	Hanford RAD/BMPF-2
Y-12 3.5.8.3.2	WVDP 9.3.2
Pinellas RAD/BMPF-1	WVDP 9.3.3
SRS RAD/BMPF-1	

3.7.2.3 Soil/Sediment Contamination

Thirty-three percent of the facilities assessed failed to control and characterize areas of radionuclide contamination in a manner that can ensure that contamination will not be spread and individuals will not receive unnecessary radiation exposures.

Supporting findings:

RFP RAD/BMP-1	LLNL RAD/BMP-2
RFP RAD/BMP-2	Mound RAD/BMPF-1
NTS RAD/BMPF-1	Pantex RAD/BMPF-5

3.7.2.4 Radioactive Waste Management

Twenty-seven percent of the facilities assessed had waste handling and labeling practices that could lead to improper waste disposal or release of radioactive materials to the environment.

Supporting findings:

RFP RAD/BMP-3

SRS RAD/BMPF-2

Pantex RAD/BMPF-1

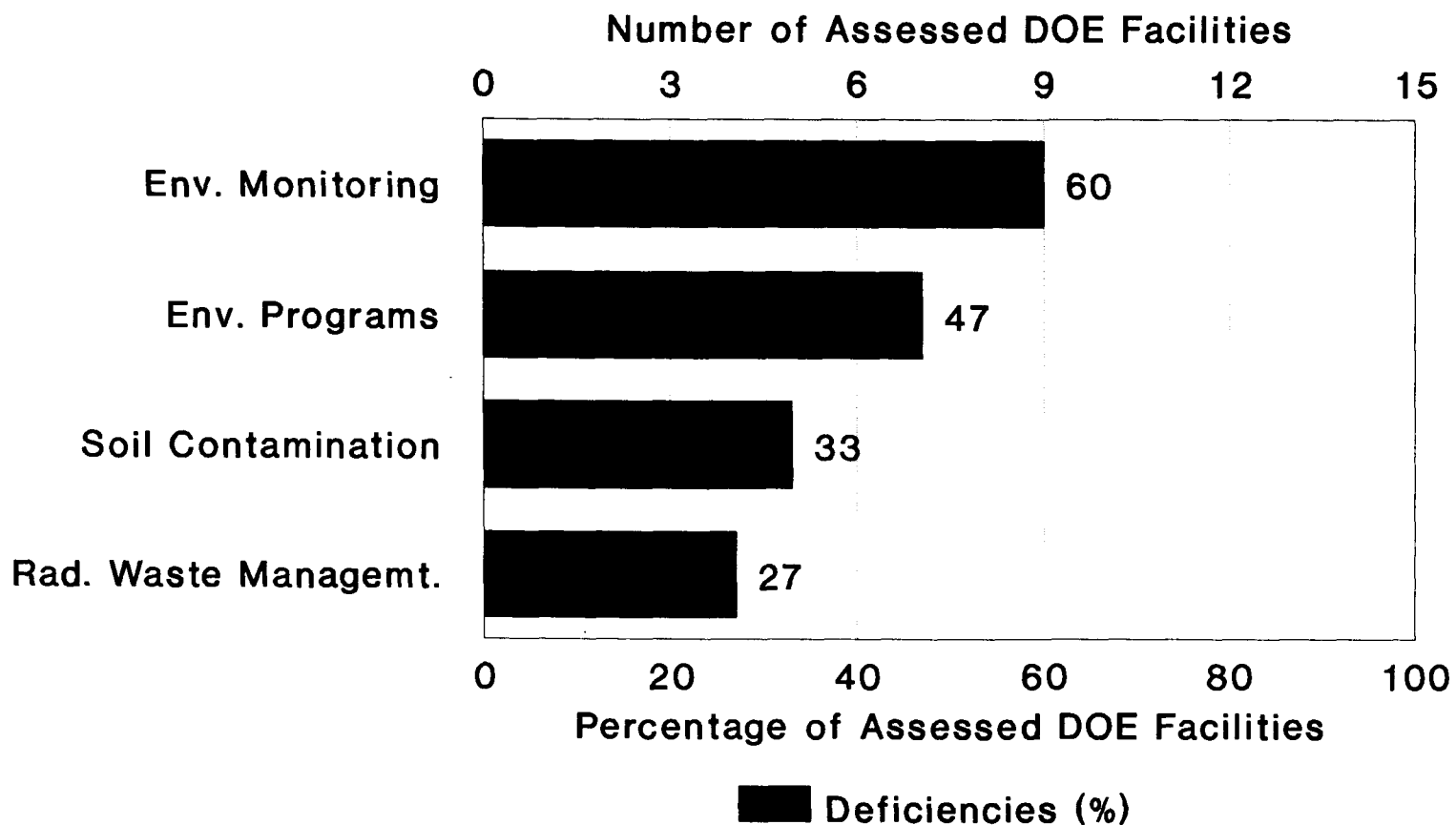
SRS RAD/BMPF-4

Pantex RAD/BMPF-7

Hanford RAD/BMPF-1

Radiation

Best Management Practice Findings



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3.8 INACTIVE WASTE SITES AND RELEASES

The purpose of the CERCLA/SARA portion of the assessment is to compare current facility operations with 1) provisions of regulations promulgated under both CERCLA/SARA and RCRA, 2) DOE Orders describing how DOE anticipates these regulations will be complied with, and 3) management practices required to assure compliance with the provisions of laws, regulations and Orders.

3.8.1 INACTIVE WASTE SITES AND RELEASES COMPLIANCE FINDINGS

3.8.1.1 DOE and NCP Requirements for Response Action Studies

Fifty-six percent of the facilities assessed did not adhere to the requirements of the DOE CERCLA Order (5400.4) and the National Contingency Plan (NCP) (40 CFR 300) for performing removal site evaluations and remedial investigation/feasibility studies (RI/FS). Areas where weaknesses were noted include inadequate RI/FS work plans and reports, not following work plans in the conduct of RIs, performing response actions without conducting a removal site evaluation or RI/FS, not adequately characterizing the vertical and horizontal extent of contamination, and inadequate assessment of alternatives in an FS.

Supporting findings:

RFP IWS/CF-4	RFP IWS/CF-6
FMPC E-09	FMPC E-10
Mound C/CF-1	Mound C/CF-3
NTS IWS/CF-3	NTS IWS/CF-4
Pinellas IWS/CF-1	BNL IWS/CF-1
SNLL IWS/CF-1	SNLL IWS/CF-2
Hanford IWS/CF-1	PGDP IWS/CF-2

3.8.1.2 Community Relations/Administrative Record

Fifty percent of the facilities assessed had not prepared and implemented a community relations plan or established an administrative record.

Supporting findings:

RFP IWS/AF-1	RFP IWS/AF-3
FMPC E-09	Pantex IWS/CF-5
Pinellas IWS/CF-2	LLNL IWS/CF-1
BNL IWS/CF-3	BNL IWS/CF-4
SNLL IWS/CF-1	SNLL IWS/CF-3
PGDP IWS/CF-1	

3.8.1.3 Identification and Characterization of Inactive Waste Sites-

Thirty-eight percent of the facilities assessed had not adequately identified their inactive waste sites. In general, this resulted from inadequate historical searches, failure to notify regulatory agencies, and nonexistent or inadequate preliminary evaluation of risk posed by potential waste sites.

Supporting findings:

RFP IWS/AF-4	RFP IWS/AF-5
Mound C/CF-2	NTS IWS/CF-2
NTS IWS/CF-2	SRS IWS/CF-1
BNL IWS/CF-1	BNL IWS/CF-5
Hanford IWS/CF-1	

3.8.1.4 SARA Title III Reporting

Thirty-eight percent of the sites assessed submitted incorrect or incomplete SARA Title III (Emergency Planning and Community Right-to-Know Act of 1986) reports or had an inadequate SARA Title III program.

Supporting findings:

RFP IWS/AF-2

Pantex IWS/CF-1

Pantex IWS/CF-2

Pantex IWS/CF-3

Pantex IWS/CF-4

PORTS A/CF-3

BNL IWS/CF-2

Pinellas IWS/CF-3

Pinellas IWS/CF-4

SNLL IWS/CF-4

3.8.1.5 Spill Reporting

Twenty-five percent of the facilities evaluated had inadequate procedures for notifying appropriate site personnel and governmental authorities in the event of a reportable quantity release.

Supporting findings:

FMPC E-13

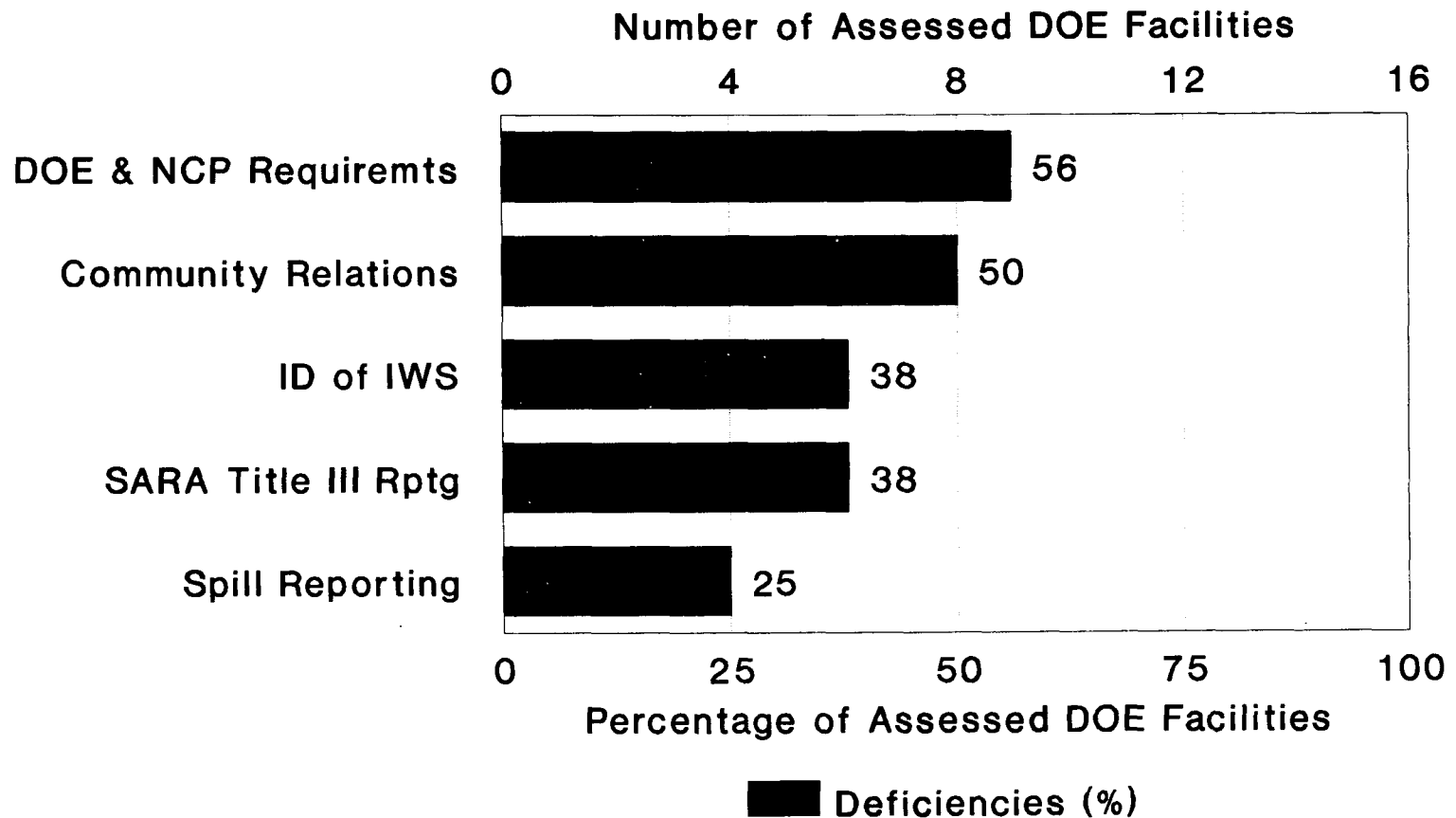
KCP-35

NTS IWS/CF-5

PGDP IWS/CF-3

Inactive Waste Sites and Releases

Compliance Findings



3.8.2 INACTIVE WASTE SITES AND RELEASES BEST MANAGEMENT PRACTICE FINDINGS

3.8.2.1 Inactive Waste Site Response and/or Corrective Action Planning, Management

Fifty percent of the facilities evaluated were not adequately managing their CERCLA response or RCRA corrective action activities.. Areas where weaknesses were noted include: inadequate or reactive program planning and funding, lack of clear definition of roles and responsibilities, inadequate program oversight and tracking, lack of timeliness of document reviews by DOE and regulatory agencies, and uncertain interagency agreement issues.

Supporting findings:

RFP IWS/BMP-2	FMPC E-09
FMPC E-10	Pantex IWS/BMPF-1
Pantex IWS/BMPF-2	Pantex IWS/BMPF-3
KCP 37	KCP 38
NTS IWS/BMP-1	SRS IWS/BMP-3
SRS IWS/BMP-4	PGDP IWS/BMP-1
Hanford IWS/BMPF-1	Hanford IWS/BMPF-4
Hanford IWS/BMPF-5	

3.8.2.2 Spill Quantification and Reporting

Fifty percent of the facilities evaluated had inadequate or nonexistent procedures for quantifying accidental releases or notifying appropriate site personnel and governmental authorities in the event of a reportable quantity release.

Supporting findings:

RFP IWS/BMP-1	FMPC E-13
Pantex IWS/BMPF-4	Mound C/BMPF-2
Pinellas IWS/BMPF-2	NTS IWS/BMP-2
LLNL IWS/BMP-3	BNL IWS/BMPF-1

3.8.2.3 SARA Title III Procedures and Information

Forty-four percent of the facilities assessed did not have adequate procedures or information to properly implement SARA Title III (Emergency Planning and Community Right-to-Know). This resulted in incomplete report distribution, inaccurate SARA Title III reports, and inadequate chemical tracking.

Supporting findings:

RFP IWS/BMP-3	WVDP 11.3.1
KCP-39	Pinellas IWS/BMPF-1
LLNL IWS/BMP-2	SNLL IWS/BMPF-1
Hanford IWS/BMPF-2	

3.8.2.4 CERCLA Investigative Activities

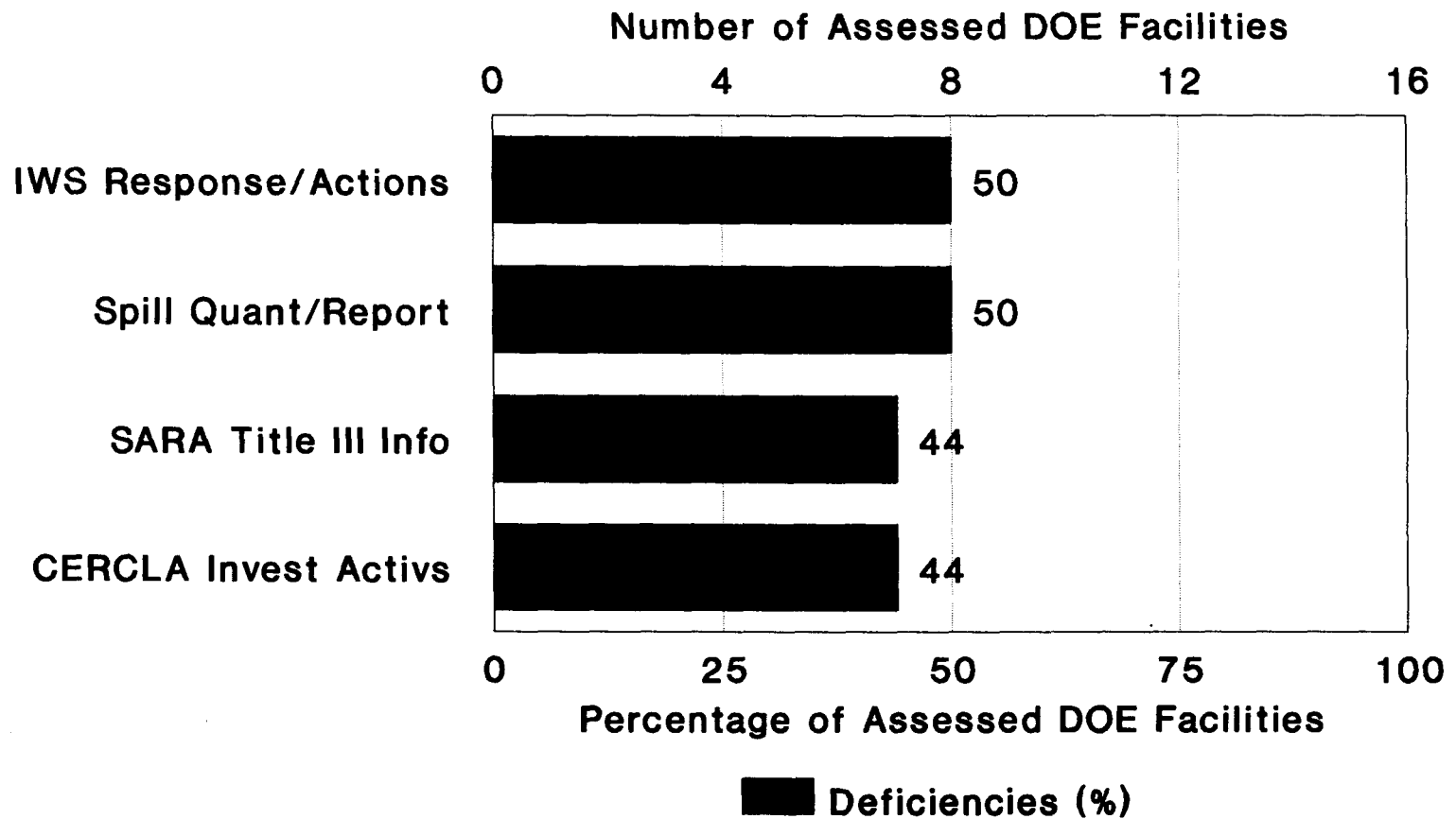
Forty-four percent of the facilities assessed have not adequately followed technical guidance or investigative activities. These activities include community relations planning, site discovery, characterization of contamination, and phasing of operable unit RIs.

Supporting findings:

RFP IWS/BMP-4	Y-12 3.5.9.3.1
Pantex IWS/BMPF-3	Mound C/BMPF-1
KCP 36	KCP 40
SRS IWS/BMP-1	SRS IWS/BMP-2
LLNL IWS/BMP-1	

Inactive Waste Sites and Releases

Best Management Practice Findings



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3.9 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The overall goal of NEPA is to foster improved and environmentally-informed decisions. The purpose of the NEPA compliance assessment is to examine and evaluate how DOE complies with the requirements of the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, DOE NEPA Guidelines, and the DOE NEPA Order. The NEPA compliance assessment will examine the technical adequacy of NEPA documents, the NEPA management structure, environmental planning and procedures related to NEPA compliance, and the NEPA review process.

3.9.1 NEPA COMPLIANCE FINDINGS

3.9.1.1 NEPA Documentation and Determinations

One hundred percent of the facilities assessed have: inadequate or improper EISs for new facilities; improperly used Memoranda To File (MTF) for NEPA determinations; inappropriately used DOE NEPA guidelines; made inadequate NEPA determinations; and/or undertaken projects prior to NEPA review.

Supporting findings:

WVDP CF-12.2.3	RFP AF-1
WVDP CF-12.2.4	RFP AF-2
WVDP CF-12.2.2	RFP AF-3
PORTS CF-1	RFP AF-5
PORTS CF-3	RFP AF-6
PORTS CF-4	Pinellas CF-1
PORTS CF-5	Pinellas CF-2
LLNL CF-2	Pinellas CF-3
LLNL CF-3	Pinellas CF-4
LLNL CF-4	Pinellas CF-5
LLNL CF-5	SRS CF-2
KCP CF-46	SRS CF-3
KCP CF-47	BNL CF-1

KCP CF-48	PGDP CF-2
Y-12 CF-3.2.10.2.1	PGDP CF-3
Y-12 CF-3.5.10.2.2	PGDP CF-6
Y-12 CF-3.5.10.2.3	Mound CF-1
Pantex CF-2	FMPC E-02
Pantex CF-3	NTS CF-1
NTS CF-2	NTS CF-3
SNLL CF-2	SNLL CF-3
SNLL CF-4	Hanford CF-1

3.9.1.2 Policy and Procedures

Sixty-nine percent of the facilities assessed have inadequate policies and procedures, de facto NEPA determinations made by the contractor, and/or NEPA determination made by inappropriate DOE entity.

Supporting findings:

WVDP CF-12.2.1	Pantex CF-1
PORTS CF-2	SNLL CF-1
LLNL CF-1	Pinellas CF-1
KCP CF-44	PGDP CF-1
KCP CF-45	PGDP CF-7
KCP CF-46	Mound CF-2
Y-12 CF-3.5.10.2.4	SRS CF-1

3.9.1.3 Integration of NEPA

Thirty-eight percent of the sites assessed inadequately integrate NEPA documentation with CERCLA or RCRA documentation, or failed to carry out wetlands/floodplains assessments concurrently with NEPA documentation.

Supporting findings:

PORTS CF-6

FMPC CF-E-01

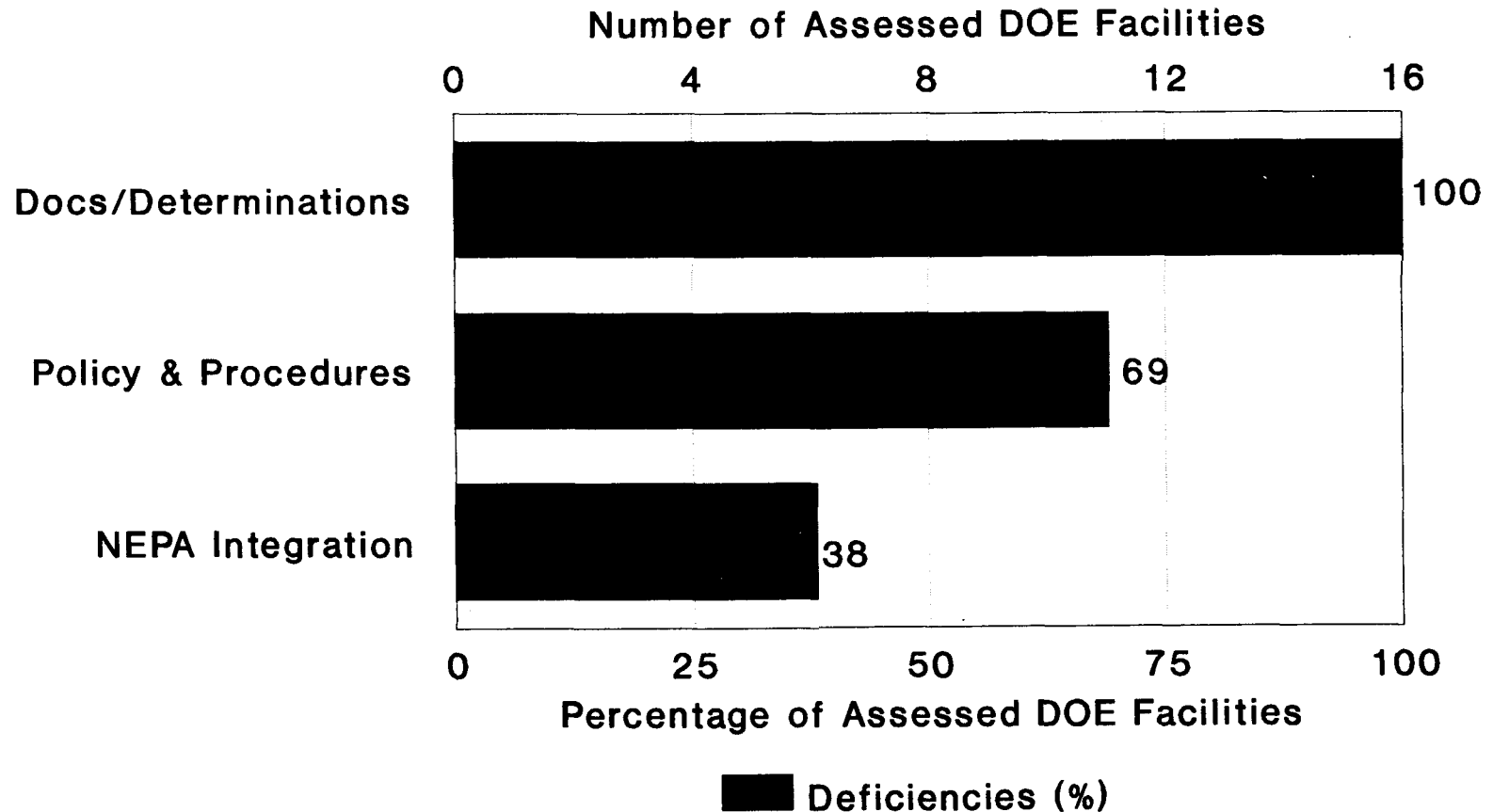
RFP AF-4

KCP CF-43

PGDP CF-5

Y-12 CF-3.5.10.2.5

National Environmental Policy Act Compliance Findings



3.9.2 NEPA BEST MANAGEMENT PRACTICE FINDINGS

3.9.2.1 NEPA Training and Guidance

Thirty-one percent of the facilities assessed provide little or no training or guidance to site staff on NEPA policy, procedures, and/or requirements.

Supporting findings:

WVDP BMP-12.3.1	FMPC E-01
Y-12 BMP-3.5.10.3.1	NTS BMP-1
Mound BMPF-3	

3.9.1.2 NEPA Records

Thirty-one percent of the sites assessed have inadequate or incomplete records of NEPA compliance.

Supporting findings:

PORTS BMP-1	SNLL BMPF-2
LLNL BMP-1	Mound BMPF-2
Pantex BMPF-2	

3.9.1.3 Management of NEPA

Thirty-eight percent of the sites assessed are inattentive to NEPA compliance, have difficulty in obtaining timely review of documents, guidance and training from DOE Operations Offices and DOE-HQ on NEPA issues, and/or lack a coordinated site-wide NEPA strategy.

Supporting findings:

WVDP BMP-12.3.2	RFP BMP-1
PORTS BMP-2	RFP BMP-3
Y-12 BMP-3.5.10.3.2	BNL BMPF-2
Pinellas BMP-1	

3.9.1.4 Policies and Procedures

Twenty-five percent of the sites assessed have inadequate procedures, fail to follow procedures or regulations, and have de facto NEPA determinations by contractors.

Supporting findings:

PORTS BMP-3

SRS BMP-2

Pantex BMPF-1

SNLL BMPF-1

3.9.1.5 NEPA Documentation and Determinations

Twenty-five percent of the facilities assessed have inadequate EA's or EIS's, improperly rely on site-wide EIS's, have lengthy EA's, and/or lack proper documentation.

Supporting findings:

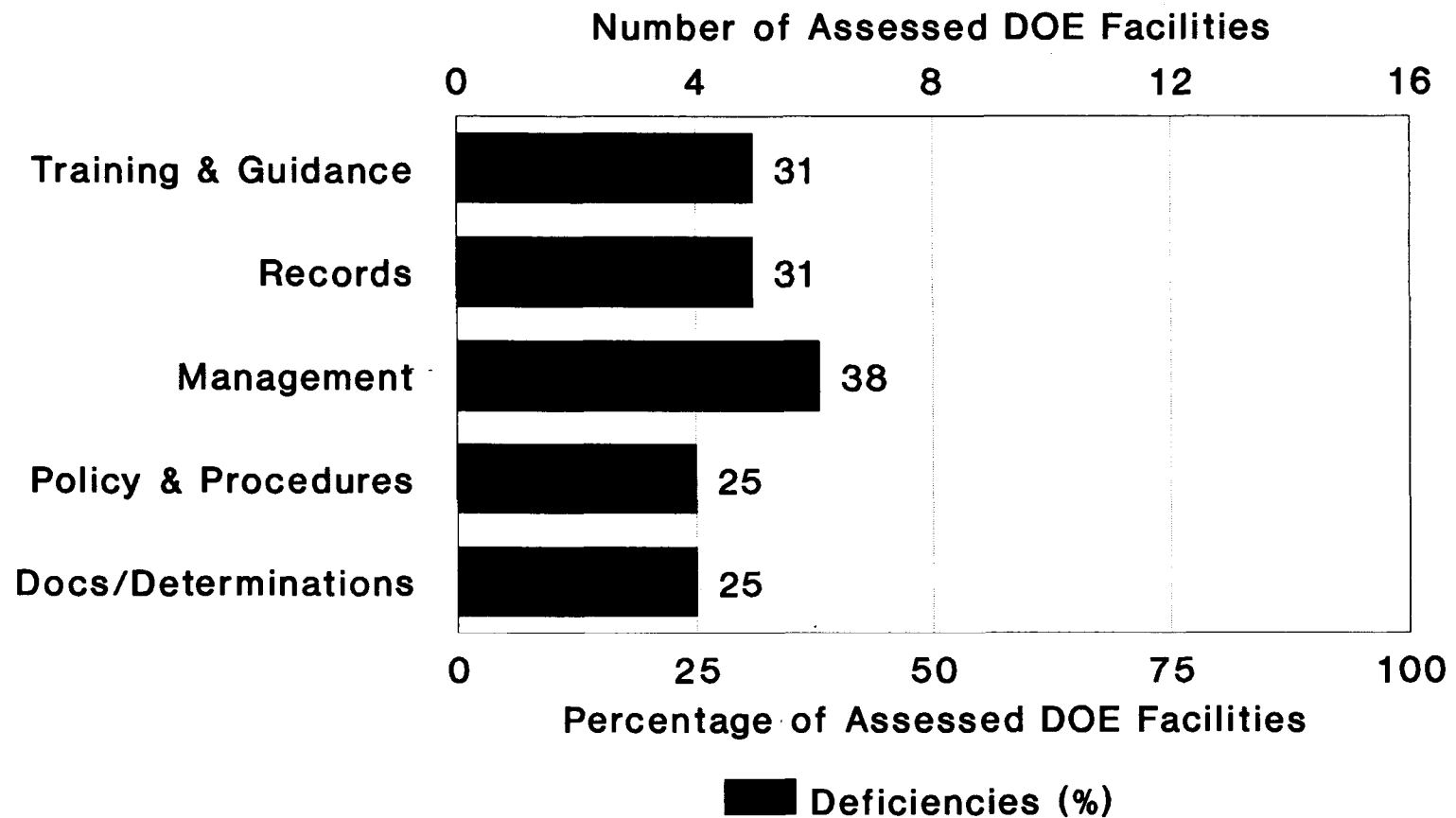
RFP BMP-2

SRS BMP-1

BNL BMPF-1

Mound BMPF-1

National Environmental Policy Act Best Management Practice Findings



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3.10 SOILS, SEDIMENTS, AND BIOTA

The purpose of the Soils/Sediments/Biota assessment is to evaluate the current facility operations and practices for use, disposal, and protection of soils and sediments and monitoring and protection of terrestrial and aquatic organisms from unacceptable levels of bioaccumulation as addressed in regulations and Orders.

No laws specifically address soils, sediments, or biota. Instead, regulations and guidelines for these media are contained in regulations promulgated under the Clean Water Act (CWA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); the Toxic Substances Control Act (TSCA); Resources Conservation and Recovery Act (RCRA); and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

There was not a sufficient number of findings in this category to be included in the analysis.

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3.11 SPECIAL ISSUES

Special issues are addressed as specific to each site.

There was not a sufficient number of findings in this category to be included in the analysis.

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Section 4

Analysis of Safety and Health Assessment

4.0 ANALYSIS OF SAFETY AND HEALTH ASSESSMENT

This section presents an analysis of the most commonly occurring health and safety related problems identified by the Tiger Teams at fifteen DOE facilities. Technical Safety Appraisal (TSA) teams conducted safety and health reviews at the majority of sites assessed by a Tiger Team. The TSA findings were developed utilizing the disciplines described in the Performance Objectives and Criteria for Technical Safety Appraisals at Department of Energy Facilities and Sites (June 1990).

This section of the analysis utilizes the same disciplines used to develop the individual assessment findings. These disciplines are:

- Organization and Administration
- Quality Verification
- Operations
- Maintenance
- Training and Certification
- Auxiliary Systems
- Emergency Preparedness
- Technical Support
- Packaging and Transportation
- Nuclear Criticality Safety
- Security/Safety Interface
- Experimental Activities
- Site/Facility Safety Review
- Radiological Protection
- Occupational Safety
- Personnel Protection
- Worker Safety
- Medical Services
- Aviation Safety
- Firearms Safety
- Industrial Hygiene

To maintain consistency with the majority of individual Tiger Team reports, findings from three OSHA-related TSA disciplines (Occupational Safety, Worker Safety, and Personnel Protection and Industrial Hygiene) are addressed in this section (Section 4) and in the Occupational Safety and Health Administration section (Section 5) of this analysis.

Analysis reveals significant concerns in the following areas.

- **Maintenance** - Sites do not demonstrate or ensure effective implementation and control of maintenance activities. For example, maintenance procedures are not consistently kept current and when/how these procedures are to be used is not promulgated. Moreover, maintenance is not conducted in a safe and effective manner.
- **Training and Certification** - Implementation and control of training activities is inadequate; personnel protection training programs are ineffective (i.e., do not ensure that site facility personnel, subcontractors and visitors understand requirements and responsibilities for safe work practices); workers lack the knowledge and practical abilities necessary to effectively implement personnel protection practices.
- **Emergency Preparedness** - Emergency plan implementation procedures and supporting documentation do not provide effective response to operational emergencies; emergency personnel do not have the knowledge/skills for responding to and controlling an emergency; equipment and resources are inadequate for emergency operations.
- **Technical** - Support services required by each facility to execute modifications are not carried out in accordance with sound engineering principles that ensure proper design, review, control, implementation, and documentation. For example, thousands of "as-built" drawings for Waste Management facilities are not current.
- **Radiation Protection** - Implementation and control of radiological protection activities at the sites is inadequate. Radioactive materials and radiation generating devices are not used safely and the potential resulting consequences are not provided. Radiation monitoring and contamination control programs do not ensure protection of the workers against radiation exposure.
- **Fire Protection** - Analysis indicates fire protection equipment and prevention activities are not adequate to ensure protection of workers. Deficiencies may include improper location of exit signs, emergency notification systems that cannot be clearly heard, automatic fire sprinkler protection systems not in place or working condition, and personnel that do not clearly understand fire protection procedures.

The following pages contain a presentation of the frequency of occurrence for safety and health findings/concerns. Appendix D lists the Safety and Health finding/concern titles by site."

4.1 SAFETY AND HEALTH CONCERNS

The following is a compilation of Safety and Health concerns made by Tiger Teams during their assessment of fifteen U.S. Department of Energy facilities during the period. Classification of concerns has been made pursuant to U.S. DOE publication DOE/EH-0135 Performance Objectives and Criteria for Technical Safety Appraisals at Department of Energy Facilities and Sites, June 1990.

4.1.1 ORGANIZATION AND ADMINISTRATION

4.1.1.1 Site/Facility Organization

Fifty-three percent of the facilities assessed demonstrated that management had failed to organize and manage the site/facility's work, programs, and resources so that safety and health were an integral part of the personnel duties and requirements were consistently implemented.

Supporting concerns:

Hanford-OA.1-1	Hanford-OA.1-2
Hanford-OA.1-3	Hanford-OA.1-4
Hanford-OA.1-5	Hanford-OA.1-6
Hanford-OA.1-7	Hanford-OA.1-8
SNLL-OA.1-1	SNLL-OA.1-2
LLNL-OA.1-1	LLNL-OA.1-2
LLNL-OA.1-3	LLNL-OA.1-4
LLNL-OA.1-5	LLNL-OA.1-6
LLNL-OA.1-7	SRS-OA.1-1 (4.5.1.1.2)
SRS-OA.1-2	SRS-OA.1-3
SRS-OA.1-1 (4.5.2.1.2)	SRS-OA.1-1 (4.5.3.1.2)
WVDP-OA.1-1	WVDP-OA.1-2
BNL-OA.1-2	Pinellas-OA.1-1
Pinellas-OA.1-2	KCP-89

4.1.1.2 Administration

Fifty-three percent of the facilities assessed showed that administrative programs and controls were not in place to ensure policies concerning health and safety were administered throughout the facility.

Supporting concerns:

Hanford-OA.2-1	LLNL-OA.2-1
SRS-OA.2-1	BNL-OA.2-2
Pinellas-OA.2-1	Pinellas-OA.2-2
Pinellas-OA.2-3	WVDP-OA.2-1
KCP-82	NTS-OA.2-1

4.1.1.3 Management Objectives

Forty-seven percent of the facilities assessed showed that site/facility management objectives failed to ensure commitment to safe operation, including enforcement of approved work practices and procedures.

Supporting concerns:

BNL-OA.3-2	Hanford-OA.3-1
SNLL-OA.3-1	LLNL-OA.3-1
PGDP-OA.3-1	Pinellas-OA.3-1
NTS-OA.3-1	NTS-OA.3-2

4.1.1.4 Management Assessment

Forty percent of the facilities assessed showed that management and supervisory personnel did not adequately monitor and assess facility activities to improve performance in all aspects of the operation.

Supporting concerns:

Hanford-OA.5-1	Hanford-OA.5-2
Hanford-OA.5-3	Hanford-OA.5-4
SNLL-OA.5-1	SNLL-OA.5-2
LLNL-OA.5-1	LLNL-OA.5-2
LLNL-OA.5-3	LLNL-OA.5-4
LLNL-OA.5-5	PGDP-OA.5-1
Pinellas-OA.5-1	NTS-OA.5-1
NTS-OA.5-2	NTS-OA.5-3
NTS-OA.5-4	

4.1.1.5 Personnel Planning and Qualification

Forty percent of the facilities showed that personnel programs did not ensure that appropriate job qualification requirements or position descriptions were established for all positions that affect safe and reliable operation.

Supporting concerns:

Hanford-OA.6-1	Hanford-OA.6-2
SNLL-OA.6-1	LLNL-OA.6-1
LLNL-OA.6-2	SRS-OA.6-1
PGDP-OA.6-1	WVDP-OA.5-1

4.1.1.6 Document Control

Seventy-three percent of the facilities assessed did not provide correct, readily accessible information to support site/facility operations.

Supporting concerns:

Hanford-OA.7-1	Hanford-OA.7-2
Hanford-OA.7-3	Hanford-OA.7-4
Hanford-OA.7-5	Hanford-OA.7-6
Hanford-OA.7-7	Hanford-OA.7-8
SNLL-OA.7-1	SNLL-OA.7-2
LLNL-OA.7-1	LLNL-OA.7-2
SRS-OA.7-1 (4.5.1.1.2)	SRS-OA.7-2 (4.5.1.1.2)
SRS-OA.7-3 (4.5.1.1.2)	SRS-OA.7-4
SRS-OA.7-5	SRS-OA.7-1 (4.5.3.1.2)
SRS-OA.7-2 (4.5.3.1.2)	SRS-OA.7-3 (4.5.3.1.2)
SRS-OA.7-3 (4.5.3.1.2)	SRS-OA.7-1 (4.5.2.1.2)
PGDP-OA.7-1	PGDP-OA.7-2
PGDP-OA.7-3	PGDP-OA.7-4
WVDP-OA.6-1	BNL-OA.7-3
Pinellas-OA.7-1	Pinellas-OA.7-2
Pinellas-OA.7-3	Y-12-4.5.5.3.1 OA-7
PORTS-OA-7 (4.5.5.2)	NTS-OA.7-1

4.1.1.7 Fitness for Duty

Thirty-three percent of the facilities assessed had no Fitness for Duty Program capable of identifying persons who are unfit for their assigned duties (as a result of drug or alcohol use, or other physical or psychological conditions), and/or provided procedures to remove them from such duty and from access to vital areas of the site or facility pending rehabilitation or remedial actions.

Supporting concerns:

Hanford-OA.8-1

Hanford-OA.8-2

Hanford-OA.8-3

Hanford-OA.8-4

LLNL-OA.8-1

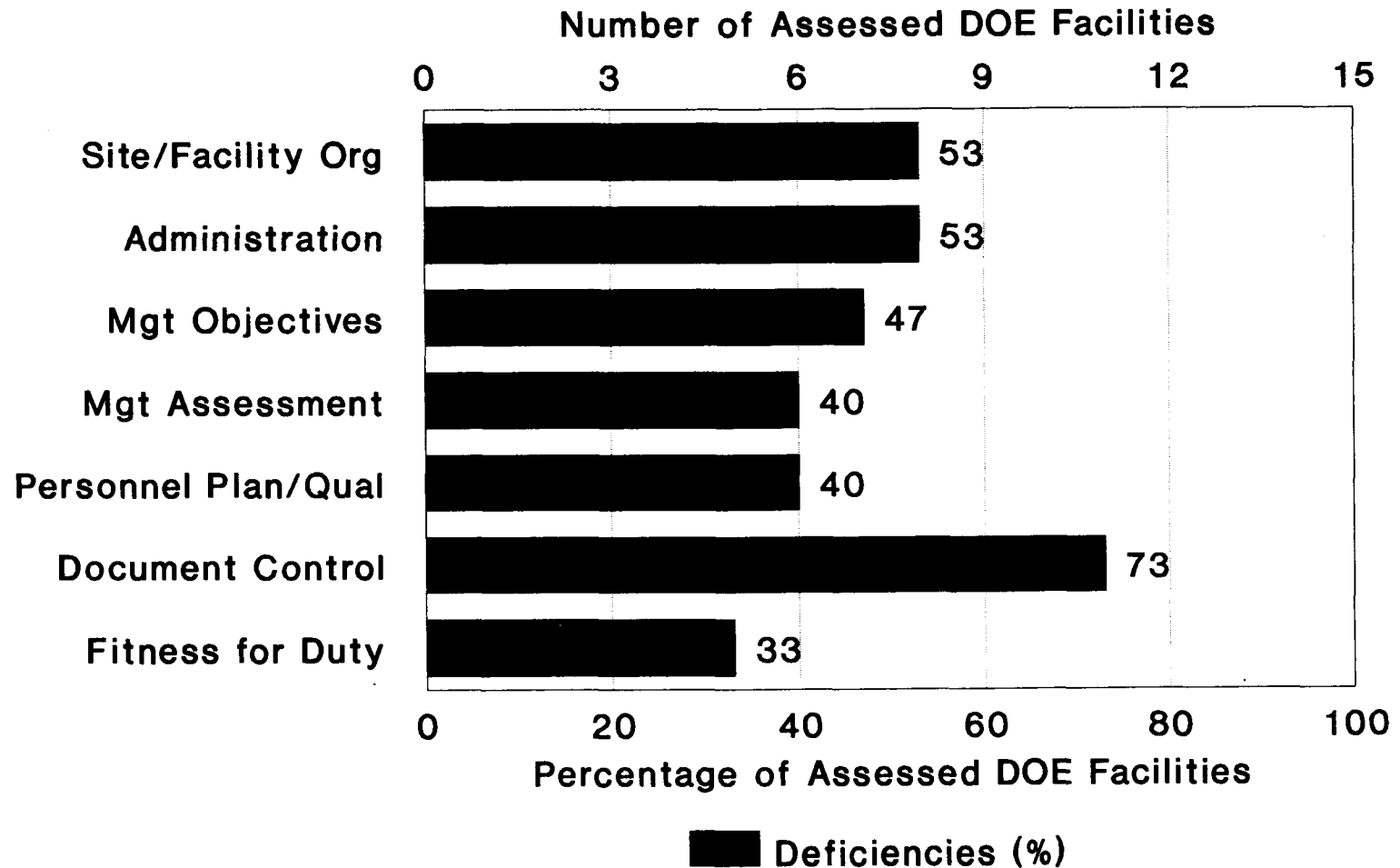
PGDP-OA.8-1

SRS-OA.8-1 (4.5.2.1.2)

SRS-OA.8-1 (4.5.3.1.2)

NTS-OA.8-1

Organization and Administration



4.1.2 QUALITY VERIFICATION

4.1.2.1 Quality Programs

Fifty-three percent of the facilities assessed demonstrated that administrative programs and controls were not in place to ensure policies concerning quality were administered for each facility throughout the site.

Supporting concerns:

Pinellas-QV.1-1	Pinellas-QV.1-2
BNL-QV.1-3	BNL-QV.1-4
BNL-QV.1-5	Hanford-QV.1-2
Hanford-QV.1-1	Hanford-QV.1-4
Hanford-QV.1-3	Hanford-QV.1-5
SNLL-QV.1-1	SNLL-QV.1-2
SNLL-QV.1-3	LLNL-QV.1-1
LLNL-QV.1-2	FMPC-QV.1/S-12
SRS-QV.1-1 (4.5.1.1.2)	SRS-QV.1-1 (4.5.2.2.2)
SRS-QV.1-1 (4.5.3.2.2)	SRS-QV.1-2
SRS-QV.1-3	PGDP-QV.1-1

4.1.2.2 Procurement and Supplier Control

Forty percent of the facilities assessed demonstrated that provisions were not adequately established for the control of purchased material, equipment, and services; for selection and control of suppliers; and for assessing the adequacy of procurement activities.

Supporting concerns:

Y-12-QV-2 (4.5.6.3.2)	Pinellas-QV.2-1
BNL-QV.2-1	Hanford-QV.2-1
Hanford-QV.2-2	Hanford-QV.2-3
Hanford-QV.2-4	Hanford-QV.2-5
SNLL-QV.2-1	PGDP-QV.2-1
PGDP-QV.2-2	

4.1.2.3 Receiving and Pre-Installation Inspections

Twenty-seven percent of the facilities assessed showed that provisions were not established for the inspection of purchased materials, equipment, and services in accordance with documented procedures by trained personnel.

Supporting concerns:

Pinellas-QV.3-1	Pinellas-QV.3-2
Hanford-QV.3-1	Hanford-QV.3-2
Hanford-QV.3-3	SNLL-QV.3-1
PGDP-QV.3-1	

4.1.2.4 Calibration Program

Fifty-three percent of the facilities assessed demonstrated that provisions were not made to ensure that tools, gauges, instruments, and other measuring and testing devices were properly identified, controlled, calibrated, and adjusted at specified, appropriate intervals.

Supporting concerns:

Pinellas-QV.4-1	Hanford-QV.4-1
Hanford-QV.4-2	Hanford-QV.4-3
Hanford-QV.4-4	Hanford-QV.4-5
SNLL-QV.4-1	LLNL-QV.4-1
SRS-QV.4-1 (4.5.1.2.2)	SRS-QV.4-1 (4.5.2.2.2)
SRS-QV.4-1 (4.5.3.2.2)	PGDP-QV.4-1
PORTS-QV.4-MA-8	PORTS-QV.4-1H-32
Mound-MA/CF-3	

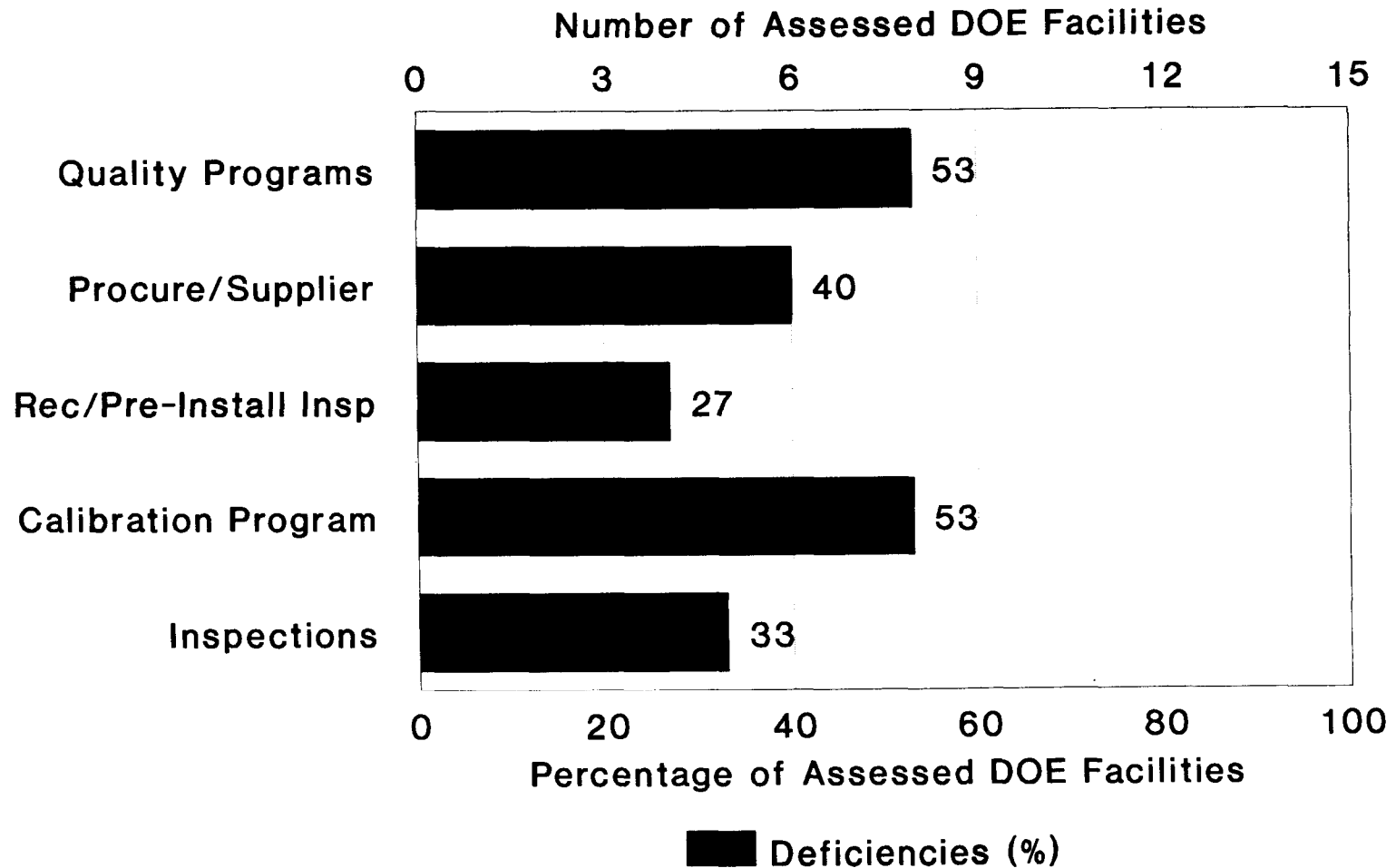
4.1.2.5 Inspections

Thirty-three percent of the facilities assessed demonstrated that prerequisites were not provided in written inspection procedures with provisions for documenting and evaluating inspection results.

Supporting concerns:

Pinellas-QV.6-1	BNL-QV.6-1
SNLL-QV.6-1	SRS-QV.6-1 (4.5.1.2.2)
SRS-QV.6-1 (4.5.2.2.2)	PGDP-QV.6-1

Quality Verification



4.1.3 OPERATIONS

4.1.3.1 Organization and Administration

Thirty-three percent of the facilities assessed demonstrated that operations organization and administration did not ensure effective implementation and control of operations activities.

Supporting concerns:

Pinellas-OP.1-1	Pinellas-OP.1-2
BNL-OP.1-3	BNL-OP.1-4
BNL-OP.1-5	BNL-OP.1-6
Hanford-OP.1-1	LLNL-OP.1-1
LLNL-OP.1-2	LLNL-OP.1-3
SRS-OP.1-1 (4.5.1.3.2)	

4.1.3.2 Conduct of Operations

Fifty-three percent of the facilities assessed demonstrated a definite frequency in that operational activities were not conducted in a manner that achieved safe and reliable operation.

Supporting concerns:

Pinellas-OP.2-1	Pinellas-OP.2-2
WVDP-OP.2-1	WVDP-OP.2-2
Hanford-OP.2-1	SNLL-OP.2-1
SRS-OP.2-1 (4.5.3.3.2)	SRS-OP.2-1 (4.5.1.3.2)
SRS-OP.2-1 (4.5.2.3.2)	SRS-OP.2-2 (4.5.3.3.2)
SRS-OP.2-3 (4.5.3.3.2)	Pantex-OP-2 S/BMPF-2
PORTS-OP-3 (4.5.1.3.1)	PORTS-OP-2 (4.5.11.2)
Mound-OP/CF-5	Mound-OP/CF-6

4.1.3.3 Operations Procedures and Documentation

Seventy-three percent of the facilities assessed demonstrated a definite frequency in that approved written procedures, procedure policies and data sheets did not provide effective guidance for normal and abnormal operation of each facility on a site.

Supporting concerns:

NTS-OP.2-1	NTS-OP.3-2
NTS-OP.3-1	Hanford-OP.3-1
SNLL-OP.3-1	SNLL-OP.3-2
LLNL-OP.3-1	LLNL-OP.3-2
LLNL-OP.3-3	LLNL-OP.3-4
LLNL-OP.3-5	LLNL-OP.2-1
SRS-OP.3-1 (4.5.2.3.2)	SRS-OP.3-1 (4.5.3.3.2)
SRS-OP.3-2 (4.5.3.3.2)	PGDP-OP.3-1
PGDP-OP.3-2	PGDP-OP.1-1
Y-12-OP.3 (4.5.1.3.3)	Y-12-OP.3 (4.5.1.3.2)
Pantex-OP-3 S/CF-3	PORTS-OP-4
PORTS-OP-3 OP-1	Mound-OP/CF-1
Mound-OP/CF-2	Mound-ENG/BMPF-1
Pinellas-OP.3-1	

4.1.3.4 Facility Status Controls

Sixty-seven percent of the facilities assessed demonstrated a definite frequency in that operations personnel did not know the status of the systems and equipment under their control and did not know the effect of non-operational systems and equipment on continued operations. It was not ensured that systems and equipment were controlled in a manner that supports safe and reliable operation.

Supporting concerns:

Pinellas-OP.4-1	Pinellas-OP.4-2
Pinellas-OP.4-3	BNL-OP.4-1
WVDP-OP.3-1	Hanford-OP.4-1
Hanford-OP.4-2	SNLL-OP.4-1
SNLL-OP.4-2	LLNL-OP.4-1
SRS-OP.4-1 (4.5.1.3.2)	SRS-OP.4-1 (4.5.2.3.2)
SRS-OP.4-1 (4.5.3.3.2)	SRS-OP.4-2 (4.5.3.3.2)
SRS-OP.4-3 (4.5.3.3.2)	PGDP-OP.4-1
Y-12-OP.4 (4.5.1.3.3)	Mound-OP.4 OP/CF-3
Mound-OP.4 OP/CF-4	Mound-OP.4 OP/BMPF-1

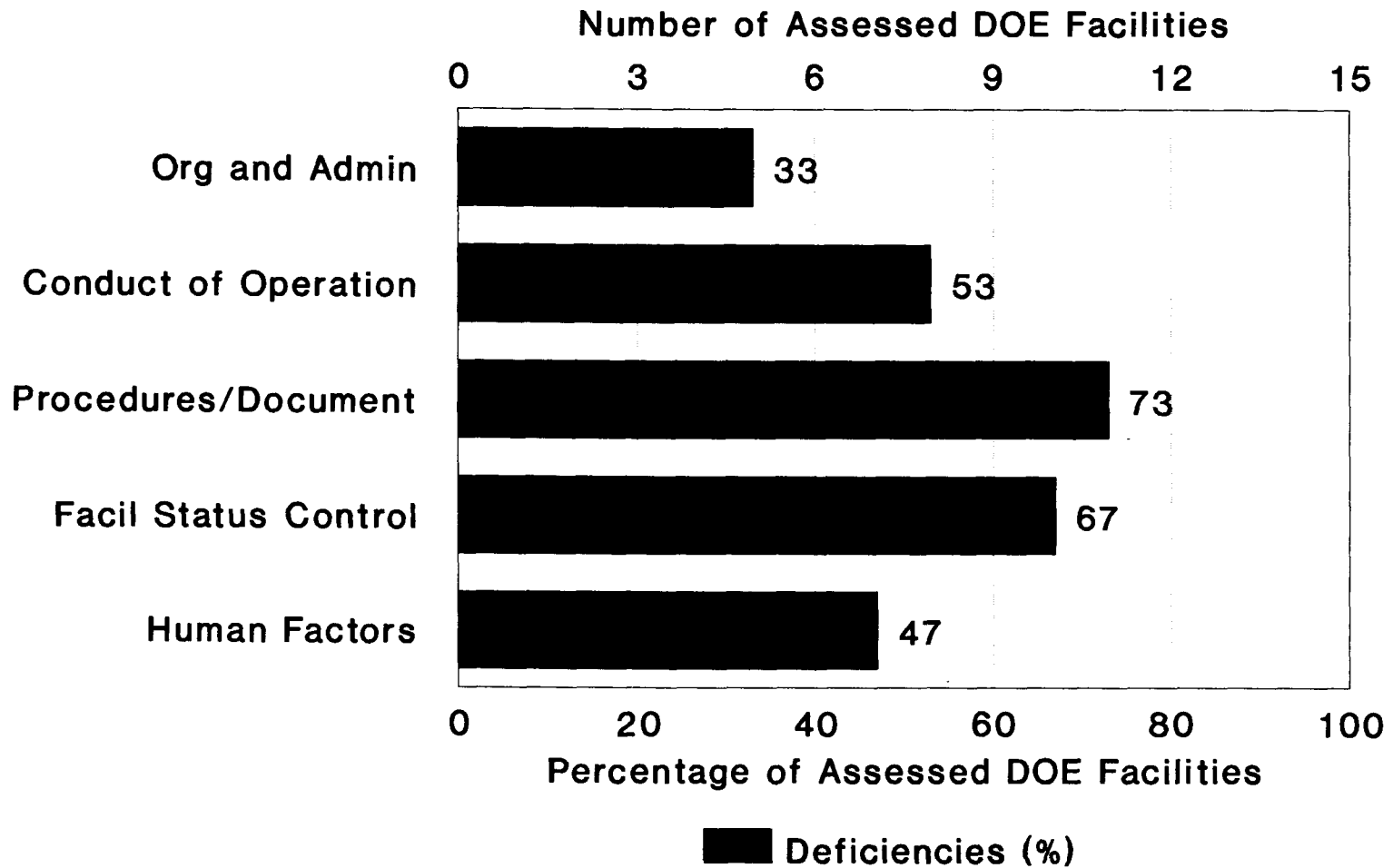
4.1.3.5 Human Factors

Forty-seven percent of the facilities assessed demonstrated that human factors considerations were not incorporated in the design, layout and operations of all facilities on the site in order to facilitate operator control, information processing, and the recognition and proper response to alarms, instruments, and other equipment.

Supporting concerns:

Pinellas-OP.8-1	WVDP-OP.7-1
WVDP-OP.7-2	Hanford-OP.8-1
Hanford-OP.8-2	Hanford-OP.8-3
LLNL-OP.8-1	LLNL-OP.8-2
SRS-OP.8-1 (4.5.1.3.2)	SRS-OP.8-1 (4.5.2.3.2)
SRS-OP.8-2 (4.5.2.3.2)	PGDP-OP.8-1
PGDP-OP.8-2	PORTS-OP-6
PORTS-OP.8-5	

Operations



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4.1.4 MAINTENANCE

4.1.4.1 Organization and Administration

Sixty percent of the facilities assessed demonstrated that maintenance organization and administration did not ensure effective implementation and control of maintenance activities.

Supporting concerns:

NTS-MA.1-1	Hanford-MA.1-1
Hanford-MA.1-2	Hanford-MA.1-3
SNLL-MA.1-1	LLNL-MA.1-1
LLNL-MA.1-2	LLNL-MA.1-3
LLNL-MA.1-4	LLNL-MA.1-5
PGDP-MA.1-1	SRS-MA.1-1 (4.5.1.4.2)
SRS-MA.1-1 (4.5.2.4.2)	SRS-MA.1-1 (4.5.3.4.2)
SRS-MA.1-2 (4.5.3.4.2)	Y-12-4.5.3.3.2
FMPC-S-13	PORTS-MA-2
PORTS-MA-1	PORTS-MA-3
PORTS-MA-6	BNL-MA. 1-3

4.1.4.2 Conduct of Maintenance

Seventy-three percent of the facilities assessed demonstrated a definite frequency in that maintenance was not conducted in a safe and effective manner to support each facility condition and operation on the site.

Supporting concerns:

KCP-MA-2	KCP-MA-2 4.4.1.3 #87
KCP-MA-2 4.4.3.3 #103	Pantex-MA-2 S-CF-5
Mound-MA-2 MA/CF-1	Mound-MA-2 MA/BMPF-1
Mound-MA-2 MA/CF-2	PORTS-MA-2 IH-33
PORTS-MA-2 MA-9	PORTS-MA-2 IH-34
PORTS-MA-2 IH-35	PORTS-MA-2 MA-1
PORTS-MA-2 MA-7	Pinellas-MA.2-1
NTS-MA.2-1	WVDP-MA.3-1
Hanford-MA.2-1	Hanford-MA.2-2
Hanford-MA.2-3	Hanford-MA.2-4
Hanford-MA.2-5	SNLL-MA.2-1
LLNL-MA.2-1	LLNL-MA.2-2
LLNL-MA.2-3	SRS-MA.2-1 (4.5.1.4.2)
KCP-104	KCP-103

4.1.4.3 Maintenance Facilities, Equipment, and Material

Forty-seven percent of the facilities assessed demonstrated that facilities, equipment, and material did not effectively support the performance of maintenance activities.

Supporting concerns:

PORTS-MA.3 IH-36	PORTS-MA-3 MA-3
PORTS-MA-3 MA-4	Pinellas-MA.3-1
WVDP-MA.5-1	SNLL-MA.3-1
SNLL-MA.3-2	LLNL-MA.3-1
LLNL-MA.3-2	PGDP-MA.3-1
PGDP-MA.5-1	SRS-MA.3-1 (4.5.1.4.2)
SRS-MA.3-2 (4.5.1.4.2)	SRS-MA.3-1 (4.5.2.4.2)
SRS-MA.4-2 (4.5.1.4.2)	SRS-MA.3-1 (4.5.3.4.2)

4.1.4.4 Planning, Scheduling, and Work Control

Forty-seven percent of the facilities assessed demonstrated that the planning, scheduling, and control of work did not ensure that identified maintenance actions were properly completed in a safe, timely, and effective manner.

Supporting concerns:

Y-12-MA-4 (4.5.3.3.1)	Pantex-MA-4 S/CF-4
Hanford-MA.4-1	SNLL-MA.4-1
LLNL-MA.4-1	PGDP-MA.4-1
SRS-MA.4-1 (4.5.1.4.2)	SRS-MA.4-1 (4.5.3.4.2)
SRS-MA.4-2 (4.5.3.4.2)	KCP-87

4.1.4.5 Corrective Maintenance

Forty-seven percent of the facilities assessed demonstrated that the material condition of components and equipment was not maintained to support safe and effective operation of all facilities on the site.

Supporting concerns:

Pinellas-MA.5-1	BNL-MA.5-2
Hanford-MA.5-1	SNLL-MA.5-1
LLNL-MA.5-1	LLNL-MA.5-2
SRS-MA.5-1 (4.5.1.4.2)	FMPC-MA-5 5.6

4.1.4.6 Preventive Maintenance

Forty percent of the facilities assessed demonstrated that preventive maintenance did not contribute to optimum performance and reliability of systems and equipment important to operations.

Supporting concerns:

Pinellas-MA.6-1	Pinellas-MA.6-2
Hanford-MA.6-1	SNLL-MA.6-1
LLNL-MA.6-1	PGDP-MA.6-1
SRS-MA.6-1 (4.5.1.4.2)	SRS-MA.6-1 (4.5.2.4.2)
SRS-MA.6-1 (4.5.3.4.2)	

4.1.4.7 Predictive Maintenance

Thirty-three percent of the facilities assessed demonstrated that maintenance history evaluation and systematic root cause analyses was not used to support maintenance activities and optimize equipment performance.

Supporting concerns:

Hanford-MA.7-1

SNLL-MA.7-1

LLNL-MA.7-1

PGDP-MA.7-1

SRS-MA.7-1 (4.5.2.4.2)

4.1.4.8 Procedures and Documentation

Forty percent of the facilities assessed demonstrated that maintenance procedures and related documents did not provide appropriate directions and guidance for work and were not used to ensure that maintenance was performed safely and effectively.

Supporting concerns:

BNL-MA.8-2

BNL-MA.2-2

WVDP-MA.7-1

SNLL-MA.8-1

LLNL-MA.8-1

LLNL-MA.2-4

PGDP-MA.8-1

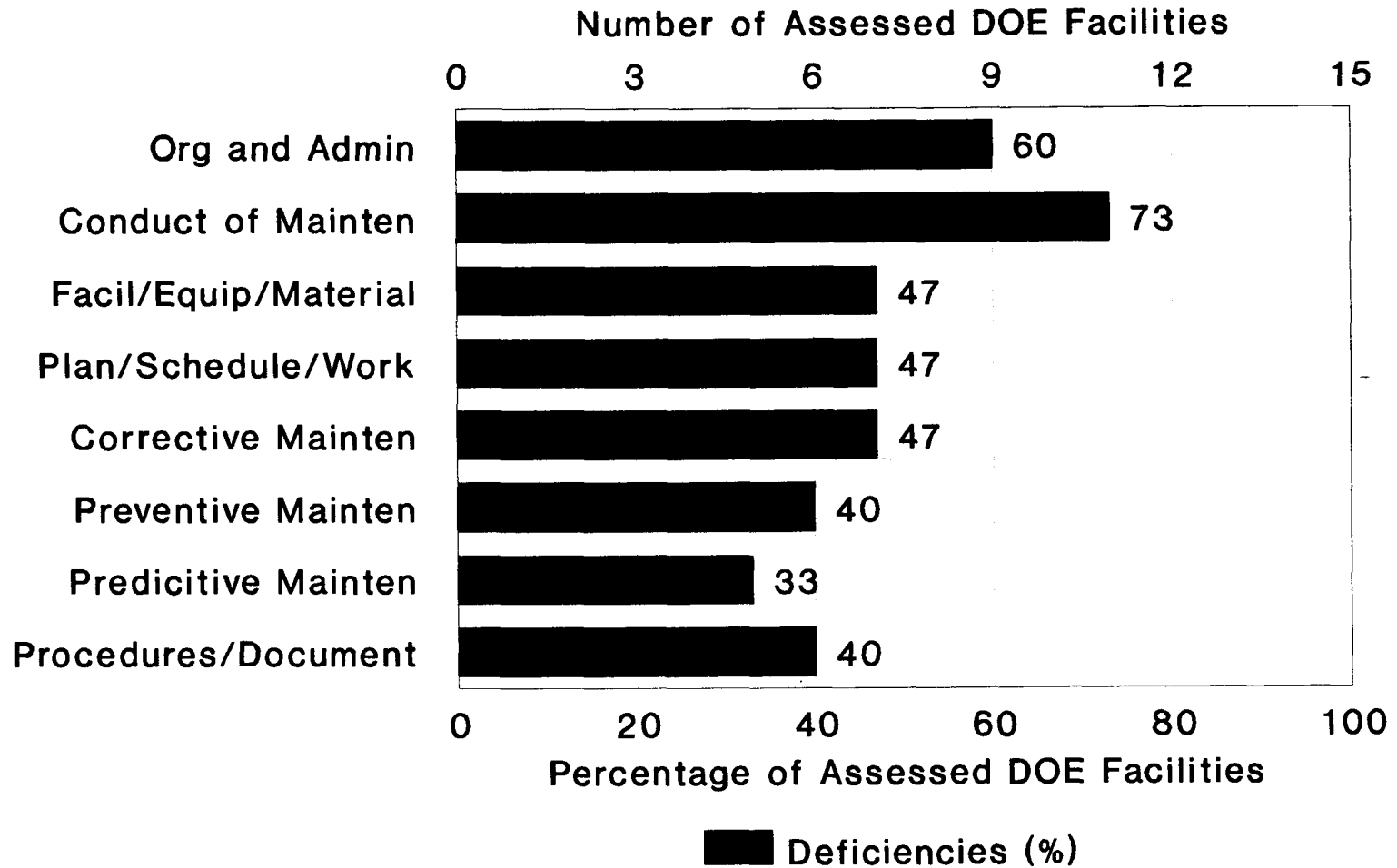
SRS-MA.7-1 (4.5.1.4.2)

SRS-MA.2-1 (4.5.3.4.2)

SRS-MA.5-1 (4.5.3.4.2)

SRS-MA.7-1 (4.5.3.4.2)

Maintenance



4.1.5 TRAINING AND CERTIFICATION

4.1.5.1 Organization and Administration

Eighty-seven percent of the facilities assessed demonstrated that the training organization and administration did not ensure effective implementation and control of training activities.

Supporting concerns:

FMPC-S-14	Mound-TNG/CF-1
Mound-TNG/CF-2	PORTS-TC.1-9
PORTS-TC.1-8	PORTS-TC.1-6
PORTS-TC.1-4	Pinellas-TC.1-1
BNL-TC.1-1	NTS-TC.1-1
WVDP-TC.1-1	Hanford-TC.1-1
Hanford-TC.1-2	Hanford-TC.1-3
SNLL-TC.1-1	LLNL-TC.1-1
SRS-TC.1-1 (4.5.1.5.2)	SRS-TC.1-1 (4.5.2.5.2)
SRS-TC.1-1 (4.5.3.5.2)	SRS-TC.1-2 (4.5.3.5.2)
PGDP-TC.1-1	Y-12 4.5.2.2.1

4.1.5.2 Nuclear Facility Operations Other Than Reactors

Forty percent of the facilities assessed demonstrated that the nuclear facility operator and supervisor training and certification programs were not based on DOE Order 5480.5, as applicable, and did not develop and improve the knowledge and skills necessary to perform assigned job functions.

Supporting concerns:

PORTS-TC.3-1

PORTS-TC-2

NTS-TC.3-1

WVDP-TC.3-2

WVDP-TC.3-1

Hanford-TC.3-1

Hanford-TC.3-2

PGDP-TC.3-1

SRS-TC.3-1 (4.5.1.5.2)

SRS-TC.3-1 (4.5.2.5.2)

SRS-TC.3-1 (4.5.3.5.2)

Y-12 4.5.5.3.1

Y-12 4.5.5.3.2

Y-12 4.5.5.3.3

Y-12 4.5.6.3.1

Y-12 4.5.6.3.2

PORTS-TC2

4.1.5.3 General Employee/Personnel Protection Training

Eighty percent of the facilities assessed demonstrated that general employee and personnel protection training programs did not ensure that site/facility personnel, subcontractors and visitors have an understanding of their responsibilities and expected safe work practices, and have the knowledge and practical abilities necessary to effectively implement personnel protection practices associated with their work.

Supporting concerns:

Pantex-TC.4-S/CF-6	PORTS-TC.4-7
PORTS-TC.4-IH-37	BNL-TC.4-1
BNL-TC.4-2	WVDP-TC.4-1
Hanford-TC.4-2	SNLL-TC.4-1
LLNL-TC.4-1	PGDP-TC.4-1
NTS-TC.4-1	SRS-TC.4-1 (4.5.1.5.2)
SRS-TC.4-2 (4.5.1.5.2)	SRS-TC.4-1 (4.5.2.5.2)
SRS-TC.4-2 (4.5.2.5.2)	SRS-TC.4-1 (4.5.3.5.2)
SRS-TC.4-2 (4.5.3.5.2)	Y-12 4.5.2.3.1
KCP-83	KCP-102

4.1.5.4 Maintenance Personnel

Thirty-three percent of the facilities assessed demonstrated that the maintenance personnel training qualification programs did not develop and improve the knowledge and skills necessary to perform assigned job functions.

Supporting concerns:

PORTS-TC.5-5	Hanford-TC.5-1
Hanford-TC.5-2	Hanford-TC.5-3
SNLL-TC.5-1	PGDP-TC.5-1
BNL-TC.5-1	

4.1.5.5 Radiological Protection Personnel

Twenty-seven percent of the facilities assessed demonstrated that the radiological protection personnel training and qualification program did not develop and improve the knowledge and skills necessary to perform assigned job functions.

Supporting concerns:

Pantex S/CF-12

BNL-TC.9-1

Hanford-TC.9-1

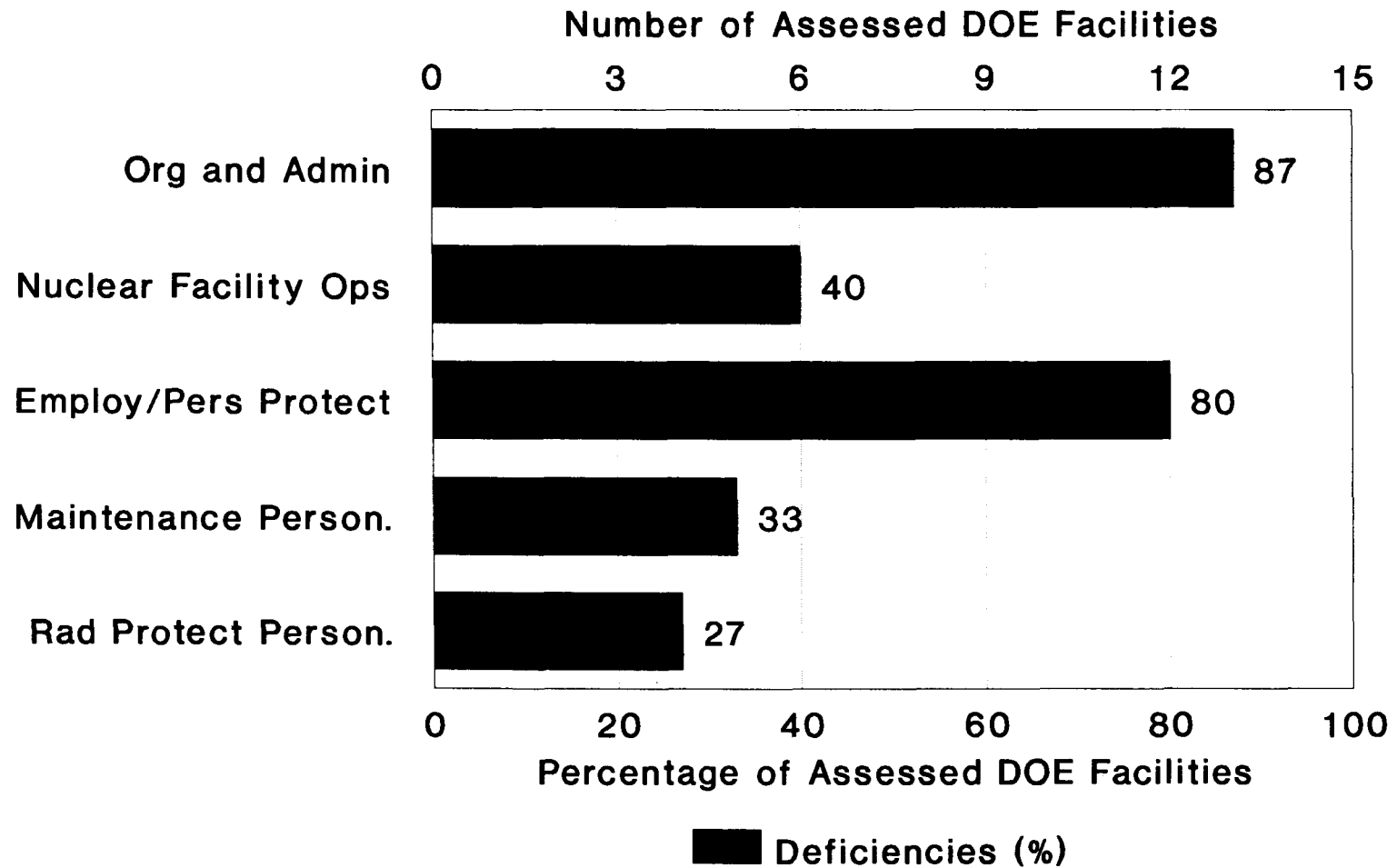
Hanford-TC.9-2

Hanford-TC.9-3

Hanford-TC.9-4

SRS-TC.9-1

Training and Certification



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4.1.6 AUXILIARY SYSTEMS

4.1.6.1 Systems Requirements

Thirty-three percent of the facilities assessed demonstrated that auxiliary systems were not considered under the same functional criteria for design, engineering, operations, maintenance, and modifications as the structural, confinement, and primary process systems of the facility.

Supporting concerns:

Pinellas-AX.1-1	Hanford-AX.1-1
Hanford-AX.1-2	Hanford-AX.1-3
Hanford-AX.1-4	Hanford-AX.1-5
Hanford-AX.1-6	Hanford-AX.1-7
SNLL-AX.1-2	SNLL-AX.1-1
LLNL-AX.1-1	SRS-AX.1-1 (4.5.1.6.2)
SRS-AX.1-1 (4.5.2.6.2)	SRS-AX.1-1 (4.5.3.6.2)
SRS-AX.1-2 (4.5.1.6.2)	SRS-AX.1-2 (4.5.2.6.2)

4.1.6.2 Effluent Holdup and Treatment

Forty percent of the facilities assessed demonstrated that effluent holdup and treatment did not ensure that the amount of hazardous substances released to the environment as escaping emissions and/or as effluent gaseous or liquid releases were less than DOE and EPA standards and are ALARA.

Supporting concerns:

Pinellas-AX.2-1	WVDP-AX.1-1
Hanford-AX.2-1	SNLL-AX.2-1
SNLL-AX.2-2	PGDP-AX.2-1
SRS-AX.2-1 (4.5.2.6.2)	SRS-AX.2-2 (4.5.2.6.2)
SRS-AX.2-1 (4.5.1.6.2)	SRS-AX.2-2 (4.5.1.6.2)
SRS-AX.2-3 (4.5.1.6.2)	

4.1.6.3 Solid Wastes

Forty-seven percent of the facilities assessed demonstrated solid hazardous wastes (including radioactive wastes) were not controlled to minimize the volume generated, and were not handled in a manner that provided safe storage and transportation.

Supporting concerns:

Mound-AX-3 MA/CF-2	Pinellas-AX.3-1
NTS-AX.3-1	Hanford-AX.3-1
Hanford-AX.3-2	Hanford-AX.3-3
Hanford-AX.3-4	Hanford-AX.3-5
SNLL-AX.3-1	LLNL-AX.3-1
SRS-AX.3-1 (4.5.1.6.2)	SRS-AX.3-1 (4.5.2.6.2)
SRS-AX.3-2 (4.5.2.6.2)	

4.1.6.4 Ventilation Systems

Forty-seven percent of the facilities assessed demonstrated that ventilation systems did not reliably direct all airborne effluents from contaminated zones or potentially contaminated zones through cleanup systems to ensure that the effluent reaching the environment was below the maximum permissible concentration and was ALARA.

Supporting concerns:

Pinellas-AX.5-1	Pinellas-AX.5-2
Pinellas-AX.5-3	Pinellas-AX.,5-4
BNL-AX.5-1	WVDP-AX.4-1
Hanford-AX.5-1	Hanford-AX.5-2
Hanford-AX.5-3	SNLL-AX.5-1
SNLL-AX.5-2	SNLL-AX.5-3
PGDP-AX.5-1	PGDP-AX.5-2
PGDP-AX.5-3	SRS-AX.5-1 (4.5.1.6.2)
SRS-AX.5-1 (4.5.2.6.2)	SRS-AX.5-2 (4.5.2.6.2)
SRS-AX.5-1 (4.5.3.6.2)	

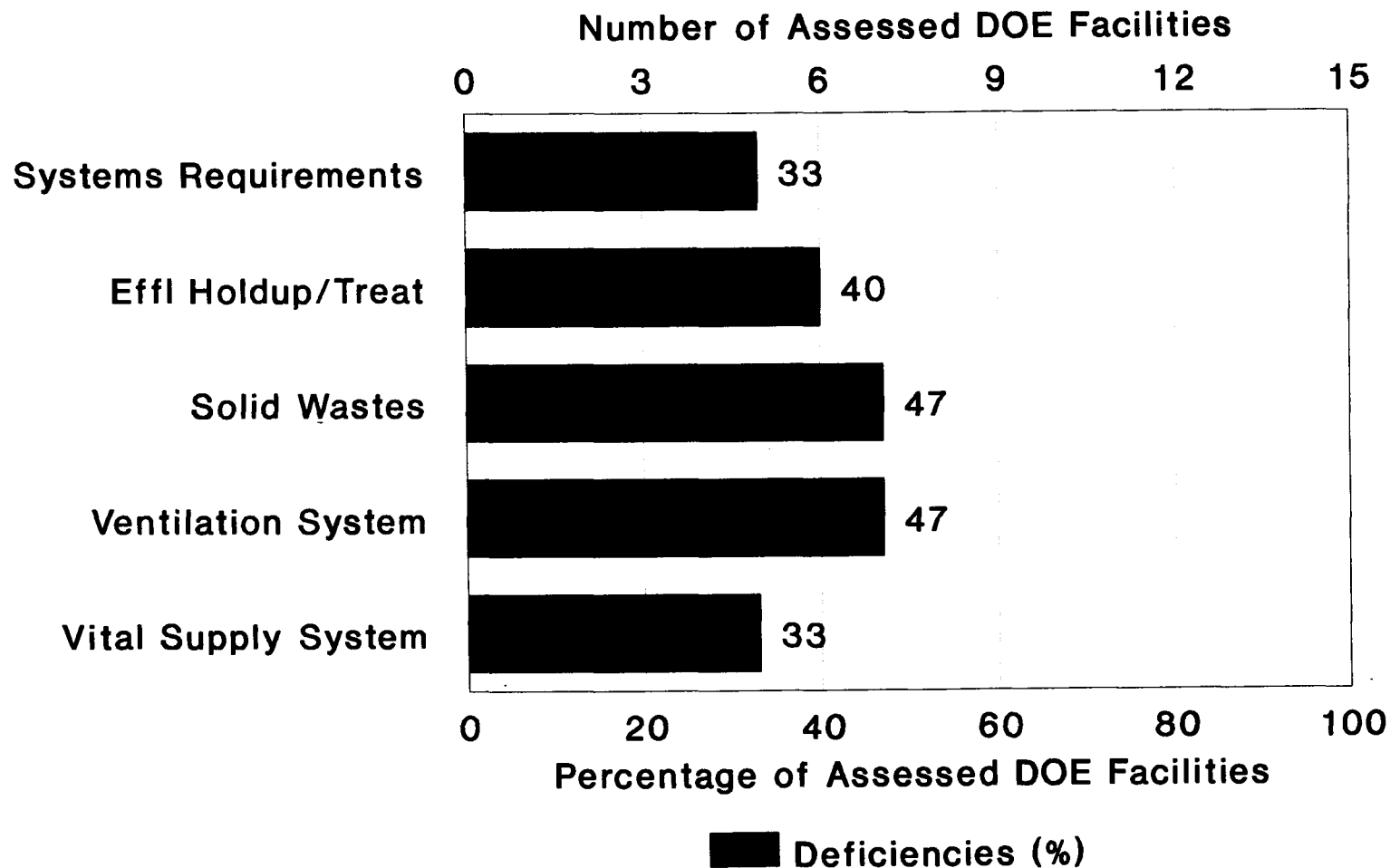
4.1.6.5 Vital Supply Systems

Thirty-three percent of the facilities assessed demonstrated that the electric, water, and emergency power systems did not reliably provide vital services as required by all facilities on the site.

Supporting concerns:

Hanford-AX.6-1	SNLL-AX.6-1
SNLL-AX.6-2	SNLL-AX.6-3
LLNL-AX.6-1	SRS-AX.6-1
SRS-AX.6-2	PGDP-AX.6-1

Auxiliary Systems



4.1.7 EMERGENCY PREPAREDNESS

4.1.7.1 Organization and Administration

Forty percent of the facilities assessed demonstrated that emergency preparedness organization and administration did not ensure effective planning for, and implementation and control of, site/facility emergency response.

Supporting concerns:

WVDP-ER.1-1	SNLL-EP.1-1
LLNL-EP.1-1	SRS-EP.1-1 (4.5.1.7.2)
SRS-EP.1-1 (4.5.3.7.2)	SRS-EP.1-1 (4.5.3.19.2)
SRS-EP.1-2 (4.5.3.19.2)	NTS-EP.1-1
NTS-EP.1-2	NTS-EP.1-3
KCP-126	KCP-128

4.1.7.2 Emergency Plan and Implementing Procedures

Eighty percent of the facilities assessed demonstrated a definite frequency in that the emergency plan, the emergency plan implementing procedures, and their supporting documentation did not provide for effective response to operational emergencies.

Supporting concerns:

Pantex-EP.2-S/CF-9	PORTS-EP.4-EP-2
PGDP-EP.2-1	PGDP-EP.2-2
Pinellas-EP.2-1	Pinellas-EP.2-2
Pinellas-EP.2-3	Hanford-EP.2-1
SNLL-EP.2-1	SNLL-EP.2-2
LLNL-EP.2-1	LLNL-EP.2-2
SRS-EP.2-1 (4.5.1.7.2)	SRS-EP.2-1 (4.5.2.7.2)
SRS-EP.2-1 (4.5.3.7.2)	NTS-EP.2-2
NTS-EP.2-3	NTS-EP.2-1
WVDP-ER.2-2	WVDP-ER.2-4
WVDP-ER.2-1	WVDP-ER.2-3
Mound-EP/CF-4	KCP-111
KCP-117	KCP-120
KCP-123	KCP-124
KCP-125	KCP-135
KCP-137	KCP-136

4.1.7.3 Emergency Response Training

Sixty percent of the facilities assessed demonstrated a definite frequency in that emergency response training did not develop and maintain the knowledge and skills for emergency personnel to respond to and control an emergency effectively.

Supporting concerns:

PORTS-OP-2	Pinellas-EP.3-1
NTS-EP.3-1	NTS-EP.3-2
WVDP-ER.3-1	Hanford-EP.3-1
Hanford-EP.3-2	SNLL-EP.3-1
LLNL-EP.3-1	LLNL-EP.3-2
LLNL-EP.3-3	SRS-EP.3-1 (4.5.2.7.2)
SRS-EP.3-1 (4.5.1.7.2)	KCP-127
KCP-121	

4.1.7.4 Emergency Preparedness Drills and Exercises

Forty percent of the facilities assessed demonstrated that emergency preparedness programs did not include provisions for simulated emergency drills and exercises to develop and maintain the knowledge and skills for emergency personnel to respond to and control an emergency effectively.

Supporting concerns:

Mound-EP/CF-2	NTS-EP.4-1
NTS-EP.4-2	SNLL-EP.4-1
LLNL-EP.4-1	PGDP-EP.4-1
PGDP-EP.4-2	PGDP-EP.4-3
SRS-EP.4-1 (4.5.1.7.2)	SRS-EP.4-1 (4.5.3.7.2)

4.1.7.5 Emergency Facilities, Equipment, and Resources

Seventy-three percent of the facilities assessed demonstrated that emergency facilities, equipment, and resources did not adequately support site/facility emergency operations.

Supporting concerns:

Pantex-EP.5-S/CF-7	Pantex-EP.5-S/CF-8
PORTS-EP-1	SRS-EP.5-2 (4.5.1.7.2)
SRS-EP.5-1 (4.5.1.7.2)	SRS-EP.5-1 (4.5.2.7.2)
SRS-EP.5-1 (4.5.3.7.2)	Pinellas-EP.5-1
BNL-EP.5-2	WVDP-ER.4-1
Hanford-EP.5-2	Hanford-EP.5-1
SNLL-EP.5-1	SNLL-EP.5-2
LLNL-EP.5-2	PGDP-EP.5-1
PGDP-EP.5-2	PGDP-EP.5-3
PGDP-EP.5-4	KCP-122
KCP-129	KCP-130
KCP-132	KCP-133
KCP-134	

4.1.7.6 Emergency Assessment and Notification

Fifty-three percent of the facilities assessed demonstrated that emergency assessment and notification procedures do not enable the emergency response organization to correctly classify emergencies, assess the consequences, notify emergency response personnel, and recommend appropriate actions.

Supporting concerns:

NTS-EP.6-1	Pinellas-EP.6-1
Mound-EP/CF-3	SNLL-EP.6-1
LLNL-EP.6-1	PGDP-EP.6-1
PGDP-EP.6-2	PGDP-EP.6-3
SRS-EP.6-2 (7.5.1.7.2)	SRS-EP.6-1 (7.5.1.7.2)
KCP-119	KCP-131

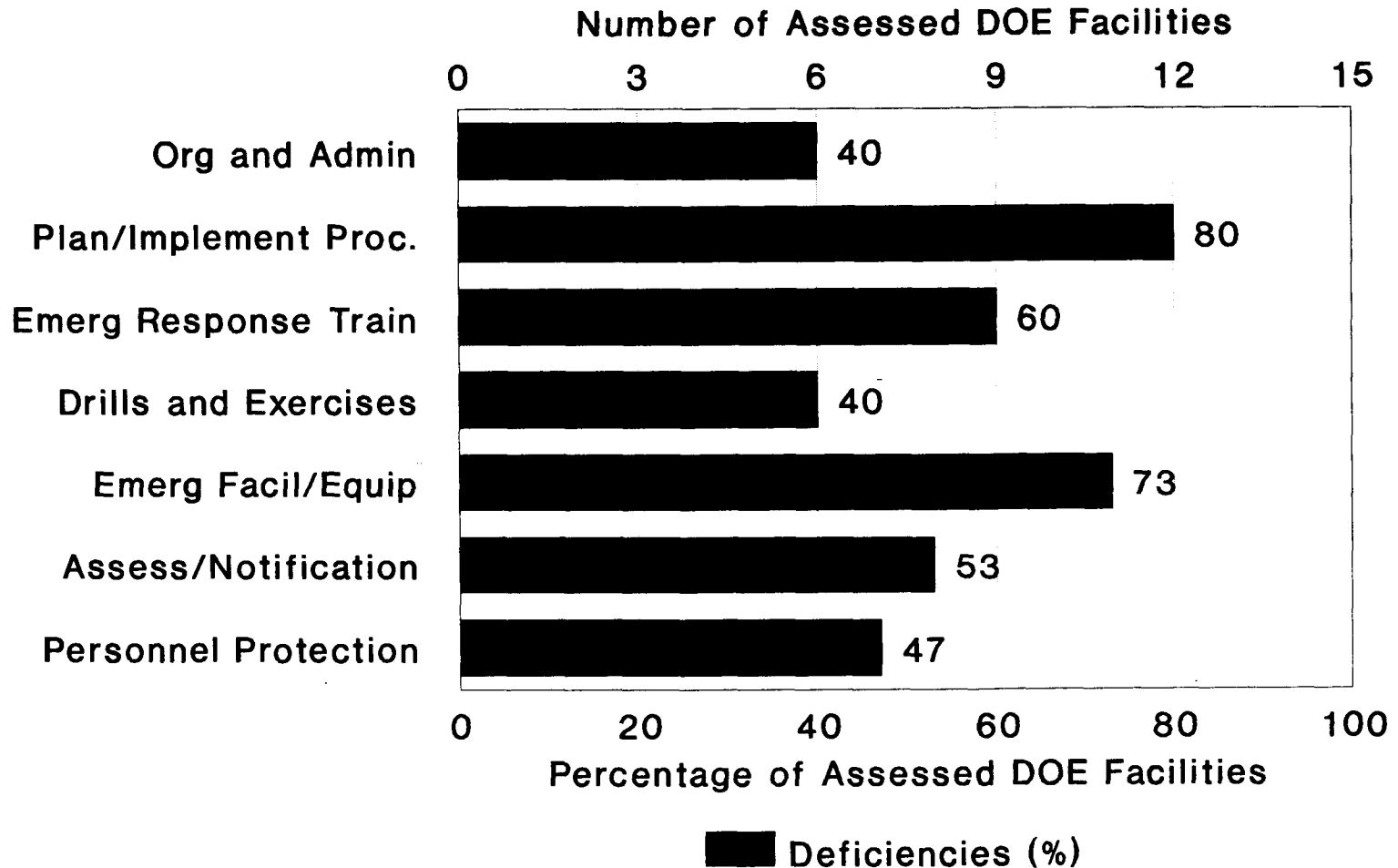
4.1.7.7 Personnel Protection

Forty-seven percent of the facilities assessed demonstrated that personnel protection procedures did not adequately control and minimize personnel exposure to any hazardous materials during abnormalities, ensure that exposures are accurately determined and recorded, and ensure proper medical support.

Supporting concerns:

NTS-EP.7-5	NTS-EP.7-4
NTS-EP.7-3	NTS-EP.7-2
NTS-EP.7-1	SRS-EP.7-1 (4.5.1.7.2)
SRS-EP.7-2 (4.5.1.7.2)	SRS-EP.7-1 (4.5.2.7.2)
SRS-EP.7-1 (4.5.3.7.2)	WVDP-ER.6-2
WVDP-ER.6-1	LLNL-EP.7-1
PGDP-EP.7-1	Mound-EP/CF-1
KCP-118	

Emergency Preparedness



4.1.8 TECHNICAL SUPPORT

4.1.8.1 Organization and Administration

Twenty-seven percent of the facilities assessed demonstrated that the technical support organization and administration did not ensure effective implementation and control of technical support activities.

Supporting concerns:

Pantex-S/CF-1	Hanford-TS.1-1
Hanford-TS.1-2	SNLL-TS.1-1
SNLL-TS.1-2	SNLL-TS.1-3
PGDP-TS.1-1	

4.1.8.2 Procedures and Documents

Fifty-three percent of the facilities assessed demonstrated that technical support procedures and documents did not provide appropriate direction, allow for adequate record generation and maintenance for important activities, and were not properly and effectively used to support safe operation of all facilities on the site.

Supporting concerns:

BNL-TS.2-3	BNL-TS.2-4
Mound-TS/CF-1	Mound-TS/CF-4
SNLL-TS.2-1	SNLL-TS.2-2
PGDP-TS.2-1	NTS-TS.2-1
Hanford-TS.2-1	LLNL-TS.2-1
LLNL-TS.2-2	LLNL-TS.2-3
LLNL-TS.2-4	SRS-TS.2-1 (4.5.1.8.2)
SRS-TS.2-1 (4.5.2.8.2)	SRS-TS.2-1 (4.5.3.8.2)
SRS-TS.2-2 (4.5.2.8.2)	

4.1.8.3 Facility Modifications

Sixty percent of the facilities assessed demonstrated that technical support services required by each facility on the site to execute modifications were not carried out in accordance with sound engineering principles that assure proper design, review, control, implementation, and documentation in a timely manner.

Supporting concerns:

Mound-MOD/CF-1	FMPC S-04
Pinellas-TS.3-1	LLNL-TS.3-1
LLNL-TS.3-2	Y-12-TS.3 (4.5.6.3.1)
BNL-TS.3-2	BNL-TS.3-3
Hanford-TS.3-1	Hanford-TS.3-2
Hanford-TS.3-3	PGDP-TS.3-1
PGDP-TS.3-2	SRS-TS.3-1 (4.5.1.8.2)
SRS-TS.3-1 (4.5.2.8.2)	SRS-TS.3-1 (4.5.3.8.2)
SRS-TS.3-2 (4.5.1.8.2)	SRS-TS.3-2 (4.5.2.8.2)
SRS-TS.3-3 (4.5.1.8.2)	

4.1.8.4 Equipment Performance Testing and Monitoring

Twenty-seven percent of the facilities assessed demonstrated that effective equipment performance testing and monitoring were not performed by technical support groups to ensure that equipment and system performance were within established safety parameters and limits.

Supporting concerns:

BNL-TS.4-3	Hanford-TS.4-1
SNLL-TS.4-1	SRS-TS.4-1 (4.5.1.8.2)
SRS-TS.4-1 (4.5.2.8.2)	SRS-TS.4-1 (4.5.3.8.2)

4.1.8.5 Environmental Impact

Twenty-seven percent of the facilities assessed demonstrated that the impact on the environment from the operation of each facility on the site was not minimized.

Supporting concerns:

Pinellas-TS.5-1

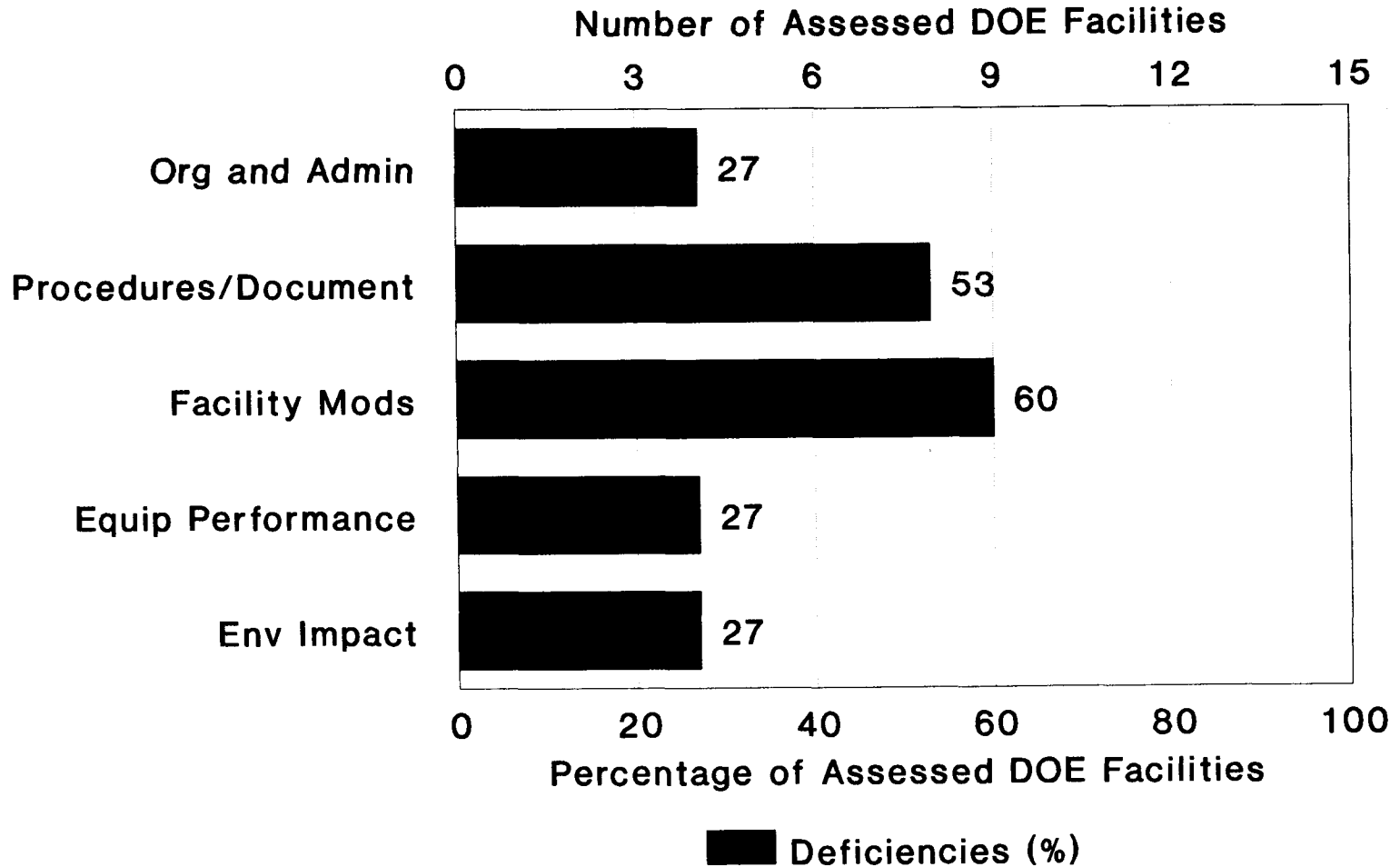
Hanford-TS.5-1

LLNL-TS.5-1

SRS-TS.5-1 (4.5.2.8.2)

SRS-TS.5-2 (4.5.2.8.2)

Technical Support



4.1.9 PACKAGING AND TRANSPORTATION

4.1.9.1 Administration and Organization

Forty-seven percent of the facilities assessed demonstrated that management did not develop and implement a system of policies and directives that provide for effective implementation of DOE Orders (particularly DOE Orders 5480.3, 1540.1, and 1540.2), Federal and state regulations, and good industrial practices in operations involving packaging and transportation (PT) of hazardous materials.

Supporting concerns:

FMPC-S-11	FMPC-S-10
NTS-PT.4-1	NTS-PT.2-1
Hanford-PT.1-1	Hanford-PT.1-2
SNLL-PT.1-1	SNLL-PT.1-2
LLNL-PT.1-1	SRS-PT.1-1 (4.5.3.18.2)
SRS-PT.1-2 (4.5.3.18.2)	SRS-PT.1-3 (4.5.3.18.2)
SRS-PT.1-4 (4.5.3.18.2)	PGDP-PT.1-1

4.1.9.2 Training

Thirty-three percent of the facilities assessed demonstrated that personnel were not adequately trained, qualified, and certified in handling hazardous materials as required by DOE Order 5480.3 and 49 CFR.

Supporting concerns:

NTS-PT.5-2	NTS-PT.5-1
Hanford-PT.2-1	SNLL-PT.2-1
PGDP-PT.2-1	SRS-PT.2-1

4.1.9.3 Quality Assurance

Forty percent of the facilities assessed demonstrated that a system of checks and balances did not exist to ensure the quality assurance (QA) requirements of the applicable DOE Orders, especially DOE Order 5700.6B and ANSI NQA-1, are met.

Supporting concerns:

NTS-QV.1-2	NTS-QV.5-1
NTS-QV.1-1	Hanford-PT.3-1
SNLL-PT.3-1	SNLL-PT.3-2
LLNL-PT.3-1	LLNL-PT.3-2
LLNL-PT.3-3	SRS-PT.3-1
SRS-PT.3-2	SRS-PT.3-3
PGDP-PT.3-1	

4.1.9.4 Regulatory Compliance

Thirty-three percent of the facilities assessed demonstrated that PT operations involving hazardous materials were not all conducted in compliance with the applicable state and Federal regulations, including those of U.S. Department of Transportation (DOT), Nuclear Regulatory Commission (NRC), Occupational Safety and Health Administration (OSHA), and U.S. Environmental Protection Agency (EPA).

Supporting concerns:

Hanford-PT.4-1	LLNL-PT.4-1
SRS-PT.4-1	NTS-PT.3-2
NTS-PT.4-2	NTS-PT.3-1
KCP-141	

4.1.9.5 Operations

Thirty-three percent of the facilities assessed demonstrated that sitewide operations involving packaging and transportation of hazardous materials were not conducted in a safe, consistent, and accountable manner, following approved procedures, and in conformance with applicable standards and accepted practices.

Supporting concerns:

FMPC-S-11	SNLL-PT.6-1
LLNL-PT.6-1	LLNL-PT.6-2
SRS-PT.6-1	PGDP-PT.6-1

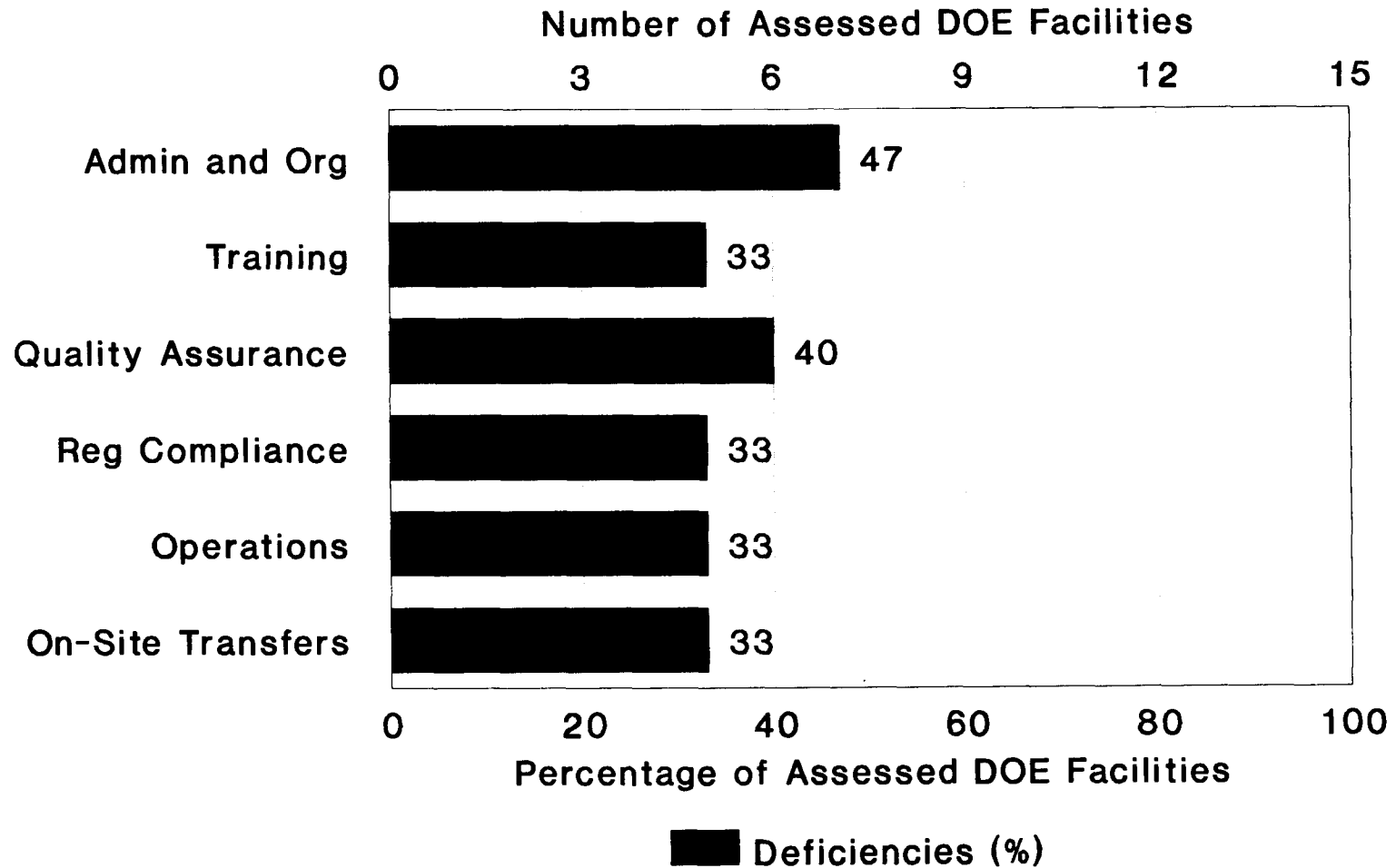
4.1.9.6 On-Site Transfers

Thirty-three percent of the facilities assessed demonstrated that on-site transfers of hazardous materials were not conducted in a safe, consistent, and accountable manner, following approved procedures, and in conformance with applicable standards and accepted safety practices.

Supporting concerns:

SNLL-PT.8-1	SNLL-PT.8-2
SRS-PT.8-1	PGDP-PT.8-1
Hanford-PT.8-1	KCP-141

Packaging and Transportation



4.1.10 NUCLEAR CRITICALITY SAFETY

4.1.10.1 Organization and Administration

Twenty-seven percent of the facilities assessed demonstrated that all operations with fissionable material were not conducted to provide effective nuclear critically control during all activities.

Supporting concerns:

PGDP-CS.1-1	SRS-CS.1-1 (4.5.3.9.2)
SRS-CS.1-2 (4.5.3.9.2)	SRS-CS.1-3 (4.5.3.9.2)
SRS-CS.1-4 (4.5.3.9.2)	BNL-CS.1-1
FMPC-S-04	

4.1.10.2 Nuclear Criticality Safety Evaluations

Twenty-seven percent of the facilities assessed demonstrated that nuclear criticality safety evaluations of the design and operation of process equipment did not ensure that subcriticality is maintained under normal and credible abnormal operating conditions.

Supporting concerns:

Hanford-CS.3-1	LLNL-CS.3-1
SRS-CS.3-1	PGDP-CS.3-1

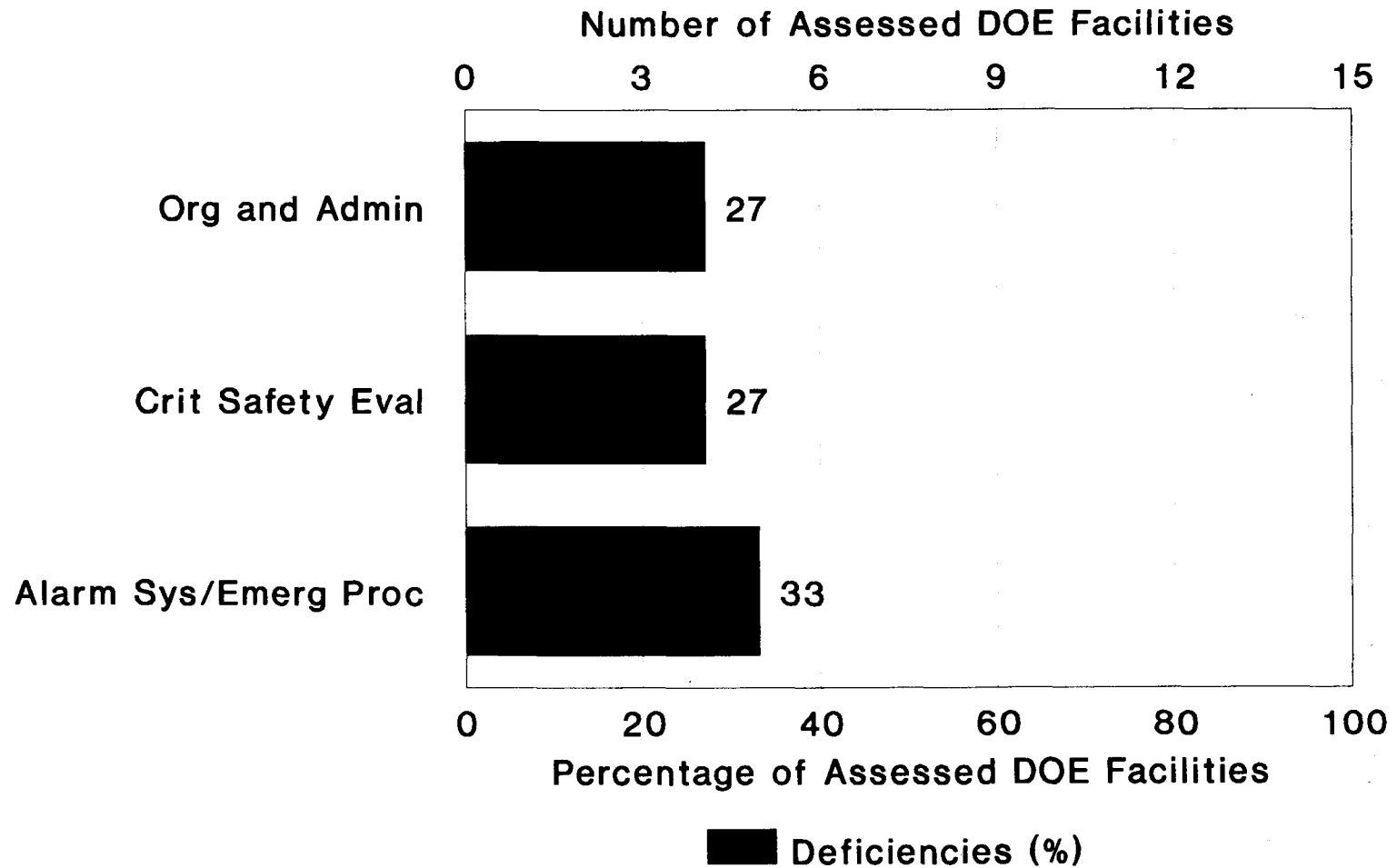
4.1.10.3 Criticality Alarm System and Emergency Procedures

Thirty-three percent of the facilities assessed demonstrated that reasonable steps were not taken to mitigate the consequences of a nuclear criticality accident.

Supporting concerns:

BNL-CS.5-1	Hanford-CS.5-1
Hanford-CS.5-2	LLNL-CS.5-1
SRS-CS.5-1	SRS-CS.5-2
PGDP-CS.5-1	

Nuclear Criticality Safety



4.1.11 SECURITY/SAFETY INTERFACE TECHNICAL SUPPORT

4.1.11.1 Facility Planning for Security/Safeguards Emergencies

Thirty-three percent of the facilities assessed demonstrated that safety authorities and responsibilities for all types of security/safeguards emergencies were not well defined and understood by all involved parties.

Supporting concerns:

Hanford-SS.3-3

Hanford-SS.3-1

Hanford-SS.3-2

LLNL-SS.3-2

LLNL-SS.3-1

SNLL-SS.3-1

SRS-SS.3-1

KCP-145

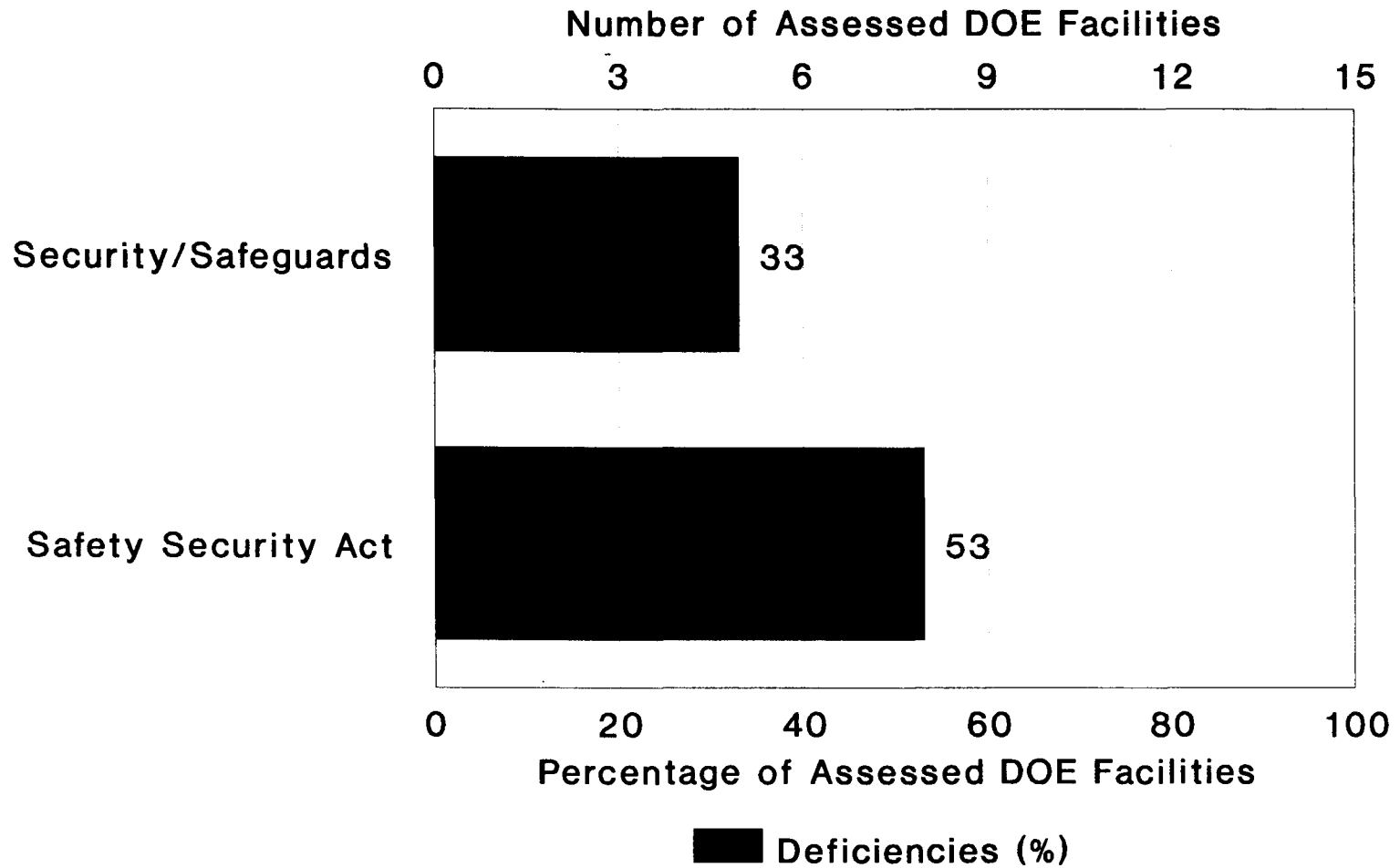
4.1.11.2 Safety of Security Activities

Fifty-three percent of the facilities assessed demonstrated that safety aspects of security activities involving use of weapons and other protective force equipment in the vicinity of safety systems and/or hazardous processes and materials were not identified and understood by all involved parties.

Supporting concerns:

WVDP-SS.5-1	Hanford-SS.4-3
Hanford-SS.4-2	Hanford-SS.4-1
Hanford-FS.1-1	Hanford-FS.1-2
Hanford-FS.1-3	Hanford-FS.1-4
Hanford-FS.2-1	Hanford-FS.2-2
Hanford-FS.3-1	Hanford-FS.3-2
Hanford-FS.3-3	Hanford-FS.3-4
Hanford-FS.3-5	Hanford-FS.4-1
Hanford-FS.4-2	Hanford-FS.6-1
Hanford-FS.6-2	Hanford-FS.7-1
LLNL-SS.4-3	LLNL-SS.4-2
LLNL-SS.4-4	LLNL-SS.4-1
PGDP-SS.4-1	SNLL-SS.4-1
SNLL-SS.4-2	FMPC-S-08
SRS-SS.4-1 (4.5.1.9.2)	SRS-SS.4-1 (4.5.2.9.2)
SRS-SS.4-1 (4.5.3.9.2)	KCP-85
KCP-146	

Security/Safety Interface



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4.1.12 SITE/FACILITY SAFETY REVIEW

4.1.12.1 Safety Review Committee

Forty-seven percent of the facilities assessed demonstrated that a Safety Review Committee was not available to adequately review safety questions and the safety impacts of experiments. This committee is part of the "Contractor Independent Review and Appraisal System" specified in DOE Order 5480.5, or DOE Order 5480.6, and/or DOE Order 5482.1B, Section 9.d.

Supporting concerns:

FMPC-S-02	FMPC-S-03
Pinellas-FR.1-1	NTS-FR.1-1
WVDP-FR.1-1	SNLL-FR.1-1
LLNL-FR.1-1	PGDP-FR.1-1

4.1.12.2 Safety Review Topics

Forty percent of the facilities assessed demonstrated that items requiring review by the Safety Review Committee were not well defined and understood by facility management.

Supporting concerns:

Pantex-S/CF-2	FMPC-S-02
NTS-FR.2-2	NTS-FR.2-1
SNLL-FR.2-1	SRS-FR.2-1
Y-12-FR-2 (4.5.5.3.3)	

4.1.12.3 Annual Facility Safety Review

Forty percent of the facilities assessed demonstrated that the annual operating review of the facility was not adequately performed by a committee appointed by top contractor management as specified in DOE Order 5480.5 and DOE Order 5480.6.

Supporting concerns:

BNL-FR.4-1	WVDP-FR.4-1
Hanford-FR.4-1	SNLL-FR.4-1
LLNL-FR.4-1	LLNL-FR.4-2
SRS-FR.4-1 (4.5.1.10.2)	SRS-FR.4-1 (4.5.2.10.2)
SRS-FR.4-1 (4.5.3.10.2)	

4.1.12.4 Triennial Appraisal of Site/Facility Safety Review System

Sixty percent of the facilities assessed demonstrated a definite frequency in that an adequate triennial appraisal of the safety review system was not performed by contractor management.

Supporting concerns:

Pantex-S/BMPF-1	Pinellas-FR.5-1
BNL-FR.5-1	NTS-FR.5-1
Hanford-FR.5-1	SNLL-FR.5-1
LLNL-FR.5-1	PGDP-FR.5-1
SRS-FR.5-1 (4.5.1.10.2)	SRS-FR.5-1 (4.5.2.10.2)
SRS-FR.5-1 (4.5.3.10.2)	

4.1.12.5 Operating Experience Review

Forty-seven percent of the facilities assessed demonstrated that operating experiences were not evaluated, and appropriate actions were not undertaken to improve safety and reliability.

Supporting concerns:

FMPC-S-01

NTS-FR.6-1

Hanford-FR.6-1

SNLL-FR.6-1

LLNL-FR.6-1

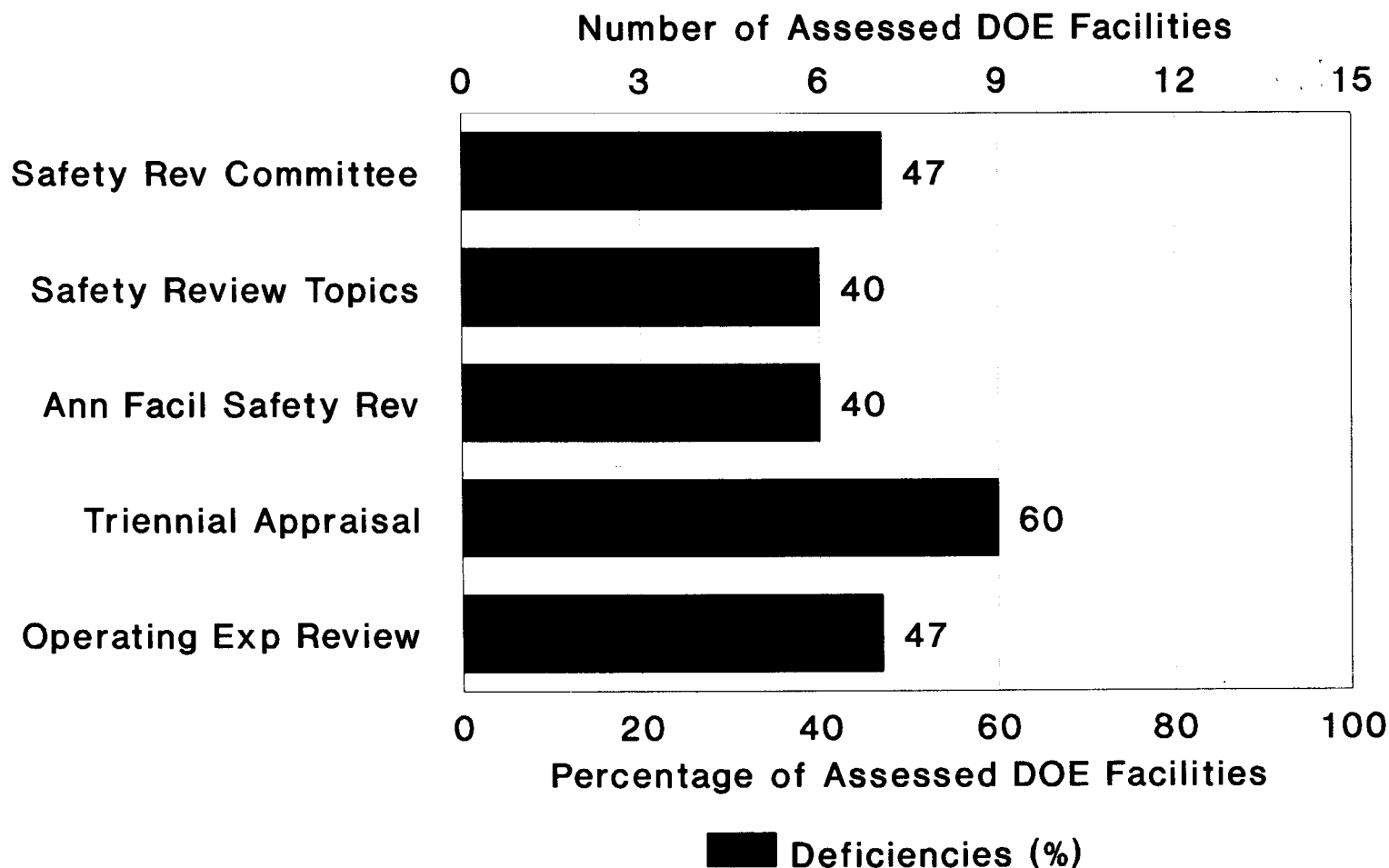
Y-12-FR-6 (4.5.5.3.2)

SRS-FR.6-1 (4.5.2.9.2)

SRS-FR.6-1 (4.5.2.9.2)

SRS-FR.6-1 (4.5.3.2.2)

Site/Facility Safety Review



4.1.13 RADIOLOGICAL PROTECTION

4.1.13.1 Organization and Administration

Eighty-seven percent of the facilities assessed demonstrated that site/facility organization and administration did not ensure effective implementation and control of radiological protection activities on the site/facility.

Supporting concerns:

Pinellas-RP.1-1	NTS-RP.1-1
WVDP-RP.1-1	Hanford-RP.1-1
Hanford-RP.1-2	Hanford-RP.1-3
Hanford-RP.1-4	Hanford-RP.1-5
SNLL-RP.1-1	LLNL-RP.1-1
LLNL-RP.1-2	PGDP-RP.1-2
PGDP-RP.1-3	PORTS-RP-8
Pantex S/CF-10	Pantex S/CF-13
Y-12-RP-1 (4.5.7.4.1)	Y-12-RP-1 (4.5.7.4.2)
Y-12-RP-1 (4.5.7.2)	SRS-RP.1-1 (4.5.1.11.2)
SRS-RP.1-2 (4.5.1.11.2)	SRS-RP.1-1 (4.5.2.11.2)
SRS-RP.1-1 (4.5.3.3.2)	SRS-RP.1-1 (4.5.3.13.2)
PGDP-RP.1-1	KCP-140
KCP-142	

4.1.13.2 Internal Audits and Investigations

Forty-seven percent of the facilities assessed demonstrated that the internal audit program for both routine operations and unusual radiological occurrences did not provide adequate performance assessments.

Supporting concerns:

NTS-RP.2-3

NTS-RP.2-2

NTS-RP.2-1

WVDP-RP.2-1

SNLL-RP.2-1

LLNL-RP.2-1

LLNL-RP.2-2

SRS-RP.2-1 (4.5.2.11.2)

PORTS-RP-7

Pantex-S/CF-11

4.1.13.3 Radiological Protection Procedures and Posting

Eighty-seven percent of the facilities assessed demonstrated that radiation protection procedures for the control and use of radioactive materials and radiation generating devices did not adequately provide for safe operations and for clearly identified areas of potential consequences.

Supporting concerns:

Pinellas-RP.3-3	Pinellas-RP.3-1
BNL-RP.3-7	BNL-RP.3-5
BNL-RP.3-6	BNL-RP.3-8
NTS-RP.3-2	NTS-RP.3-1
WVDP-RP.3-1	Hanford-RP.3-1
Hanford-RP.3-2	Hanford-RP.3-3
Hanford-RP.3-4	Hanford-RP.3-5
Hanford-RP.3-6	Hanford-RP.3-7
SNLL-RP.3-1	SNLL-RP.3-2
SNLL-RP.3-3	LLNL-RP.3-1
LLNL-RP.3-2	PGDP-RP.3-1
PGDP-RP.3-2	PGDP-RP.3-3
PORTS-RP-9	PORTS-RP-5
PORTS-RP-4	PORTS-RP-3
FMPC S-05	SRS-RP.3-1 (4.5.1.11.2)
SRS-RP.3-2 (4.5.1.11.2)	SRS-RP.3-1 (4.5.2.11.2)
SRS-RP.3-2 (4.5.2.11.2)	SRS-RP.3-1 (4.5.3.13.2)
SRS-RP.3-2 (4.5.3.13.2)	SRS-RP.3-3 (4.5.3.13.2)
Y-12-RP.3 (4.5.7.4.3)	KCP-139

4.1.13.4 External Radiation Dosimetry

Forty-seven percent of the facilities assessed demonstrated that the routine and accident personnel radiation dosimetry programs did not adequately ensure that personnel radiation exposures were accurately determined and recorded.

Supporting concerns:

Pinellas-RP.5-1	NTS-RP.5-2
NTS-RP.5-3	NTS-RP.5-1
SNLL-RP.5-1	SNLL-RP.5-2
PGDP-RP.5-1	SRS-RP.5-1 (4.5.1.11.2)
SRS-RP.5-1 (4.5.3.11.2)	SRS-RP.5-2 (4.5.3.11.2)
PORTS-RP-1	WVDP-RP.5-1
WVDP-RP.5-2	

4.1.13.5 Internal Radiation Exposure Control Program

Twenty-seven percent of the facilities assessed demonstrated that internal radiation exposure controls did not adequately minimize internal exposures.

Supporting concerns:

NTS-RP.6-1	NTS-RP.6-2
Hanford-RP.6-1	Hanford-RP.6-2
Hanford-RP.6-3	Hanford-RP.6-4
LLNL-RP.6-1	LLNL-RP.6-2
PGDP-RP.6-1	

4.1.13.6 Internal Radiation Dosimetry

Fifty-three percent of the facilities assessed demonstrated that the internal radiation dosimetry program did not ensure that personnel radiation exposures were accurately determined and recorded.

Supporting concerns:

Pinellas-RP.7-1	BNL-RP.7-1
NTS-RP.7-1	WVDP-RP.7-1
WVDP-RP.7-2	SNLL-RP.7-1
LLNL-RP.7-1	LLNL-RP.7-2
PGDP-RP.7-1	PGDP-RP.7-2
SRS-RP.7-1	

4.1.13.7 Fixed and Portable Instrumentation

Forty-seven percent of the facilities assessed demonstrated that personnel dosimetry and radiological protection instrumentation used to obtain measurements of radioactivity were not adequately calibrated, used, and maintained so that results were accurately determined.

Supporting concerns:

Pinellas-RP.8-1	NTS-RP.8-1
NTS-RP.8-2	Hanford-RP.8-1
Hanford-RP.8-2	Hanford-RP.8-3
Hanford-RP.8-4	SNLL-RP.8-1
LLNL-RP.8-1	PGDP-RP.8-1
SRS-RP.8-1 (4.5.1.11.2)	SRS-RP.8-1 (4.5.3.11.2)
SRS-RP.8-2 (4.5.3.11.2)	

4.1.13.8 Air Monitoring

Forty-seven percent of the facilities assessed demonstrated that air monitoring systems through selection, location, calibration, and maintenance did not ensure reliable estimates of air activity for radiological control purposes.

Supporting concerns:

NTS-RP.9-1	WVDP-RP.10-1
Hanford-RP-9-1	Hanford-RP-9-2
SNLL-RP.9-1	LLNL-RP.9-1
PGDP-RP.9-1	SRS-RP.9-1 (4.5.1.11.2)
SRS-RP.9-1 (4.5.3.11.2)	

4.1.13.9 Radiation Monitoring/Contamination Control

Sixty percent of the facilities assessed demonstrated that the radiation monitoring and contamination control program did not ensure worker protection from radiation exposures.

Supporting concerns:

Pinellas-RP.10-1	NTS-RP.10-1
Hanford-RP.10-1	Hanford-RP.10-2
SNLL-RP.10-1	SNLL-RP.10-2
LLNL-RP.10-1	LLNL-RP.10-2
SRS-RP.10-1 (4.5.1.11.2)	SRS-RP.10-1 (4.5.2.11.2)
SRS-RP.10-1 (4.5.3.11.2)	SRS-RP.10-2 (4.5.3.11.2)
SRS.RP.10-3 (4.5.3.11.2)	PGDP-RP.10-1
PORTS-RP-2	PORTS-RP-6
PORTS-SI-4	PORTS-SI-6
PORTS-SI-7	Y-12-RP-10 (4.5.7.4.3)
Y-12-RP-10 (4.5.7.3.1)	

4.1.13.10 ALARA Program

Fifty-three percent of the facilities assessed demonstrated that a formally structured, auditable program was not in place with established milestones to ensure that exposures are maintained as low as reasonably achievable (ALARA).

Supporting concerns:

NTS-RP.11-1	Hanford-RP.11-1
Hanford-RP.11-2	SNLL-RP.11-1
LLNL-RP.11-1	PGDP-RP.11-1
SRS-RP.11-1 (4.5.1.11.2)	SRS-RP.11-1 (4.5.3.11.2)
PORTS-RP-10	KCP-138

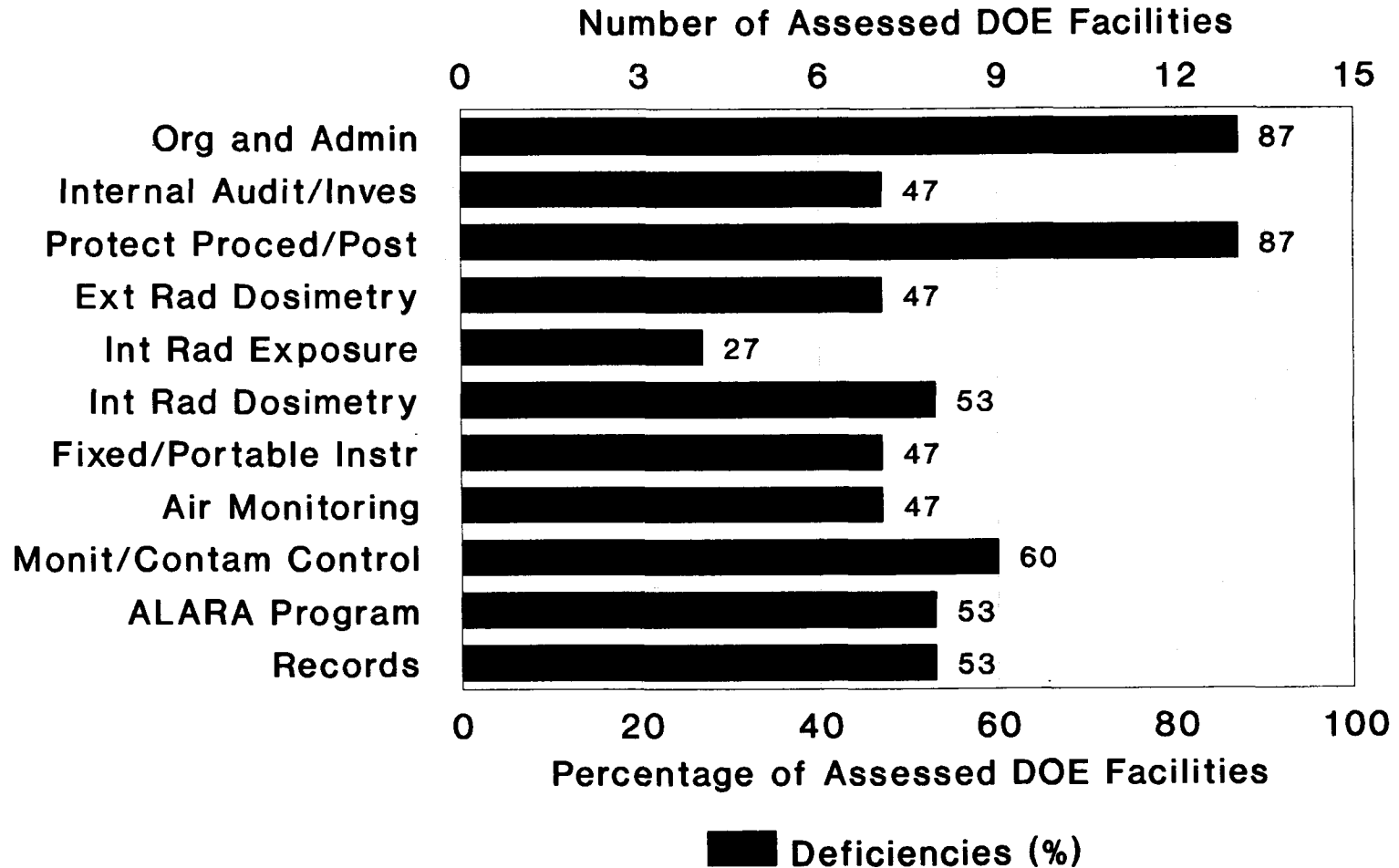
4.1.13.11 Records

Fifty-three percent of the facilities assessed demonstrated that records related to occupational radiation exposure were not maintained in a manner that permits easy retrievability, allows trend analysis, and aids in the protection of an individual and control of radiation exposure.

Supporting concerns:

NTS-RP.12-1	NTS-RP.12-2
WVDP-RP.13-2	WVDP-RP.13-1
Hanford-RP.12-1	SNLL-RP.12-1
LLNL-RP.12-1	SRS-RP.12-1 (4.5.2.11.2)
PGDP-RP.12-1	KCP-143

Radiological Protection



4.1.14 OCCUPATIONAL SAFETY

4.1.14.1 Organization and Administration

Twenty-seven percent of the facilities assessed demonstrated that site and facility organization and administration did not ensure effective implementation and control of the occupational safety program.

Supporting concerns:

Pinellas-OS.1-1	Hanford-OS.1-1
Hanford-OS.1-2	Hanford-OS.1-3
Hanford-OS.1-4	Hanford-OS.1-5
Hanford-OS.1-6	LLNL-OS.1-1
LLNL-OS.1-2	KCP-88

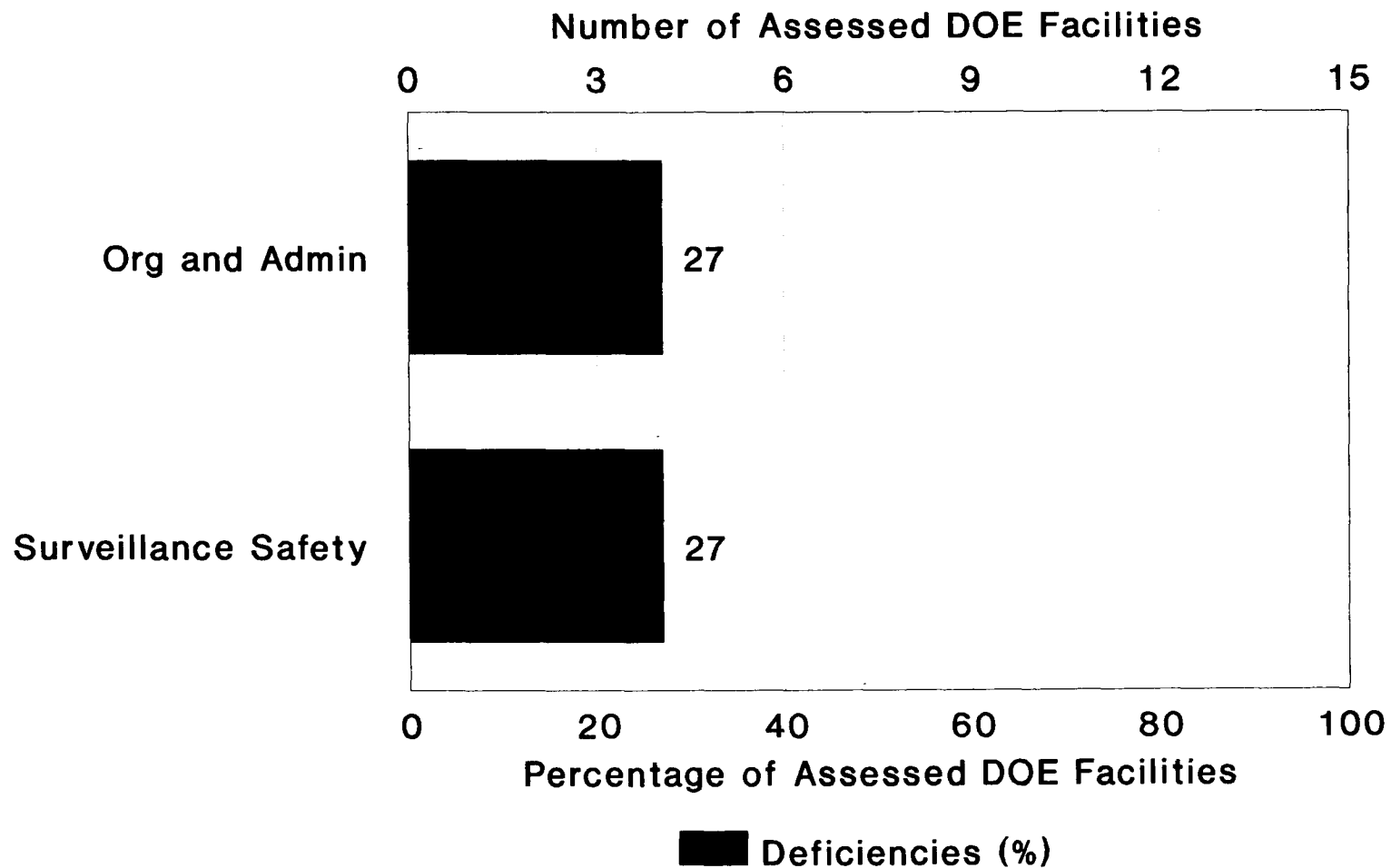
4.1.14.2 Surveillance of Safety Concerns

Twenty-seven percent of the facilities assessed demonstrated that appropriate surveillance of activities to measure safety performance and ensure the continued effectiveness of controls were not conducted.

Supporting concerns:

Pinellas-OS.3-1	BNL-OS.3-1
Mound-TS/CF-2	KCP-51
KCP-86	KCP-151

Occupational Safety



4.1.15 PERSONNEL PROTECTION

4.1.15.1 Organization and Administration

Thirty-three percent of the facilities assessed demonstrated that site and facility organization and administration did not ensure effective implementation of the personnel protection program.

Supporting concerns:

NTS-PP.1-1	NTS-PP.1-2
NTS-PP.1-3	NTS-PP.1-4
SNLL-PP.1-1	SNLL-PP.1-2
SNLL-PP.1-3	SNLL-PP.1-4
PGDP-PP.1-1	PORTS-IH-44
SRS-PP.1-1 (4.5.1.12.2)	SRS-PP.1-2 (4.5.1.12.2)
SRS-PP.1-1 (4.5.2.12.2)	SRS-PP.1-2 (4.5.2.12.2)

4.1.15.2 Procedures and Documentation

Thirty-three percent of the facilities assessed demonstrated that procedures and documentation did not provide appropriate direction, record generation, and support for the personnel protection program.

Supporting concerns:

Hanford-WS.4-2	NTS-PP.2-2
NTS-PP.2-1	WVDP-PP.2-2
PGDP-PP.2-1	PGDP-PP.2-2
SRS-PP.2-1 (4.5.1.12.2)	SRS-PP.2-1 (4.5.2.12.2)
SRS-PP.2-2 (4.5.2.12.2)	SRS-PP.2-1 (4.5.3.14.2)

4.1.15.3 Management of Health and Safety Concerns

Forty-seven percent of the facilities assessed demonstrated that chemical, physical, and/or other environmental stresses arising in the workplace were not adequately identified, evaluated, and controlled.

Supporting concerns:

NTS-PP.3-1	WVDP-PP.1-1
SNLL-PP.3-1	SNLL-PP.3-2
PGDP-PP.3-1	PGDP-PP.3-2
PGDP-PP.3-3	PGDP-PP.3-4
FMPC-S-07	SRS-PP.3-1 (4.5.1.12.2)
SRS-PP.3-2 (4.5.1.12.2)	SRS-PP.3-3 (4.5.1.12.2)
SRS-PP.3-1 (4.5.2.12.2)	SRS-PP.3-2 (4.5.2.12.2)
KCP-52	KCP-53

4.1.14.4 Surveillance of Health and Safety Concerns

Thirty-three percent of the facilities assessed demonstrated that appropriate surveillance of activities was not conducted to measure safety and health performance and to ensure the continued effectiveness of controls.

Supporting concerns:

NTS-PP.4-2	NTS-PP.4-1
WVDP-PP.5-1	SNLL-PP.4-1
SNLL-PP.4-2	Mound TS/CF-3
Mound-TS/CF-2	SRS-PP.4-1 (4.5.1.12.2)
SRS-PP.4-1 (4.5.2.12.2)	SRS-PP.4-2 (4.5.2.12.2)

4.1.14.5 Personnel Communication Programs

Thirty-three percent of the facilities assessed demonstrated that site/facility personnel were not adequately informed of chemical, physical, and biological stresses that may be encountered in their work environment or written programs were not available, and of sufficient quality to comply with all DOE-prescribed occupational safety and health standards.

Supporting concerns:

NTS-PP.7-1

NTS-PP.7-2

NTS-PP.7-3

WVDP-PP.3-1

WVDP-PP.2-1

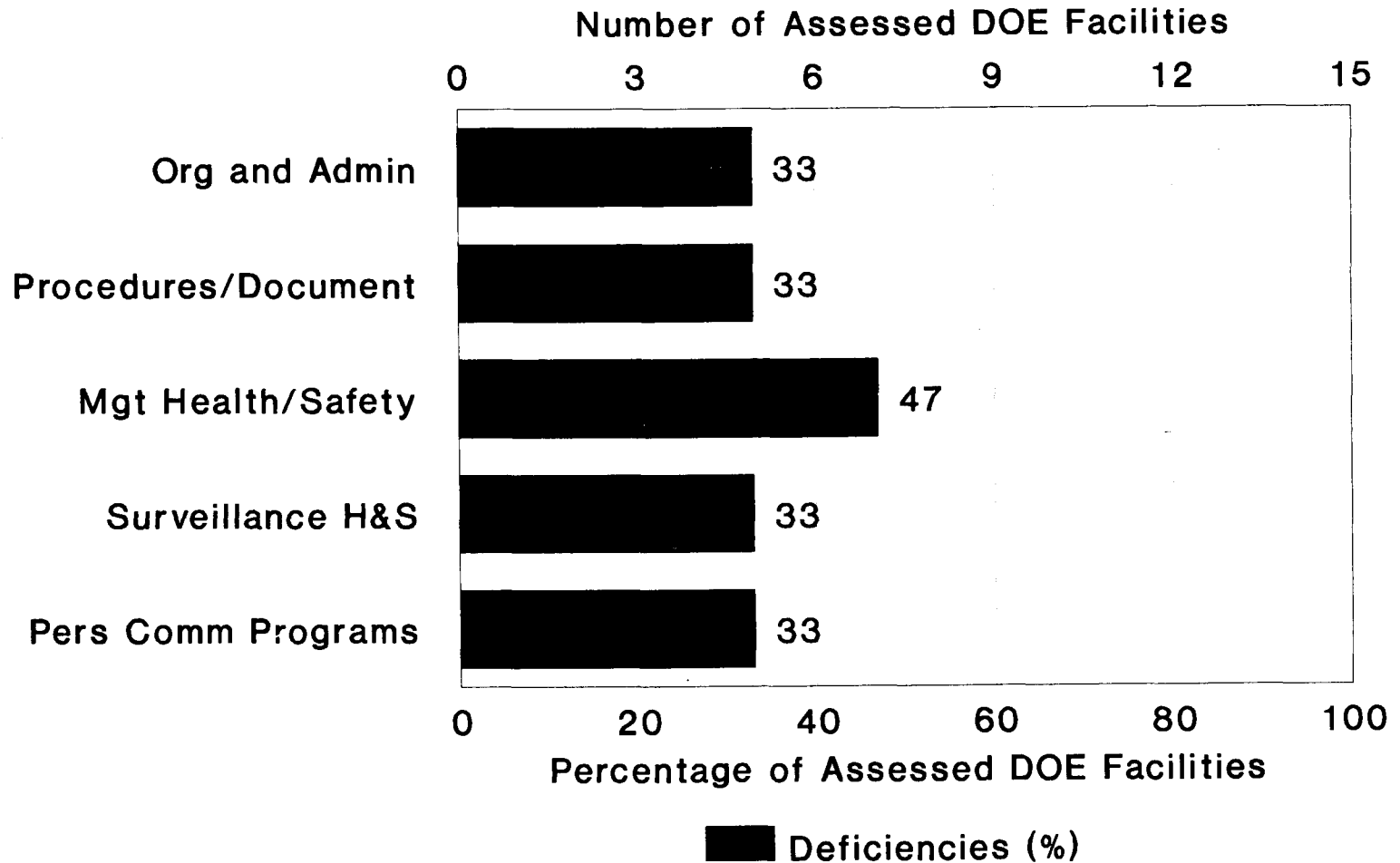
SNLL-PP.7-1

PGDP-PP.5-1

SRS-PP.7-1 (4.5.1.12.2)

SRS-PP.7-1 (4.5.2.12.2)

Personnel Protection



4.1.16 WORKER SAFETY AND HEALTH (OSHA) COMPLIANCE

4.1.16.1 Compliance with Occupational Health Standards for General Industry

Forty-seven percent of the facilities assessed demonstrated that site/facility operations did not comply with DOE-prescribed standards for the evaluation and control of occupational health hazards. Due to the importance given to regulatory compliance, some concerns formerly listed in other categories are presented here.

Supporting concerns:

PORTS-IH-1	PORTS-IH-2
PORTS-IH-3	PORTS-IH-4
PORTS-IH-5	PORTS-IH-6
PORTS-IH-7	PORTS-IH-8
PORTS-IH-10	PORTS-IH-14
PORTS-IH-15	PORTS-IH-17
PORTS-IH-20	PORTS-IH-38
Hanford-WS.3-1	Hanford-WS.3-2
Hanford-WS.3-3	Hanford-WS.3-4
Hanford-PP.5-1	Hanford-PP.5-4
SRS-PP.5-1	SRS-PP.5-2
SRS-PP.5-3	SRS-PP.5-4
SRS-PP.5-5	SNLL-PP.1-1
SNLL-PP.5-1	PGDP-WS.1-1
PGDP-WS.3-1	FMPC-S-07
KCP-66	KCP-70
KCP-73	KCP-93
KCP-95	

4.1.16.2 Compliance with Occupational Safety Standards for General Industry

Fifty-three percent of the facilities assessed demonstrated that workplaces were not free of uncontrolled physical hazards and in compliance with DOE-prescribed occupational safety standards. Due to the importance given to regulatory compliance, some concerns formerly listed in other categories are presented here.

Supporting concerns:

PORTS-IS-1	PORTS-IS-2
PORTS-IS-3	PORTS-IS-4
PORTS-IS-5	PORTS-IS-6
PORTS-IS-7	PORTS-IS-8
PORTS-IS-9	PORTS-IH-11
PORTS-IH-12	PORTS-IH-13
PORTS-IH-16	PORTS-IH-18
PORTS-IH-39	PGDP-WS.4-1
PGDP-WS.4-2	PGDP-WS.4-3
PGDP-WS.4-4	PGDP-WS.4-5
PGDP-WS.4-6	PGDP-WS.4-7
PGDP-WS.4-8	Hanford-WS.4-1
Hanford-WS.4-3	Hanford-WS.4-4
Hanford-WS.4-5	Hanford-WS.4-6
SRS-PP.6-1	SRS-PP.6-2
LLNL-OS.5-1	SNLL-PP.1-1
Pinellas-OS-2	KCP-54
KCP-55	KCP-56
KCP-57	KCP-58

KCP-59	KCP-60
KCP-61	KCP-62
KCP-63	KCP-64
KCP-65	KCP-67
KCP-68	KCP-69
KCP-71	KCP-72
KCP-74	KCP-75
KCP-76	KCP-77
KCP-78	KCP-79
KCP-80	KCP-84
KCP-96	KCP-101
KCP-106	

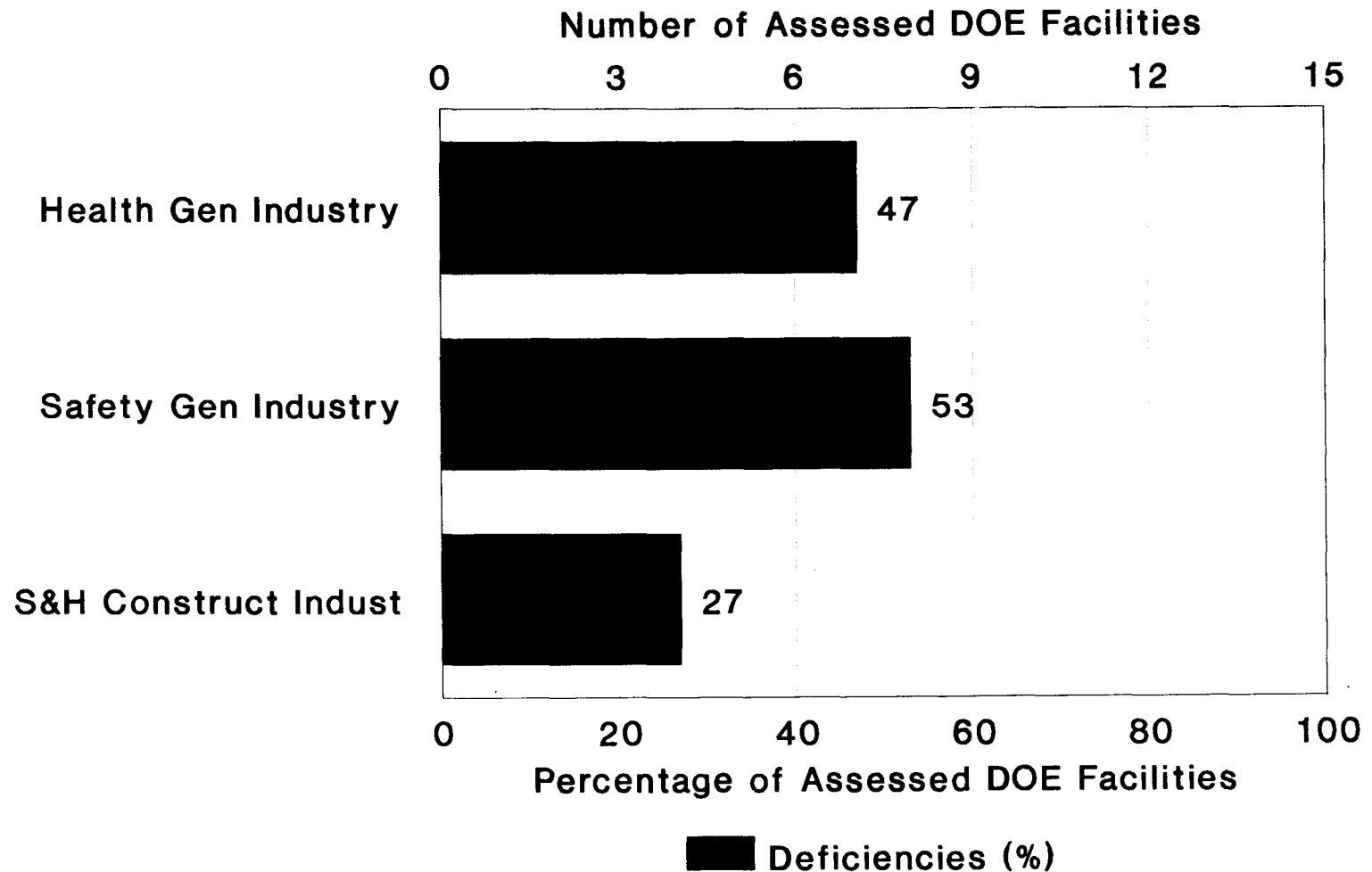
4.1.16.3 Compliance with Occupational Safety and Health Standards for Construction Industry

Twenty-seven percent of the facilities assessed demonstrated that construction activities were not free of uncontrolled physical and health hazards, and in compliance with DOE-prescribed occupational safety and health standards relating to construction. Due to the importance given to regulatory compliance, some concerns formerly listed in other categories are presented here.

Supporting concerns:

SRS-PP.5-1	SRS-PP.5-2
PORTS-IH-19	PORTS-IH-21
PORTS-IH-22	PORTS-IH-23
PGDP-WS.5-1	KCP-53
KCP-81	KCP-94

Worker Safety & Health Compliance



4.1.17 FIRE PROTECTION

4.1.17.1 Organization and Administration

Sixty percent of the facilities assessed definitely demonstrated that fire protection organization and administration did not ensure the effective implementation and control of fire protection equipment and activities.

Supporting concerns:

LLNL-FP.1-1

Pinellas-FP.1-1

Hanford-FP.1-1

SNLL-FP.1-1

PGDP-FP.1-1

BNL-FP.1-1

SRS-FP.1-1 (4.5.1.13.2)

SRS-FP.1-1 (4.5.2.13.2)

SRS-FP.1-1 (4.5.3.13.2)

FMPC S-09

NTS-109

4.1.17.2 Life Protection

Sixty-seven percent of the facilities assessed demonstrated a definite frequency in that facilities on-site did not all provide adequate life safety provisions against the effects of fire.

Supporting concerns:

KCP-106	LLNL-FP.2-1
Pinellas-FP.2-1	PGDP-FP.2-1
BNL-FP.2-1	NTS-FP.2-1
WVDP-FP.2-1	Hanford-FP.2-1
Hanford-FP.2-2	Hanford-FP.2-3
SNLL-FP.2-1	SNLL-FP.2-2
SRS-FP.2-1 (4.5.1.13.2)	SRS-FP.2-1 (4.5.3.15.2)
SRS-FP.2-2 (4.5.1.13.2)	SRS-FP.2-1 (4.5.2.13.2)
SRS-FP.2-2 (4.5.2.13.2)	

4.1.17.3 Impairment of Operations

Thirty-three percent of the facilities assessed demonstrated that the site was vulnerable to being shut down for an unacceptable period as the result of a credible fire.

Supporting concerns:

Pinellas-FP.4-1	LLNL-FP.4-1
BNL-FP.4-2	SNLL-FP.4-1
SRS-FP.4-1 (4.5.2.13.2)	

4.1.17.4 Property Protection

Forty-seven percent of the facilities assessed demonstrated that a maximum credible fire, as defined in DOE Order 5480.7, Section 6.f, could result in an unacceptable property loss.

Supporting concerns:

LLNL-FP.5-1	LLNL-FP.5-2
BNL-FP.5-2	BNL-FP.5-3
BNL-FP.5-6	BNL-FP.5-7
BNL-FP.5-4	BNL-FP.5-5
BNL-FP.5-8	SNLL-FP.5-1
SRS-FP.5-1 (4.5.1.13.2)	SRS-FP.5-1 (4.5.2.13.2)
SRS-FP.5-1 (4.5.3.15.2)	PGDP-FP.5-1
KCP-112	WVDP-FP.5-1
WVDP-FP.5-2	WVDP-FP.5-3
WVDP-FP.5-4	

4.1.17.5 Fire Department Operations

Forty-seven percent of the facilities assessed demonstrated that the fire department did not have the capacity to promptly terminate and mitigate the effects of a fire in a safe and effective manner.

Supporting concerns:

KCP-110	LLNL-FP.6-1
Pinellas-FP.6-1	PGDP-FP.6-1
NTS-FP.6-1	NTS-FP.6-2
SNLL-FP.6-2	SRS-FP.6-1 (4.5.1.13.2)
SRS-FP.6-1 (4.5.2.13.2)	SRS-FP.6-1 (4.5.3.15.2)
SRS-FP.6-2 (4.5.3.15.2)	SRS-FP.6-3 (4.5.3.15.2)

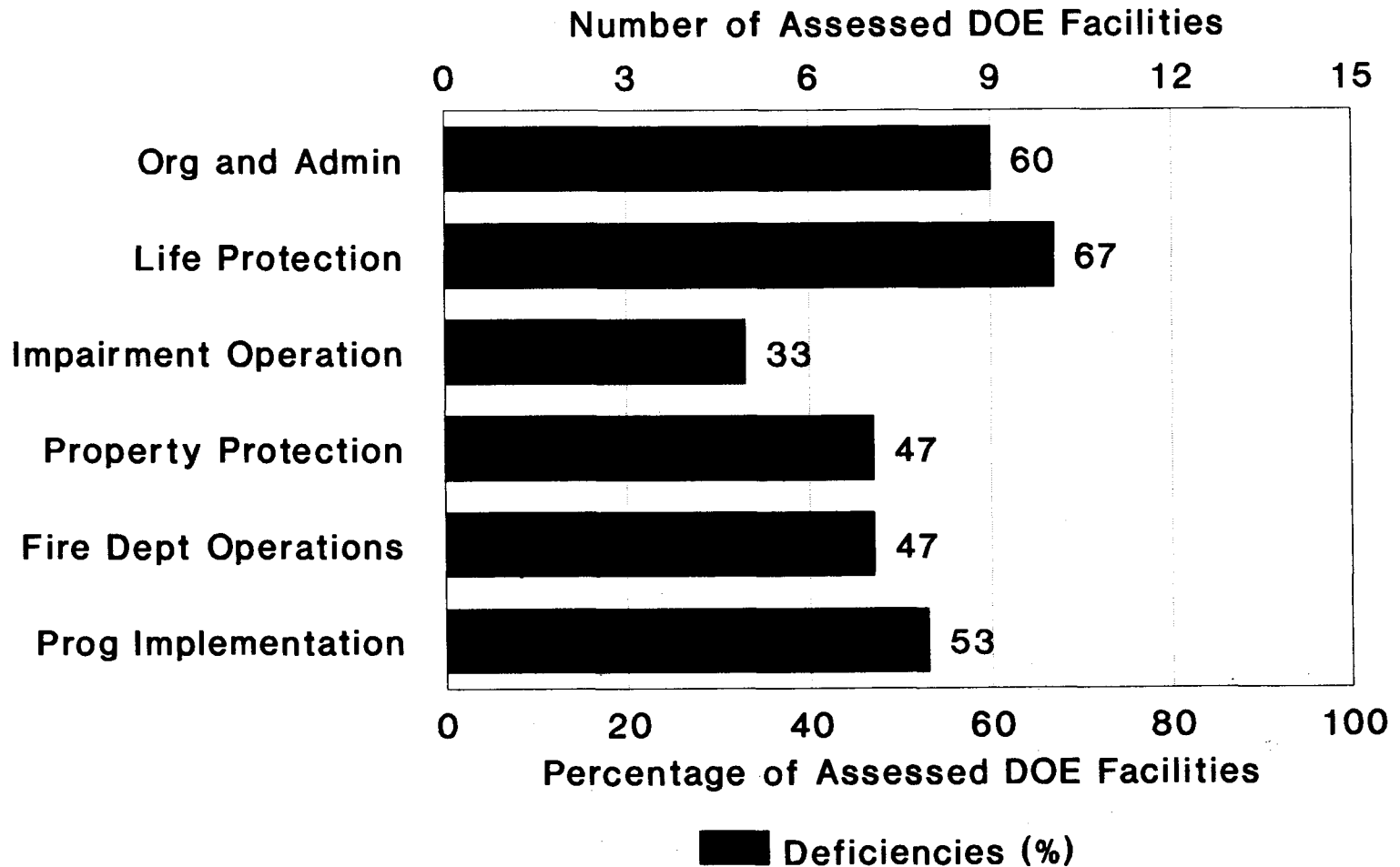
4.1.17.6 Program Implementation

Fifty-three percent of the facilities assessed demonstrated a definite frequency in that a fire protection engineering program to effectively provide and maintain an "improved risk" level of fire protection was not in place.

Supporting concerns:

KCP-107	KCP-108
LLNL-FP.7-1	LLNL-FP.7-2
LLNL-FP.7-3	LLNL-FP.7-4
LLNL-FP.7-5	Pinellas-FP.7-1
Pinellas-FP.7-2	BNL-FP.7-11
BNL-FP.7-14	BNL-FP.7-15
BNL-FP.7-16	BNL-FP.7-10
BNL-FP.7-12	BNL-FP.7-13
Hanford-FP.7-1	Hanford-FP.7-2
Hanford-FP.7-3	Hanford-FP.7-4
SNLL-FP.7-1	PGDP-FP.7-1
SRS-FP.7-1 (4.5.1.13.2)	SRS-FP.7-1 (4.5.2.13.2)

Fire Protection



4.1.18 MEDICAL SERVICES

4.1.18.1 Organization and Administration

Forty-seven percent of the facilities assessed demonstrated that site and facility organization and administration did not ensure effective implementation and control of the medical services program.

Supporting concerns:

Pinellas-MS.1-1	Hanford-MS.1-1
Hanford-MS.1-2	SNLL-MS.1-1
SRS-MS.1-1	SRS-MS.6-1
PGDP-MS.1-1	PGDP-MS.1-2
PORTS-SI-1	KCP-147
KCP-152	KCP-153

4.1.18.2 Procedures and Documentation

Twenty-seven percent of the facilities assessed demonstrated that procedures and documentation did not provide appropriate direction, record generation, and support of the medical services for the facility and site.

Supporting concerns:

Pinellas-MS.2-1	BNL-MS.2-1
SNLL-MS.2-1	KCP-149
KCP-150	

4.1.18.3 Medical Treatment

Thirty-three percent of the facilities assessed demonstrated that medical treatment was not available and provided by qualified, competent staff, and adequate facilities were not available.

Supporting concerns:

Pinellas-MS.3-1	Pinellas-MS.3-2
Hanford-MS.3-1	Hanford-MS.3-2
SNLL-MS.3-1	SNLL-MS.3-2
SNLL-MS.3-3	SNLL-MS.3-4
SNLL-MS.3-5	PGDP-MS.3-1
PGDP-MS.3-2	PGDP-MS.3-3
PGDP-MS.3-4	PGDP-MS.3-5
PGDP-MS.3-6	PGDP-MS.3-7
KCP-148	

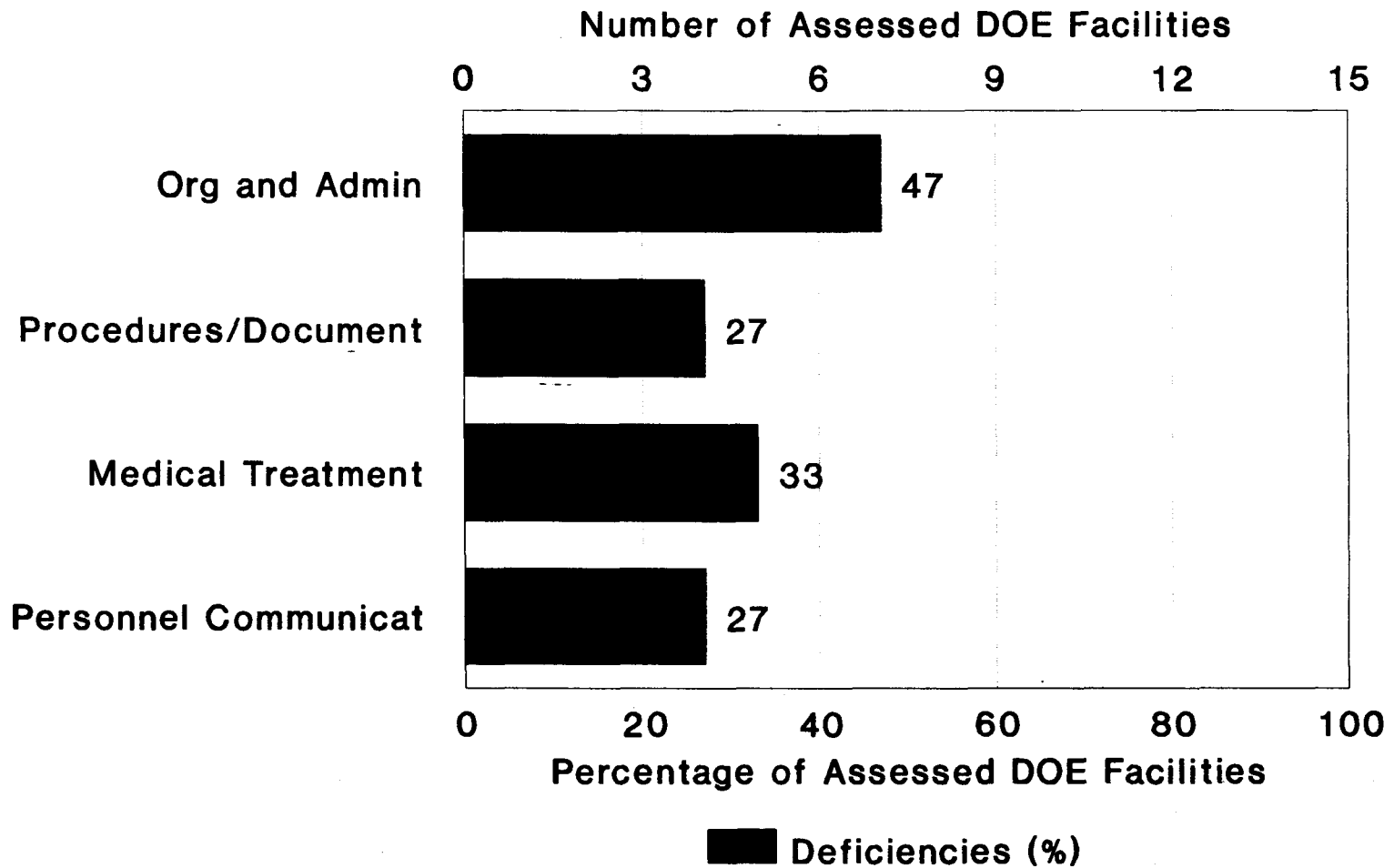
4.1.18.4 Personnel Communication Program

Twenty-seven percent of the facilities assessed demonstrated that site/facility personnel were not adequately informed of the medical hazards that might be encountered and of the medical services that were available.

Supporting concerns:

BNL-MS.5-1	SNLL-MS.5-1
SRS-MS.5-1	KCP-154

Medical Services



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4.1.19 INDUSTRIAL HYGIENE

4.1.19.1 Organization and Administration

Twenty-seven percent of the facilities assessed demonstrated that site and facility organization and administration did not ensure effective implementation and control of the industrial hygiene program.

Supporting concerns:

Pinellas-IH.1-1	Hanford-IH.1-1
Hanford-IH.1-2	Hanford-IH.1-3
Hanford-IH.1-4	Hanford-IH.1-5
Hanford-IH.1-6	Hanford-IH.1-7
Hanford-IH.1-8	Hanford-IH.1-9
Hanford-IH.1-10	Hanford-IH.1-11
LLNL-IH.1-1	LLNL-IH.1-2
LLNL-IH.1-3	LLNL-IH.1-4
KCP-99	

4.1.19.2 Management of Health Concerns

Twenty-seven percent of the facilities assessed demonstrated that chemical, biological, physical, and/or other environmental stresses arising in the workplace were not identified, evaluated, and controlled.

Supporting concerns:

PORTS-IH-26	PORTS-IH-45
Pinellas-IH.3-1	Hanford-IH.3-1
Hanford-IH.3-2	Hanford-IH.3-3
Hanford-IH.3-4	LLNL-IH.3-1
LLNL-IH.3-2	

4.1.19.3 Surveillance of Health Concerns

Thirty-three percent of the facilities assessed demonstrated that appropriate surveillance of activities was not conducted to measure industrial hygiene performance and ensure the continued effectiveness of controls.

Supporting concerns:

Pinellas-IH.4-1	Pinellas-IH.4-2
BNL-IH.4-1	Hanford-IH.4-1
Hanford-IH.4-2	Hanford-IH.4-3
Hanford-IH.4-4	Hanford-IH.4-5
Hanford-IH.4-6	Hanford-IH.4-7
Hanford-IH.4-8	Hanford-IH.4-9
Hanford-IH.4-10	LLNL-IH.4-1
KCP-92	KCP-97

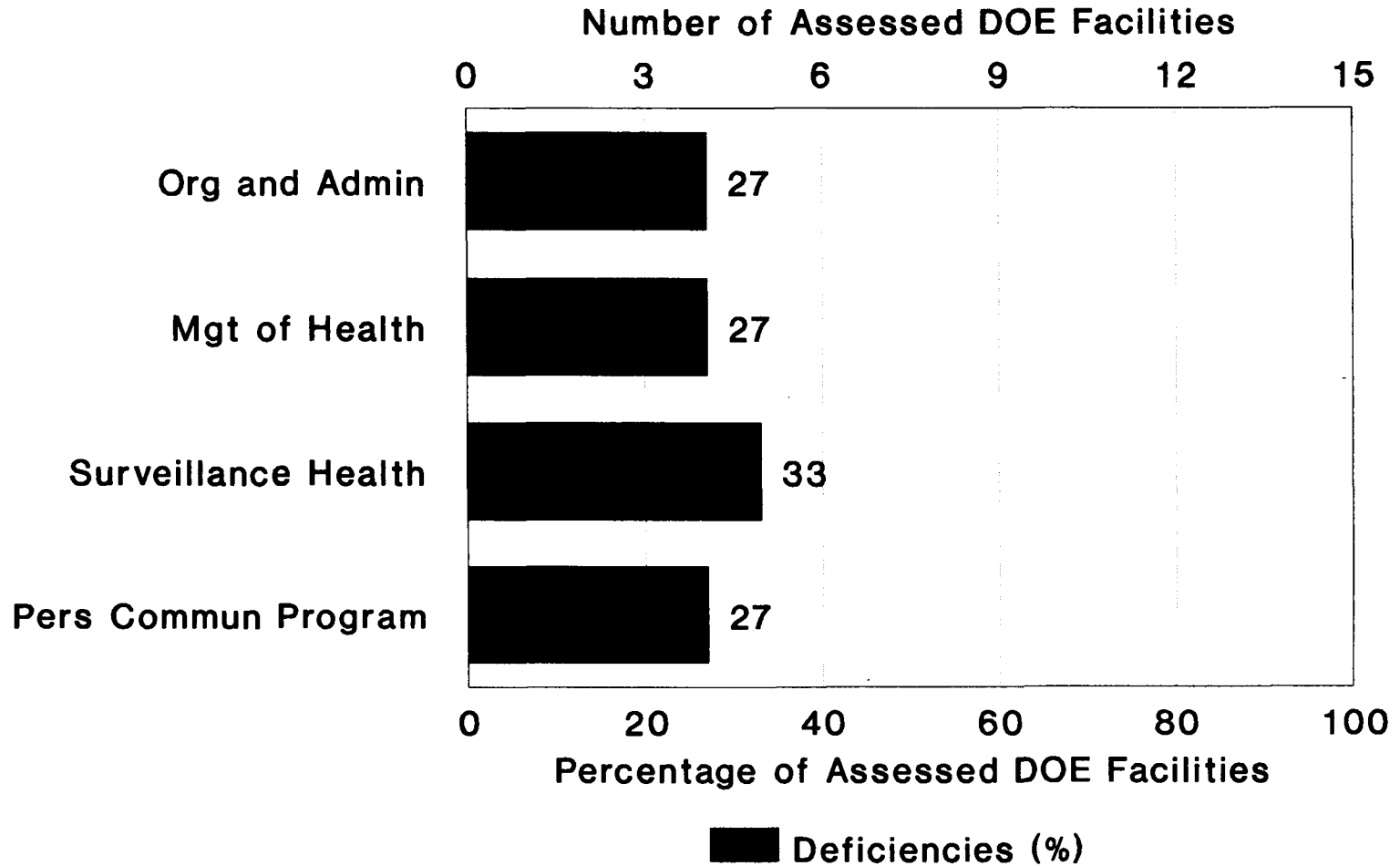
4.1.19.4 Personnel Communication Program

Twenty-seven percent of the facilities assessed demonstrated that site/facility personnel were not adequately informed of chemical and biological stresses that might be encountered in their work environment.

Supporting concerns:

Pinellas-IH.6-1	Hanford-IH.5-1
Hanford-IH.5-2	Hanford-IH.5-3
Hanford-IH.5-4	LLNL-IH.5-1
LLNL-IH.5-2	LLNL-IH.6-1
BNL-IH.6-2	

Industrial Hygiene



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Section 5
Analysis of
Occupational Safety and Health Assessment

5.0 OCCUPATIONAL SAFETY AND HEALTH ASSESSMENT

DOE has placed emphasis on Occupational Safety and Health Administration (OSHA) regulatory compliance at all facilities. This section examines OSHA compliance findings identified through the Tiger Team process at:

- nine sites where a full OSHA compliance assessment was documented using OSHA 1-B violation summaries; and
- six sites where an OSHA compliance assessment was conducted and documented in the Safety and Health section of the reports (i.e., under the disciplines Worker Safety, Occupational Safety, Personnel Protection, and Industrial Hygiene).

The nine sites documenting OSHA compliance using the 1-B summary format are:

- Y-12
- Mound
- Pantex
- Savannah River
- Lawrence Livermore
- Brookhaven
- Sandia Livermore
- Hanford
- Paducah

The six sites documenting OSHA compliance in the Safety and Health section of the assessment reports are:

- West Valley
- FMPC
- Portsmouth
- Nevada Test Site
- Kansas City Plant
- Pinellas Plant

Analysis of OSHA compliance used data from both the Safety and Health and 1B summary sections of the Tiger Team reports, therefore, some repetition of data may exist between the Safety and Health (under the disciplines Worker Safety, Occupational Safety and Personnel Protection) and the OSHA sections of this analysis.

The following deficiencies noted at 80 percent or more of the facilities were identified under OSHA 1910:

- Hazardous Materials - Subpart H
- Machinery and Machinery Guarding - Subpart O
- Electrical - Subpart S
- Toxic and Hazardous Substances - Subpart Z

The following deficiencies noted at 73 percent of the facilities were identified under OSHA 1910:

- Walking-Working Surfaces - Subpart D
- Personal Protection Equipment - Subpart I
- General Environmental Controls - Subpart J
- Materials Handling and Storage - Subpart N
- Welding, Cutting and Brazing - Subpart Q

Examples of these deficiencies are blocked access to emergency eye wash stations, temporary wiring, extension cords used in place of permanent installations, frayed insulation, unguarded rotating shafts, unlabeled hazardous chemical containers, uninspected fire extinguishers, uninventoried chemicals, improper use of exit signs, and tagout tie strings that do not meet the 10/31/89 standards. These deficiencies, which are usually inexpensive to correct, can result in serious injury or death to workers.

The following pages present histograms by frequency of occurrence of OSHA 1910 and 1926 1B summary violations (by subpart) at nine DOE facilities. The frequency of occurrence of OSHA-type findings for all 15 facilities is listed in this section of the analysis.

5.1 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

DOE has placed emphasis on regulatory compliance with Occupational Safety and Health Administration (OSHA) regulations at DOE facilities.

In this section, findings are compiled under OSHA 29 CFR 1910 (Occupational Safety and Health Standards for General Industry), and OSHA 29 CFR 1926 (Safety and Health Regulations for Construction) subparts. OSHA 1-B summary finding counts are listed separately from Safety and Health findings, however, both types of findings are used to calculate the percentage of facilities with finding(s) under a specific OSHA subparts.

5.1.1 PART 1910 - OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR INDUSTRY

5.1.1.1 1910-Subpart D - Walking-Working Surfaces

Seventy-three percent of the facilities failed to fully comply with 1910 Subpart D.

Supporting findings:

KCP-67	KCP-68
KCP-69	KCP-79
KCP-53	PORTS-IH-39
SRS-PP.6-1	Hanford-WS.4-1
Hanford-WS.4-3	Hanford-WS.4-5
Hanford-WS.4-6	PGDP-WS.4-2
LLNL-OS.5-1	

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (90)	Y-12 (37)
Mound (22)	Pantex (5)
SNLL (14)	PGDP (19)
LLNL (24)	SRS (12)
BNL (19)	

5.1.1.2 1910-Subpart E - Means of Egress

Seventy-three percent of the facilities failed to fully comply with 1910 Subpart E.

Supporting findings:

WVDP-WS.4-1	WVDP-WS.4-7
Hanford-WS.4-1	Hanford-WS.4-3
Hanford-WS.4-5	SRS-PP.6-1
Pinellas-OS.5-1	KCP-106

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (157)	Mound (9)
SNLL (8)	LLNL (41)
PGDP (5)	SRS (7)
BNL (5)	Y-12 (2)

5.1.1.3 1910-Subpart G - Occupational Health and Environmental Control

Forty percent of the facilities failed to fully comply with 1910 Subpart G.

Supporting findings:

NTS-PP. 3-1

Total number of supporting OSHA-1B Summary violations identified by site:

Y-12 (5)	Pantex (7)
Hanford (11)	SRS (7)
BNL (1)	

5.1.1.4 1910-Subpart H - Hazardous Materials

Eighty percent of the facilities failed to fully comply with 1910 Subpart H.

Supporting findings:

Hanford-WS.6-2	PORTS-IH-11
PORTS-IH-12	PORTS-IH-13
Hanford-WS.4-1	NTS-PP.6-6
PGDP-WS.4-5	SRS-PP.6-1
SNLL-PP.1-1	Pinellas-OS.5-1

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (20)	Y-12 (24)
Mound (3)	Pantex (10)
SNLL (10)	PGDP (35)
LLNL (10)	SRS (9)
BNL (33)	

5.1.1.5 1910-Subpart I - Personal Protection Equipment

Seventy-three percent of the facilities failed to fully comply with 1910 Subpart I.

Supporting findings:

KCP-73	PORTS-IH-1
PORTS-IH-2	PORTS-IH-3
PORTS-IH-4	PORTS-IH-5
PORTS-IH-6	PORTS-IH-7
PORTS-IH-8	Hanford-WS.3-1
Hanford-WS.3-3	Hanford-WS.3-4
SNLL-PP.1-1	SRS-PP.1-1
SRS-PP.5-1	SRS-PP.5-4
SRS-PP.5-5	KCP-96
KCP-71	KCP-72
PORTS-IH-16	PORTS-IS-8
Hanford-WS.4-4	

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (24)	Y-12 (10)
Mound (1)	Pantex (12)
SNLL (8)	PGDP (13)
LLNL (11)	SRS (18)
BNL (16)	

5.1.1.6 1910-Subpart J - General Environmental Controls

Seventy-three percent of the facilities failed to fully comply with 1910 Subpart J.

Supporting findings:

KCP-95	PORTS-IH-20
PORTS-IH-38	KCP-84
PORTS-IS-1	PORTS-IS-9
Hanford-WS.4-5	LLNL-OS.5-1
SRS-PP.6-1	SNLL-PP.1-1
SNLL-PP.5-1	NTS-MA.2-1
NTS-PP.6-4	

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (16)	Mound (1)
Pantex (2)	SNLL (5)
PGDP (4)	LLNL (2)
SRS (9)	BNL (2)

5.1.1.7 Subpart K - Medical and First Aid

Fifty-three percent of the facilities failed to fully comply with 1910 Subpart K.

Total number of supporting OSHA-1B Summary violations identified by site:

Y-12 (4)	Mound (7)
SNLL (1)	Hanford (2)
PGDP (6)	SRS (1)
BNL (1)	Pantex (2)

5.1.1.8 1910-Subpart L - Fire Protection

Fifty-three percent of the facilities failed to fully comply with 1910 Subpart L.

Hanford-WS. 4-1

Hanford-WS. 4-5

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (60)

Y-12 (5)

Pantex (1)

SNLL (8)

PGDP (1)

LLNL (5)

SRS (3)

BNL (13)

5.1.1.9 1910-Subpart N - Materials Handling and Storage

Seventy-three percent of the facilities failed to fully comply with 1910 Subpart N.

Supporting findings:

KCP-54

KCP-55

KCP-80

PORTS-IS-8

SRS-PP.6-1

PGDP-WS.4-4

LLNL-OS.5-1

Pinellas-OS.5-1

Hanford-WS.4-1

Hanford-WS.4-3

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (31)

Y-12 (11)

Pantex (4)

SNLL (5)

LLNL (6)

PGDP (16)

SRS (10)

BNL (8)

5.1.1.10 1910-Subpart O - Machinery and Machinery Guarding

Eighty percent of the facilities failed to fully comply with 1910 Subpart O.

Supporting findings:

KCP-56	KCP-57
KCP-58	KCP-59
KCP-60	KCP-61
KCP-62	KCP-63
KCP-64	PORTS-IS-5
Hanford-WS.4-1	Hanford-WS.4-3
Hanford-WS.4-5	PGDP-WS.4-3
Pinellas-QS.5-1	

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (59)	Y-12 (96)
Mound (6)	Pantex (7)
SNLL (4)	PGDP (43)
LLNL (14)	SRS (14)
BNL (21)	

5.1.1.11 1910-Subpart P - Hand and Portable Powered Tools and Other Hand-Held Equipment

Forty-seven percent of the facilities failed to fully comply with 1910 Subpart O.

Total number of supporting OSHA-1B Summary violations identified by site:

Y-12 (4)	Pantex (2)
SNLL (4)	Hanford (27)
PGDP (65)	LLNL (24)
BNL (6)	

5.1.1.12 1910-Subpart Q - Welding, Cutting and Brazing

Sixty-seven percent of the facilities failed to fully comply with Subpart Q.

Supporting findings:

KCP-75	PORTS-IH-18
Hanford-WS.4-5	

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (7)	Y-12 (10)
Mound (4)	Pantex (2)
SNLL (2)	PGDP (5)
LLNL (2)	BNL (2)

5.1.1.13 1910-Subpart S - Electrical

Eighty-seven percent of the facilities failed to fully comply with 1910 Subpart S.

Supporting findings:

KCP-65	KCP-76
KCP-77	KCP-78
KCP-101	PORTS-IS-2
PORTS-IS-6	Hanford-WS.4-1
Hanford-WS.4-3	Hanford-WS.4-5
Hanford-WS.4-6	PGDP-WS.4-6
PGDP-WS.4-8	LLNL-OS.5-1
SRS-PP.6-	SRS-PP.6-2
SNLL-PP.1-1	NTS-PP.6-1
KCP-101	Pinellas-OS.5-1

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (548)	Y-12 (51)
Mound (19)	Pantex (8)
SNLL (27)	PGDP (36)
LLNL (63)	SRS (73)
BNL (72)	

5.1.1.14 1910-Subpart Z - Toxic and Hazardous Substances

Eighty-seven percent of the facilities failed to fully comply with 1910 Subpart Z.

Supporting findings:

KCP-66	PORTS-IH-9
PORTS-IH-30	SNLL-PP.1-1
Hanford-WS.3-3	Hanford-WS.6-1
Hanford-WS.6-2	Hanford-WS.6-3
PGDP-WS.1-1	PGDP-WS.3-1
PGDP-WS.3-2	PGDP-WS.6-1
SRS-PP.5-2	SRS-PP.5-3
SRS-PP.6-1	FMPC-S-07
NTS-PP.7-2	NTS-PP.7-3

Total number of supporting OSHA-1B Summary violations identified by site:

Hanford (62)	Y-12 (42)
Mound (32)	Pantex (20)
SNLL (8)	PGDP (26)
LLNL (18)	SRS (22)
BNL (38)	

5.1.1.15 GENERAL DUTY CLAUSE (Section 5(a)(1) of PL91 596)

Fifty-three percent of the facilities failed to fully comply with the General Duty Clause.

Total number of supporting OSHA-1B Summary violations identified by site:

Y-12 (8)	Mound (3)
Pantex (15)	Hanford (22)
PGDP (10)	SRS (12)
BNL (4)	LLNL (10)

5.1.1.16 OSHA 1904

Fifty-three percent of the facilities failed to fully comply with the OSHA 1904.

Total number of supporting OSHA-1B Summary violations identified by site:

Y-12 (5)	Pantex (2)
SNLL (1)	PGDP (1)
SRS (1)	Hanford (1)
BNL (1)	LLNL (1)

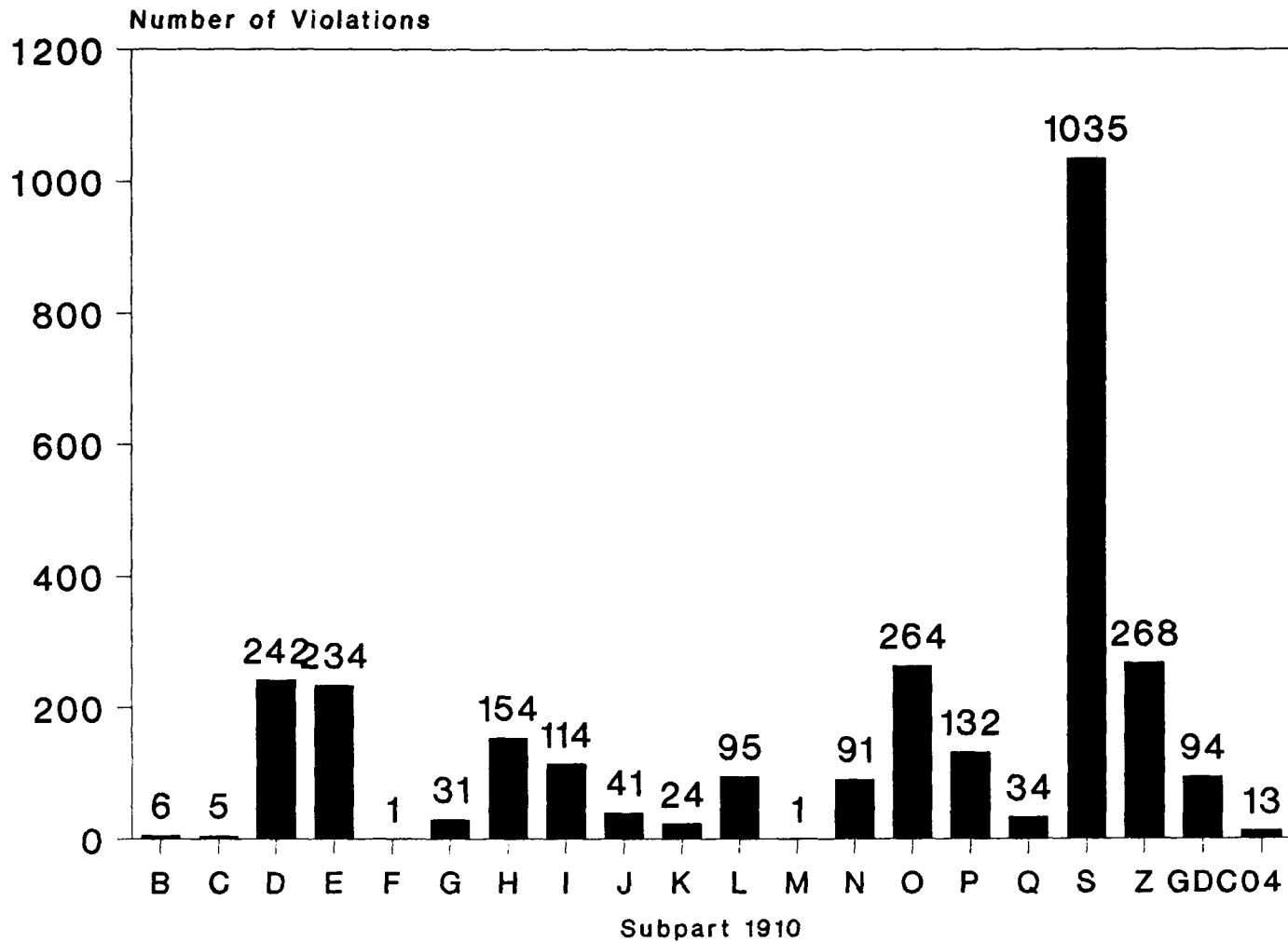
TABLE 5-1
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT NINE FACILITIES ASSESSED
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	6
C	General Safety and Health Provisions	5
D	Walking Working Surfaces	242
E	Means of Egress	234
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	1
G	Occupational Health and Environmental Control	31
H	Hazardous Materials	154
I	Personal Protective Equipment	114
J	General Environmental Controls	41
K	Medical and First Aid	24
L	Fire Protection	95
M	Compressed Gas and Compressed Air Equipment	1
N	Materials Handling and Storage	91
O	Machinery and Machine Guarding	264
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	132
Q	Welding, Cutting and Brazing	34
R	Special Industries	0
S	Electrical	1035

TABLE 5-1 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT NINE FACILITIES ASSESSED
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>268</u>
	SUBTOTAL	2,772
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		94
29 CFR 1904		<u>13</u>
	TOTAL	2,879

OSHA 29 CFR 1910 1-B SUMMARY VIOLATIONS
NINE DOE FACILITIES ASSESSED



GDC - General Duty Clause
04 - 29 CFR 1904

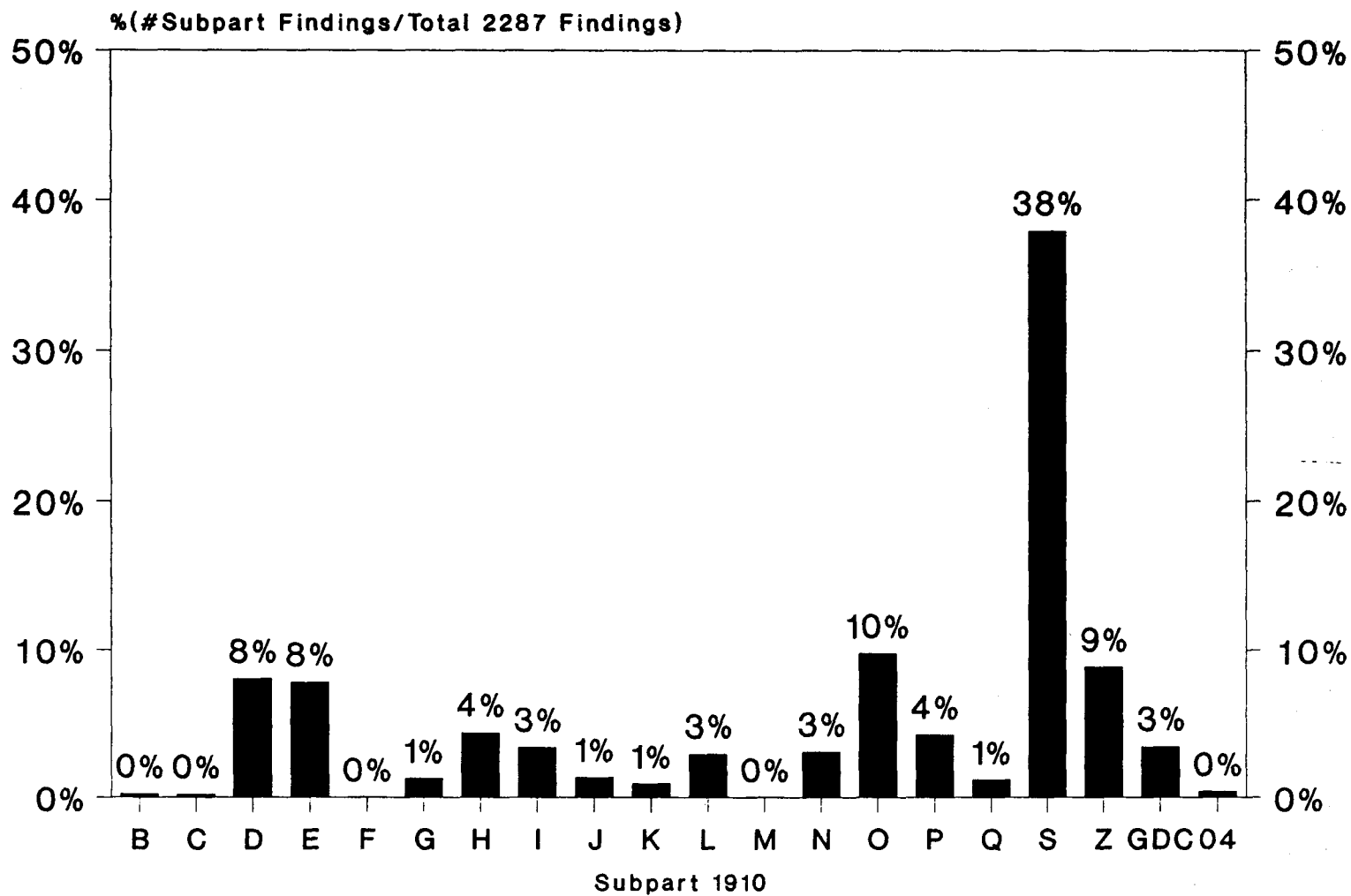
TABLE 5-2
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT DOE PRODUCTION FACILITIES
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	6
C	General Safety and Health Provisions	5
D	Walking Working Surfaces	185
E	Means of Egress	180
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	1
G	Occupational Health and Environmental Control	30
H	Hazardous Materials	101
I	Personal Protective Equipment	79
J	General Environmental Controls	32
K	Medical and First Aid	22
L	Fire Protection	69
M	Compressed Gas and Compressed Air Equipment	1
N	Materials Handling and Storage	72
O	Machinery and Machine Guarding	225
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	98
Q	Welding, Cutting and Brazing	28
R	Special Industries	0
S	Electrical	873

TABLE 5-2 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT DOE PRODUCTION FACILITIES
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

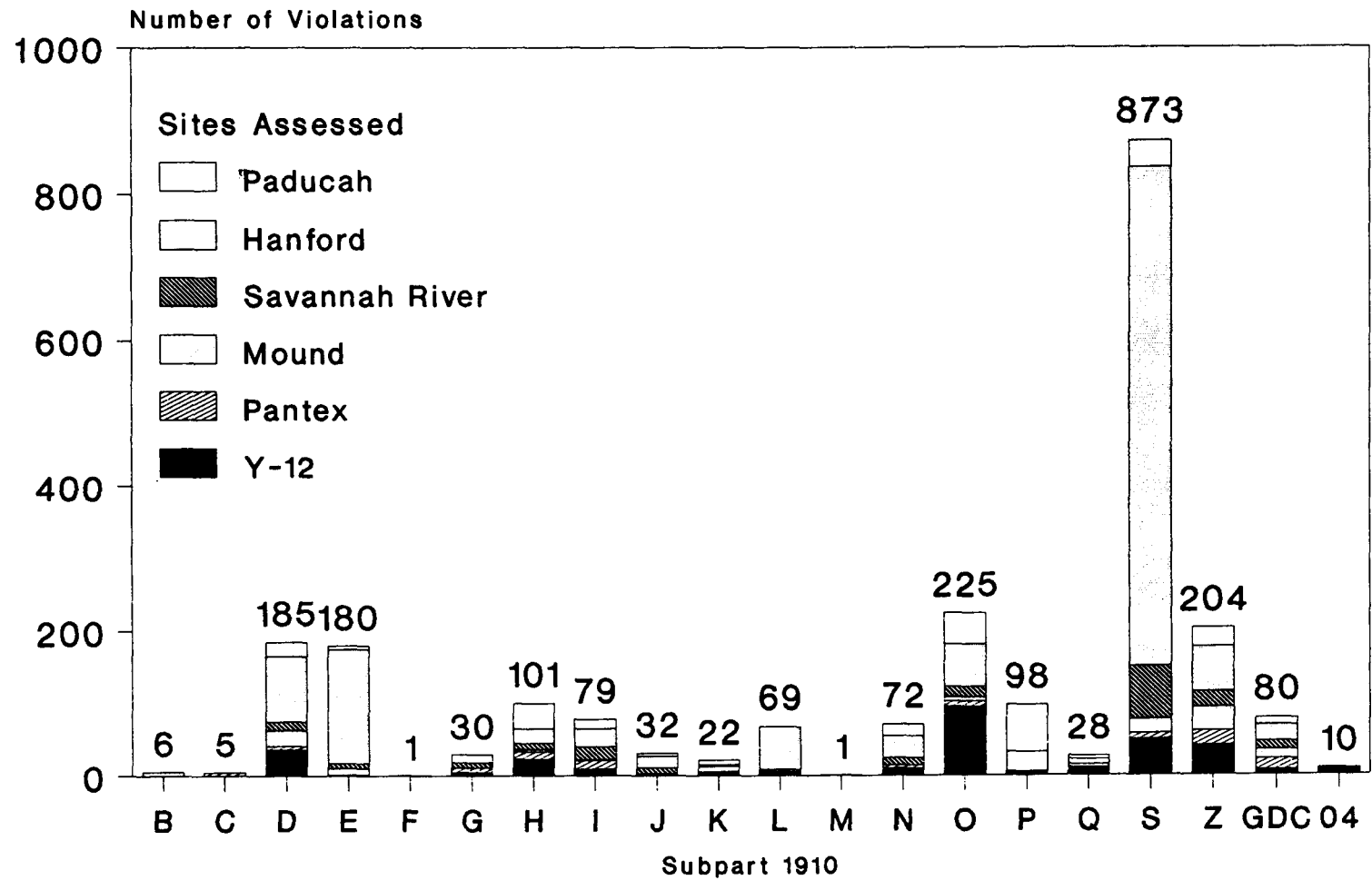
<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>204</u>
	SUBTOTAL	2,211
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		80
29 CFR 1904		<u>10</u>
	TOTAL	2,301

OSHA 29 CFR 1910 1-B SUMMARY VIOLATIONS DOE PRODUCTION FACILITIES



GDC - General Duty Clause
04 - 29 CFR 1904

OSHA 1-B SUMMARY VIOLATIONS DOE PRODUCTION FACILITIES OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

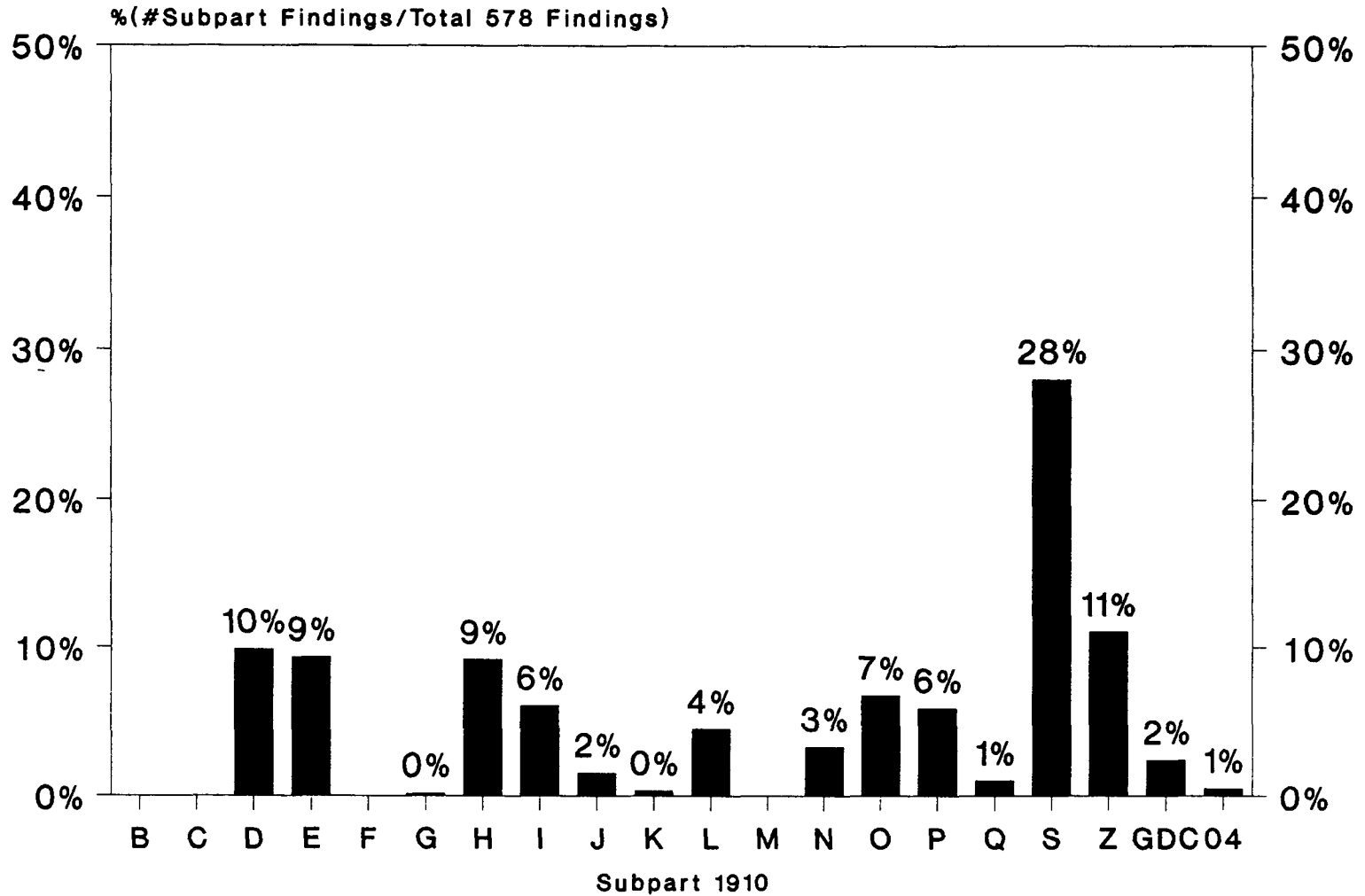
TABLE 5-3
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT DOE LABORATORIES
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	57
E	Means of Egress	54
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	1
H	Hazardous Materials	53
I	Personal Protective Equipment	35
J	General Environmental Controls	9
K	Medical and First Aid	2
L	Fire Protection	26
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	19
O	Machinery and Machine Guarding	39
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	34
Q	Welding, Cutting and Brazing	6
R	Special Industries	0
S	Electrical	162

TABLE 5-3 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT DOE LABORATORIES
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

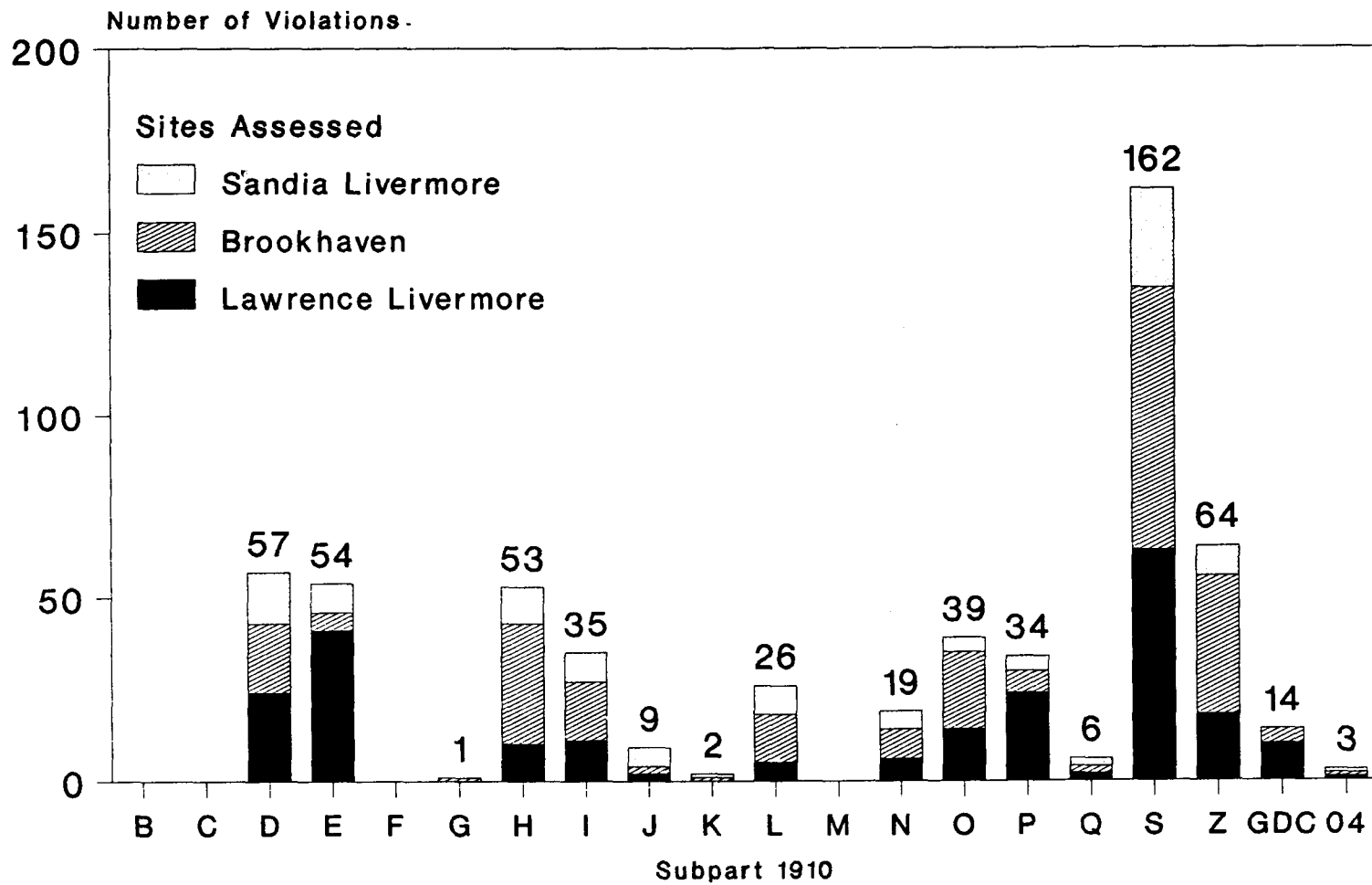
<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>64</u>
	SUBTOTAL	561
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		14
29 CFR 1904		<u>3</u>
	TOTAL	578

OSHA 29 CFR 1910 1-B SUMMARY VIOLATIONS DOE LABORATORY FACILITIES



GDC - General Duty Clause
04 - 29 CFR 1904

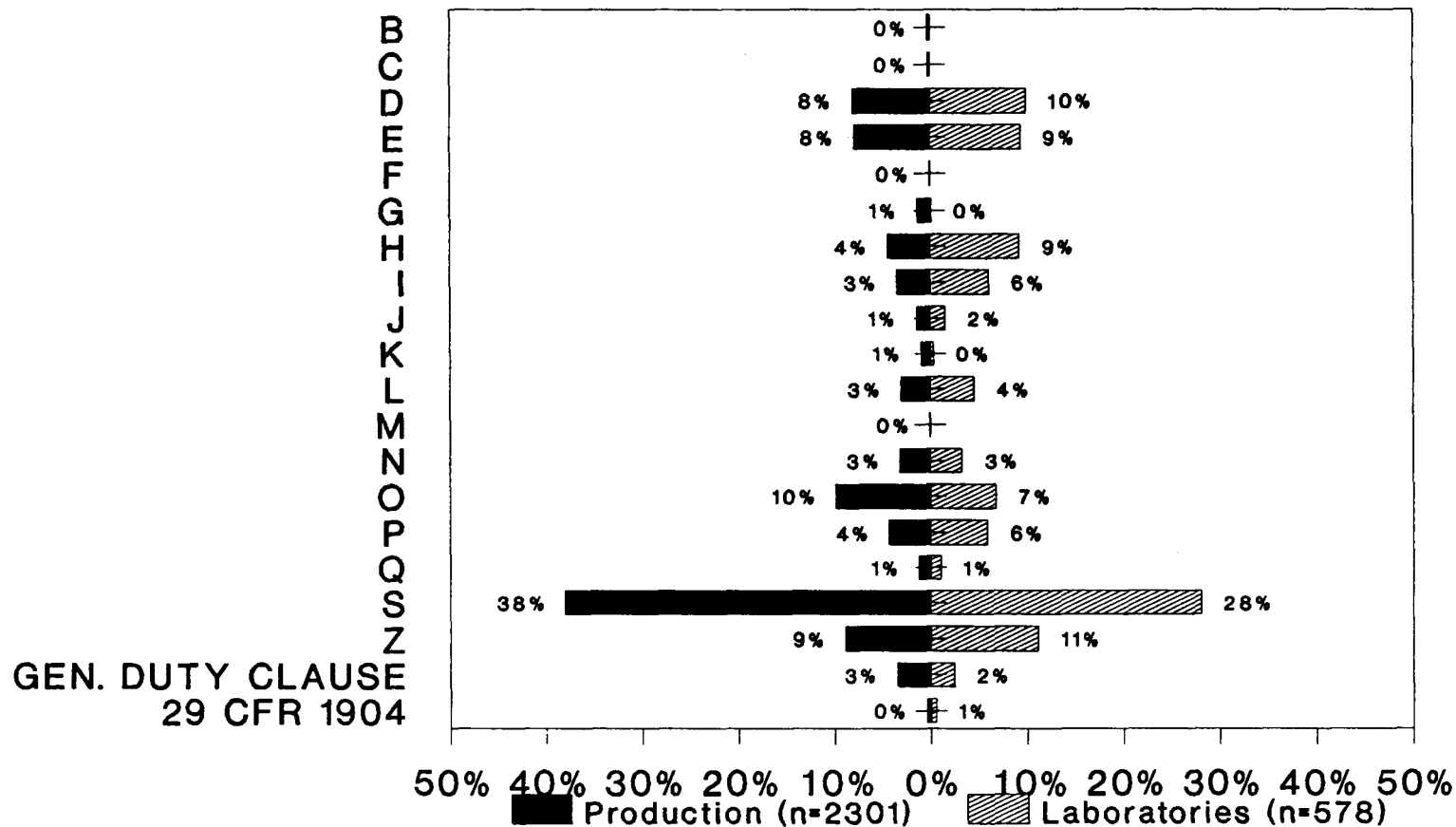
OSHA 1-B SUMMARY VIOLATIONS DOE LABORATORIES OSHA STANDARDS 29 CFR 1910



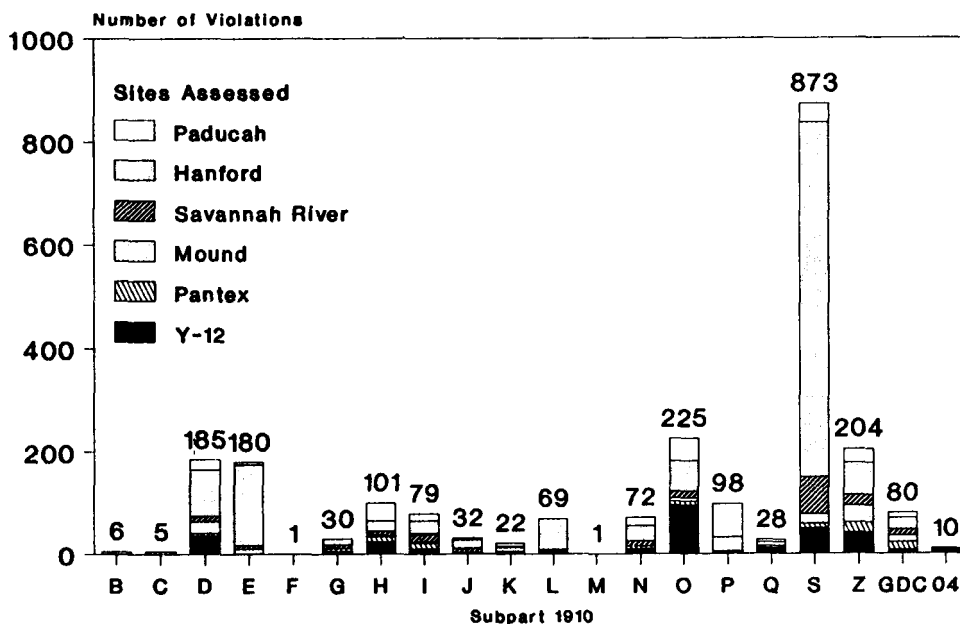
GDC - General Duty Clause
04 - 29 CFR 1904

OSHA 29 CFR 1910 1-B SUMMARY VIOLATIONS
DOE PROD. vs. LAB. FACILITIES
%(#Subpart Findings/Total Findings)

Subpart 1910

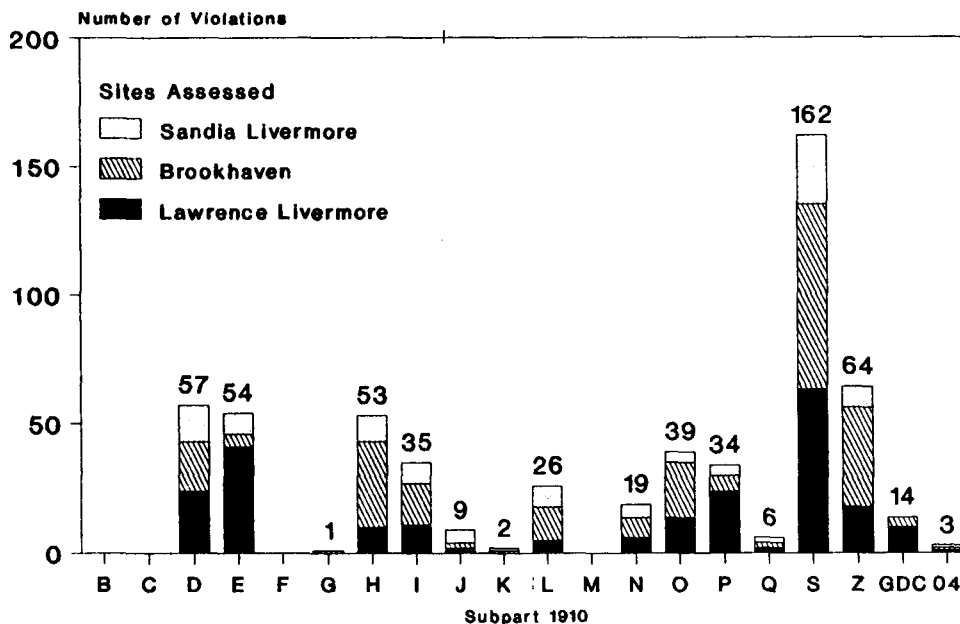


**OSHA 1-B SUMMARY VIOLATIONS
DOE PRODUCTION FACILITIES
OSHA STANDARDS 29 CFR 1910**



GDC - General Duty Clause
04 - 29 CFR 1904

**OSHA 1-B SUMMARY VIOLATIONS
DOE LABORATORIES
OSHA STANDARDS 29 CFR 1910**



GDC - General Duty Clause
04 - 29 CFR 1904

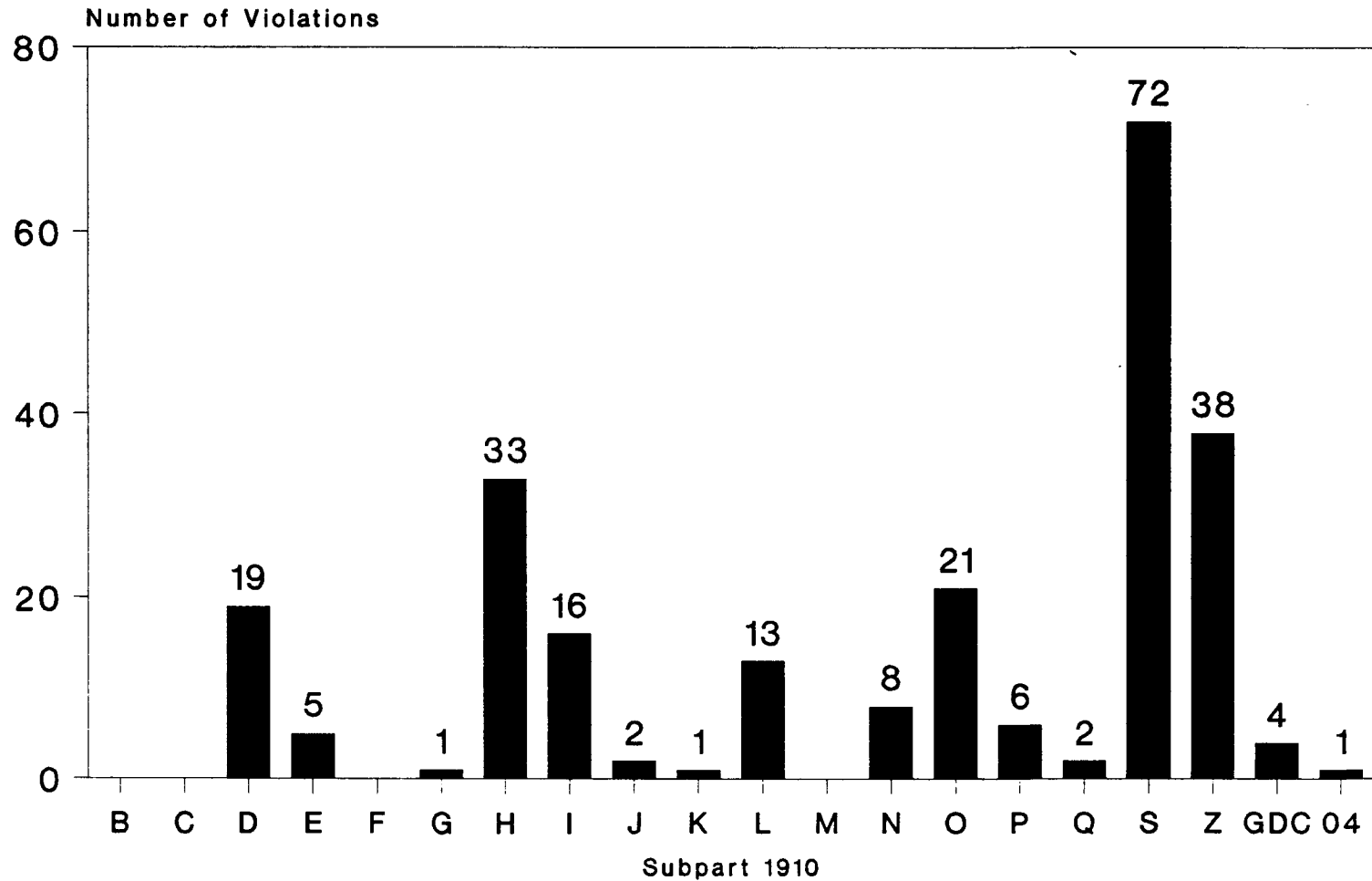
TABLE 5-4
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT BROOKHAVEN NAT'L LABORATORY
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	19
E	Means of Egress	5
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	1
H	Hazardous Materials	33
I	Personal Protective Equipment	16
J	General Environmental Controls	2
K	Medical and First Aid	1
L	Fire Protection	13
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	8
O	Machinery and Machine Guarding	21
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	6
Q	Welding, Cutting and Brazing	2
R	Special Industries	0
S	Electrical	72

TABLE 5-4 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT BROOKHAVEN NAT'L LABORATORY
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>38</u>
	SUBTOTAL	237
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		4
29 CFR 1904		<u>1</u>
	TOTAL	242

OSHA 1-B SUMMARY VIOLATIONS
BROOKHAVEN NATIONAL LABORATORY
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

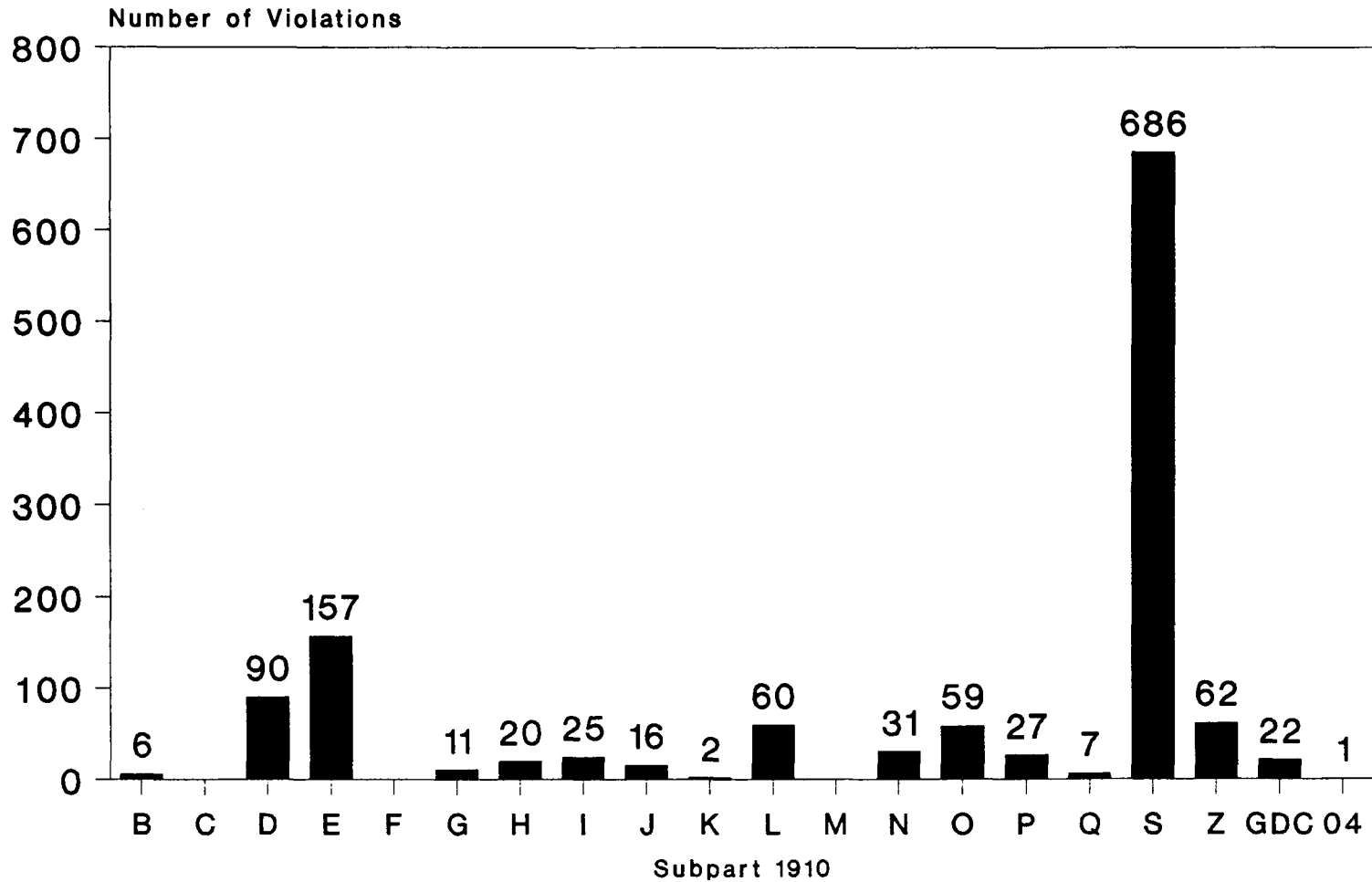
**TABLE 5-5
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT HANFORD
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910**

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	6
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	90
E	Means of Egress	157
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	11
H	Hazardous Materials	20
I	Personal Protective Equipment	25
J	General Environmental Controls	16
K	Medical and First Aid	2
L	Fire Protection	60
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	31
O	Machinery and Machine Guarding	59
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	27
Q	Welding, Cutting and Brazing	7
R	Special Industries	0
S	Electrical	686

TABLE 5-5 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT HANFORD
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>62</u>
	SUBTOTAL	1259
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		22
29 CFR 1904		<u>1</u>
	TOTAL	1282

OSHA 1-B SUMMARY VIOLATIONS
HANFORD
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

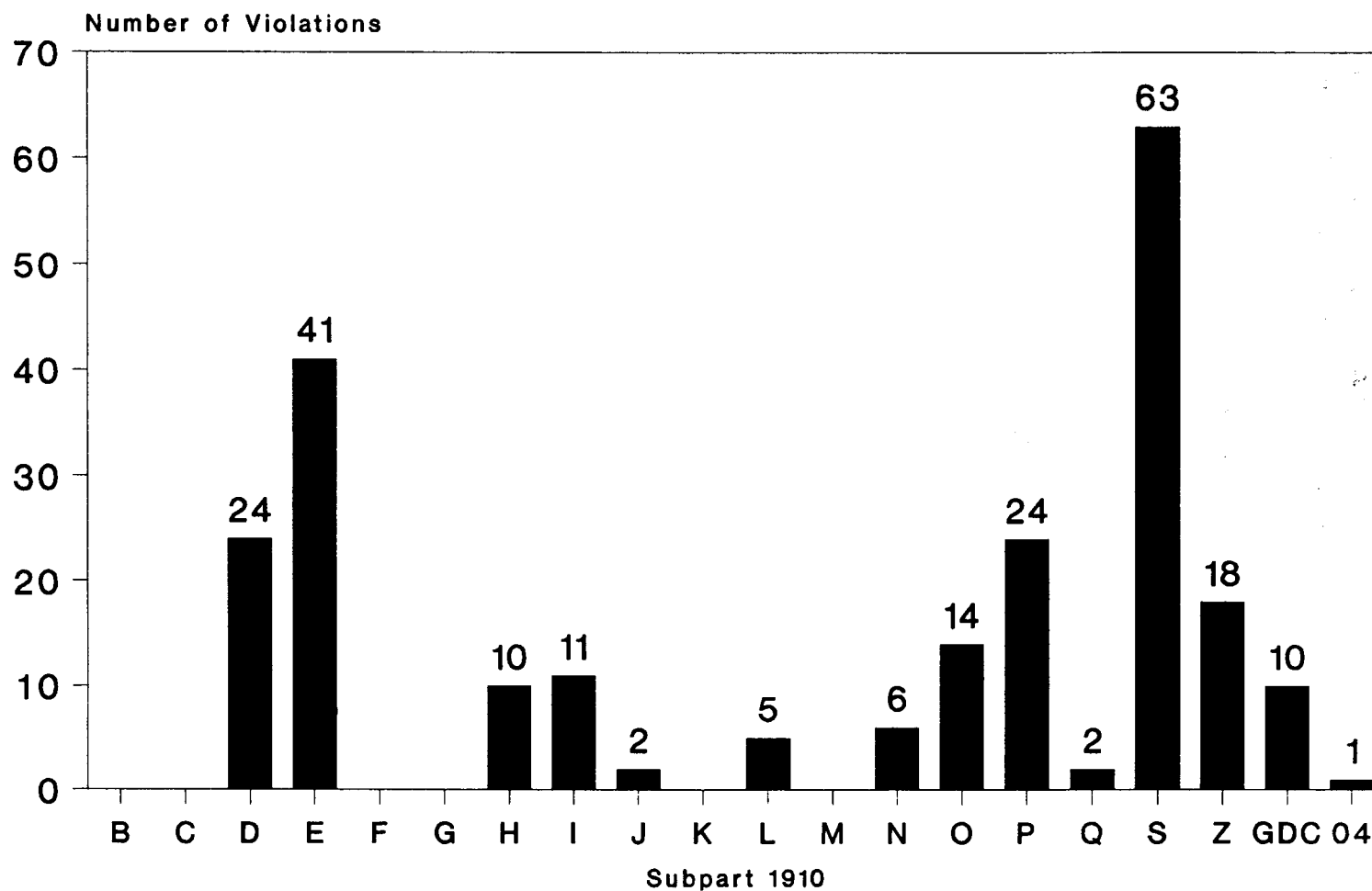
TABLE 5-6
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT LLNL
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	24
E	Means of Egress	41
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	0
H	Hazardous Materials	10
I	Personal Protective Equipment	11
J	General Environmental Controls	2
K	Medical and First Aid	0
L	Fire Protection	5
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	6
O	Machinery and Machine Guarding	14
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	24
Q	Welding, Cutting and Brazing	2
R	Special Industries	0
S	Electrical	63

TABLE 5-6 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT LLNL
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>18</u>
	SUBTOTAL	220
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		10
29 CFR 1904		<u>1</u>
	TOTAL	231

OSHA 1-B SUMMARY VIOLATIONS
LAWRENCE LIVERMORE NATIONAL LABORATORY
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

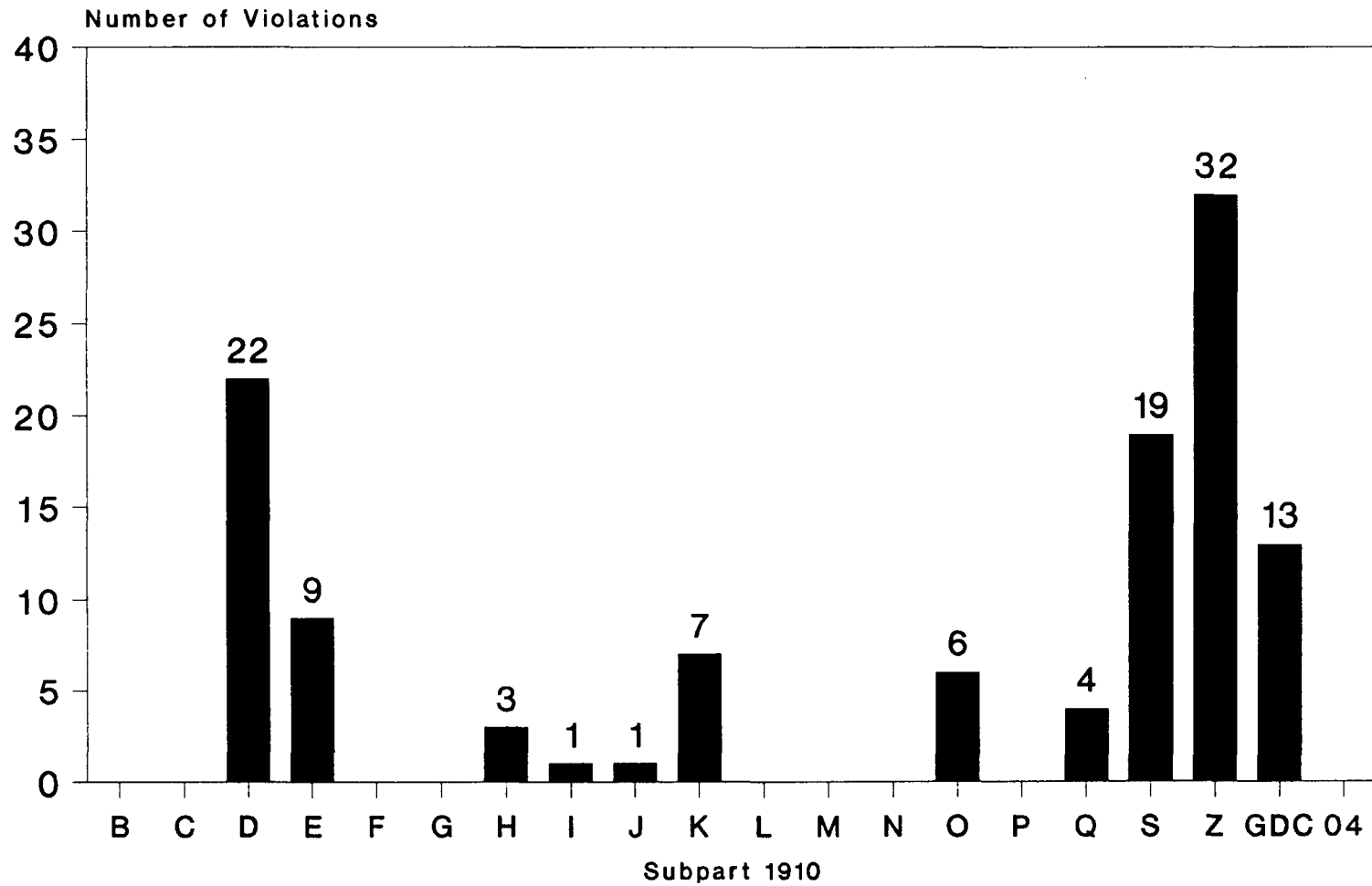
TABLE 5-7
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT MOUND PLANT
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	22
E	Means of Egress	9
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	0
H	Hazardous Materials	3
I	Personal Protective Equipment	1
J	General Environmental Controls	1
K	Medical and First Aid	7
L	Fire Protection	0
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	0
O	Machinery and Machine Guarding	6
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	0
Q	Welding, Cutting and Brazing	4
R	Special Industries	0
S	Electrical	19

TABLE 5-7 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT MOUND PLANT
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>32</u>
	SUBTOTAL	104
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		13
29 CFR 1904		<u>0</u>
	TOTAL	117

OSHA 1-B SUMMARY VIOLATIONS
MOUND PLANT
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

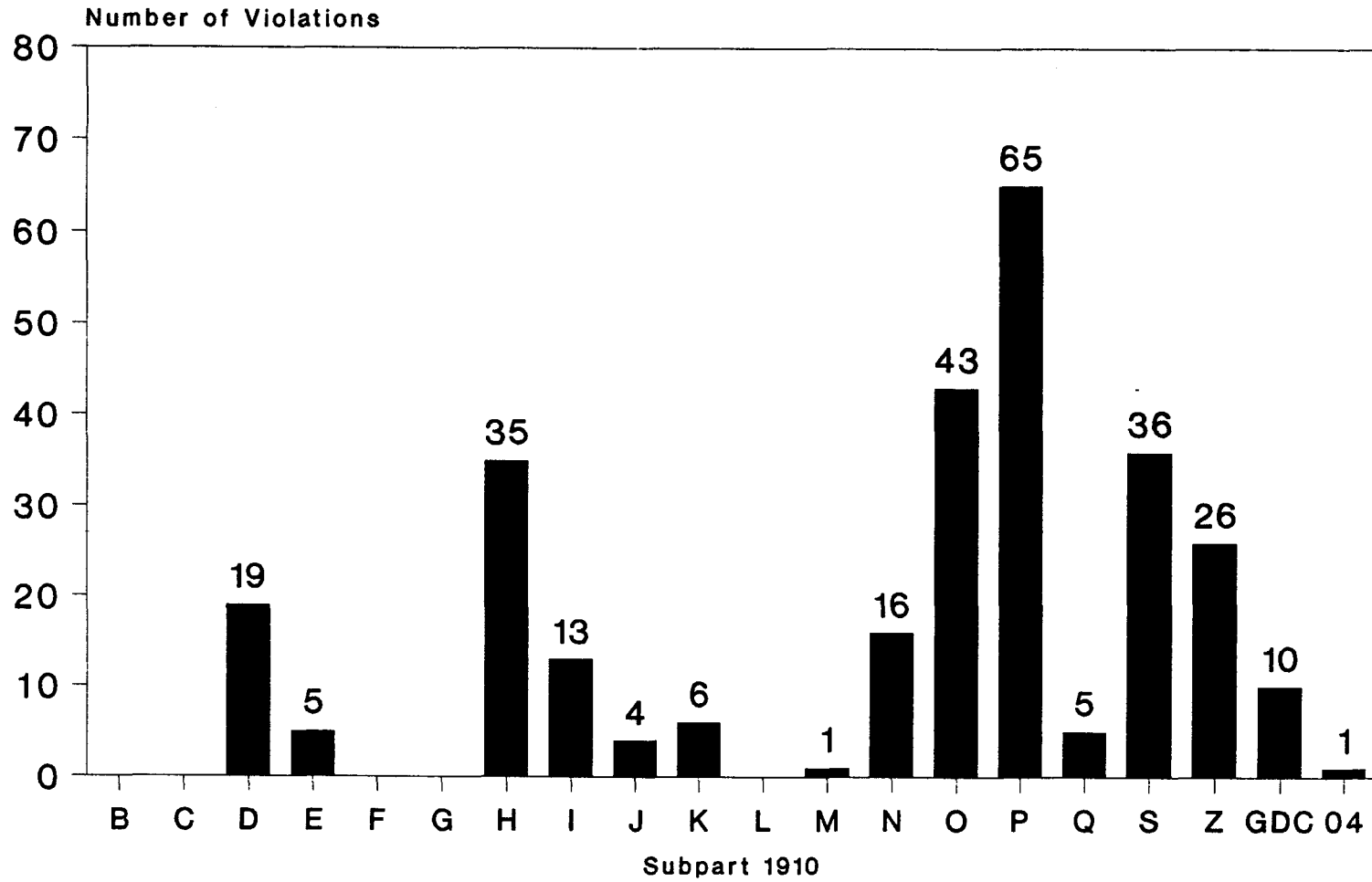
TABLE 5-8
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT PADUCAH GDP
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	19
E	Means of Egress	5
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	0
H	Hazardous Materials	35
I	Personal Protective Equipment	13
J	General Environmental Controls	4
K	Medical and First Aid	6
L	Fire Protection	0
M	Compressed Gas and Compressed Air Equipment	1
N	Materials Handling and Storage	16
O	Machinery and Machine Guarding	43
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	65
Q	Welding, Cutting and Brazing	5
R	Special Industries	0
S	Electrical	36

TABLE 5-8 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT PADUCAH GDP
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>26</u>
	SUBTOTAL	274
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		10
29 CFR 1904		<u>1</u>
	TOTAL	285

OSHA 1-B SUMMARY VIOLATIONS
PADUCAH GASEOUS DIFFUSION PLANT
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

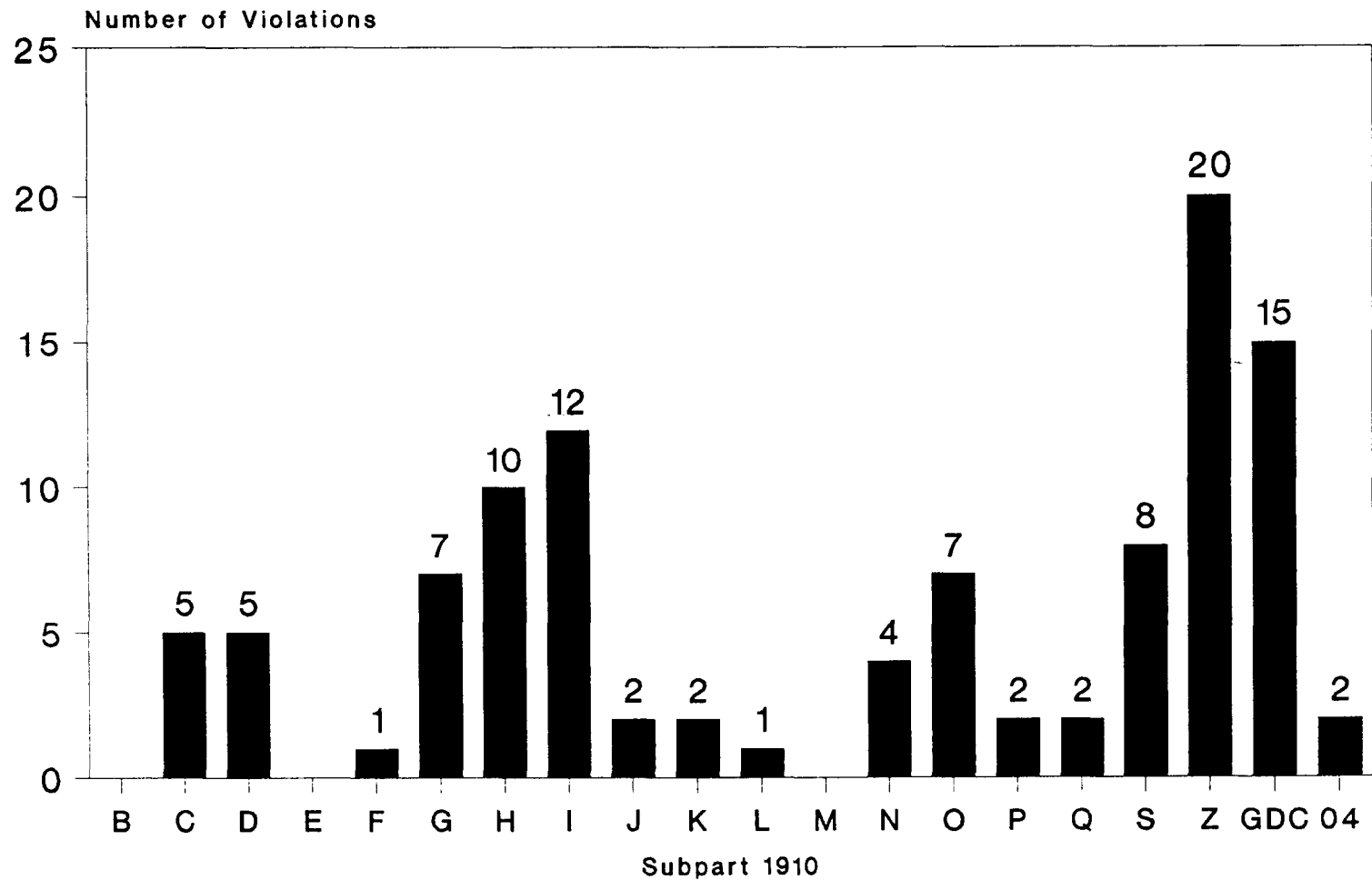
TABLE 5-9
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT PANTEX PLANT
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	5
D	Walking Working Surfaces	5
E	Means of Egress	0
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	1
G	Occupational Health and Environmental Control	7
H	Hazardous Materials	10
I	Personal Protective Equipment	12
J	General Environmental Controls	2
K	Medical and First Aid	2
L	Fire Protection	1
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	4
O	Machinery and Machine Guarding	7
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	2
Q	Welding, Cutting and Brazing	2
R	Special Industries	0
S	Electrical	8

TABLE 5-9 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT PANTEX PLANT
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>20</u>
	SUBTOTAL	87
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		15
29 CFR 1904		<u>2</u>
	TOTAL	104

OSHA 1-B SUMMARY VIOLATIONS
PANTEX PLANT
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

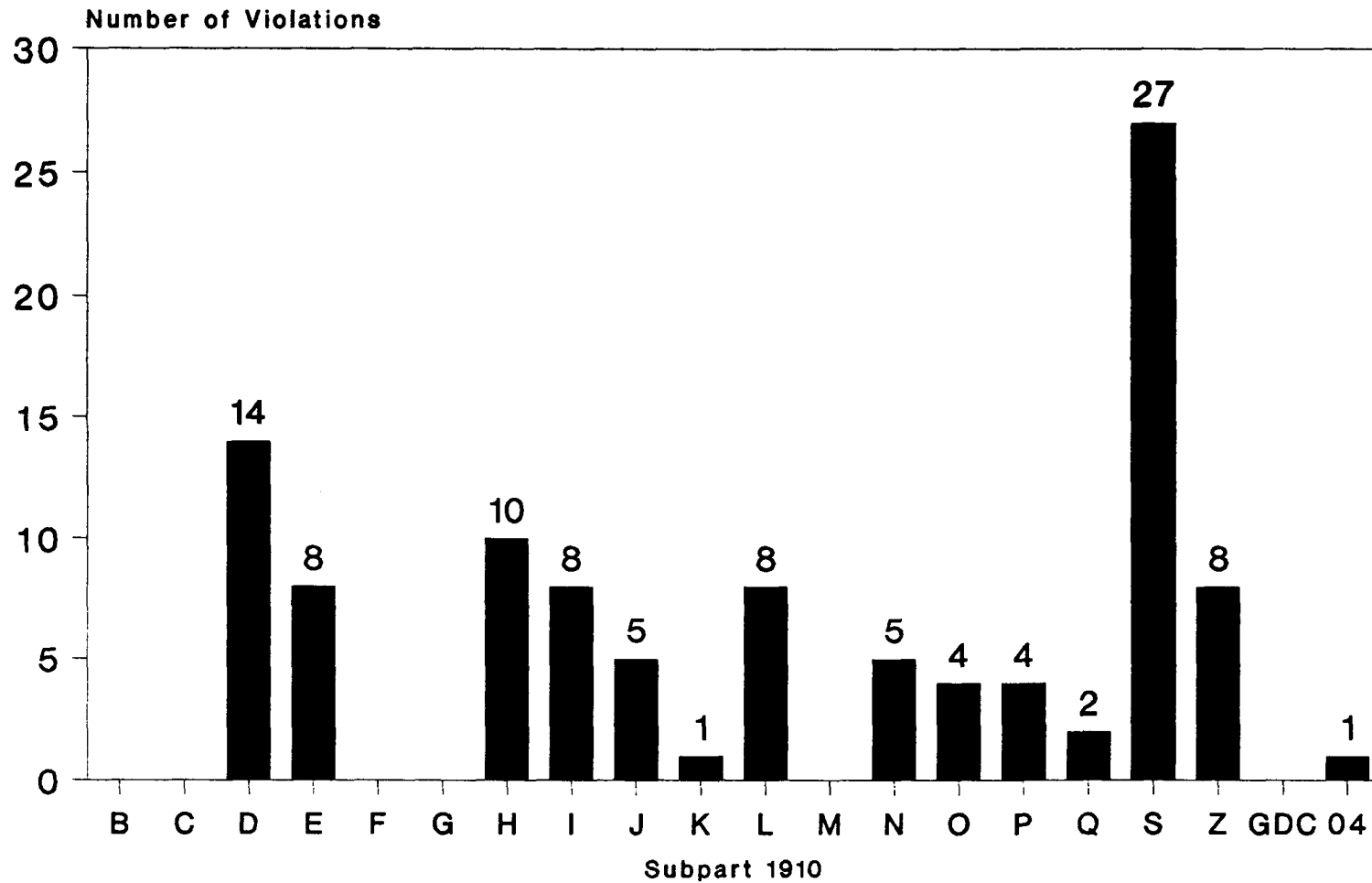
TABLE 5-10
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SANDIA LIVERMORE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	14
E	Means of Egress	8
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	0
H	Hazardous Materials	10
I	Personal Protective Equipment	8
J	General Environmental Controls	5
K	Medical and First Aid	1
L	Fire Protection	8
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	5
O	Machinery and Machine Guarding	4
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	4
Q	Welding, Cutting and Brazing	2
R	Special Industries	0
S	Electrical	27

TABLE 5-10 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SANDIA LIVERMORE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>8</u>
	SUBTOTAL	104
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		0
29 CFR 1904		<u>1</u>
	TOTAL	105

OSHA 1-B SUMMARY VIOLATIONS
SANDIA NATIONAL LABORATORY - LIVERMORE
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

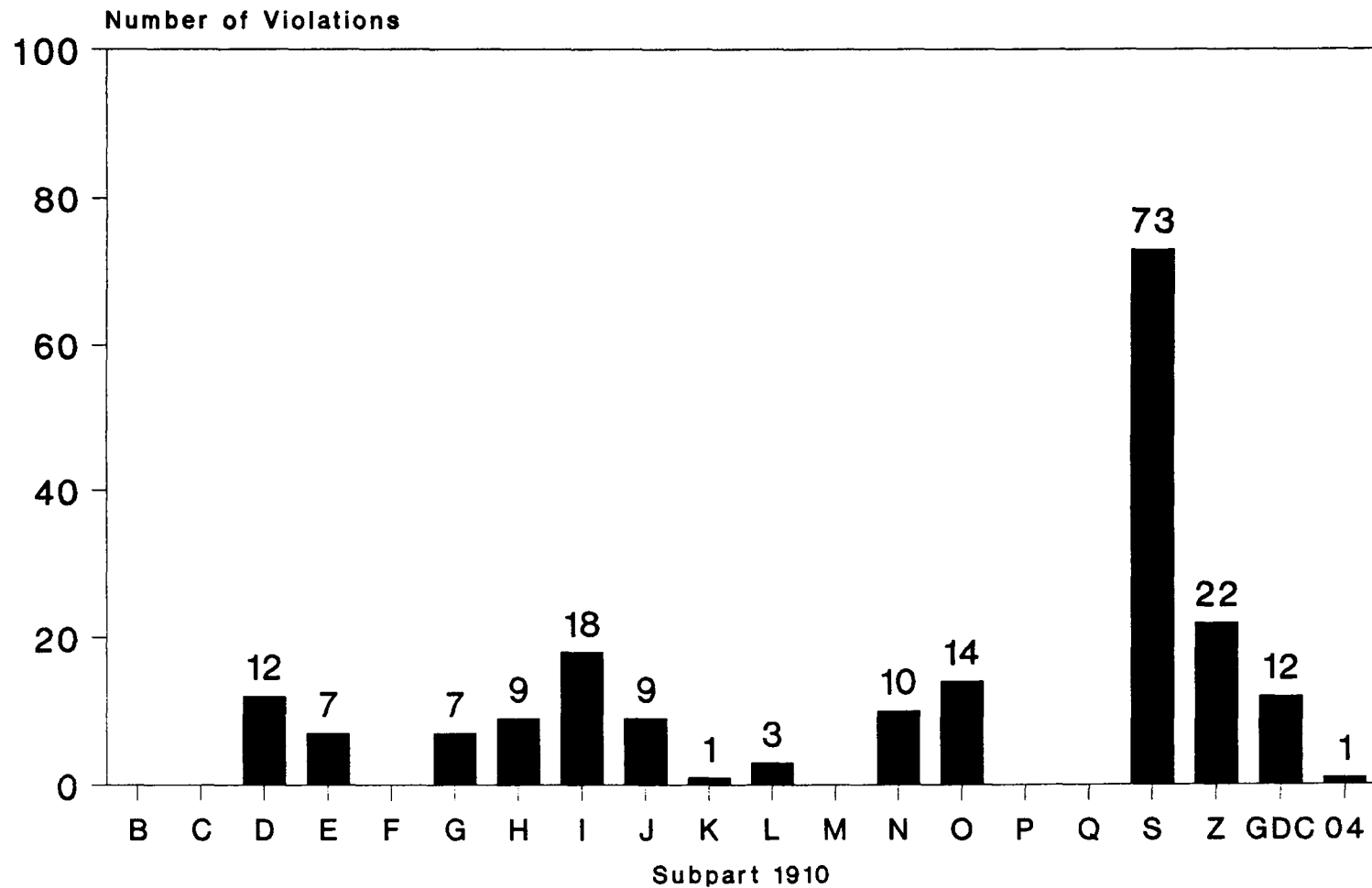
TABLE 5-11
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SAVANNAH RIVER SITE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	12
E	Means of Egress	7
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	7
H	Hazardous Materials	9
I	Personal Protective Equipment	18
J	General Environmental Controls	9
K	Medical and First Aid	1
L	Fire Protection	3
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	10
O	Machinery and Machine Guarding	14
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	0
Q	Welding, Cutting and Brazing	0
R	Special Industries	0
S	Electrical	73

TABLE 5-11 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SAVANNAH RIVER SITE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>22</u>
	SUBTOTAL	185
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		12
29 CFR 1904		<u>1</u>
	TOTAL	198

OSHA 1-B SUMMARY VIOLATIONS
SAVANNAH RIVER SITE
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

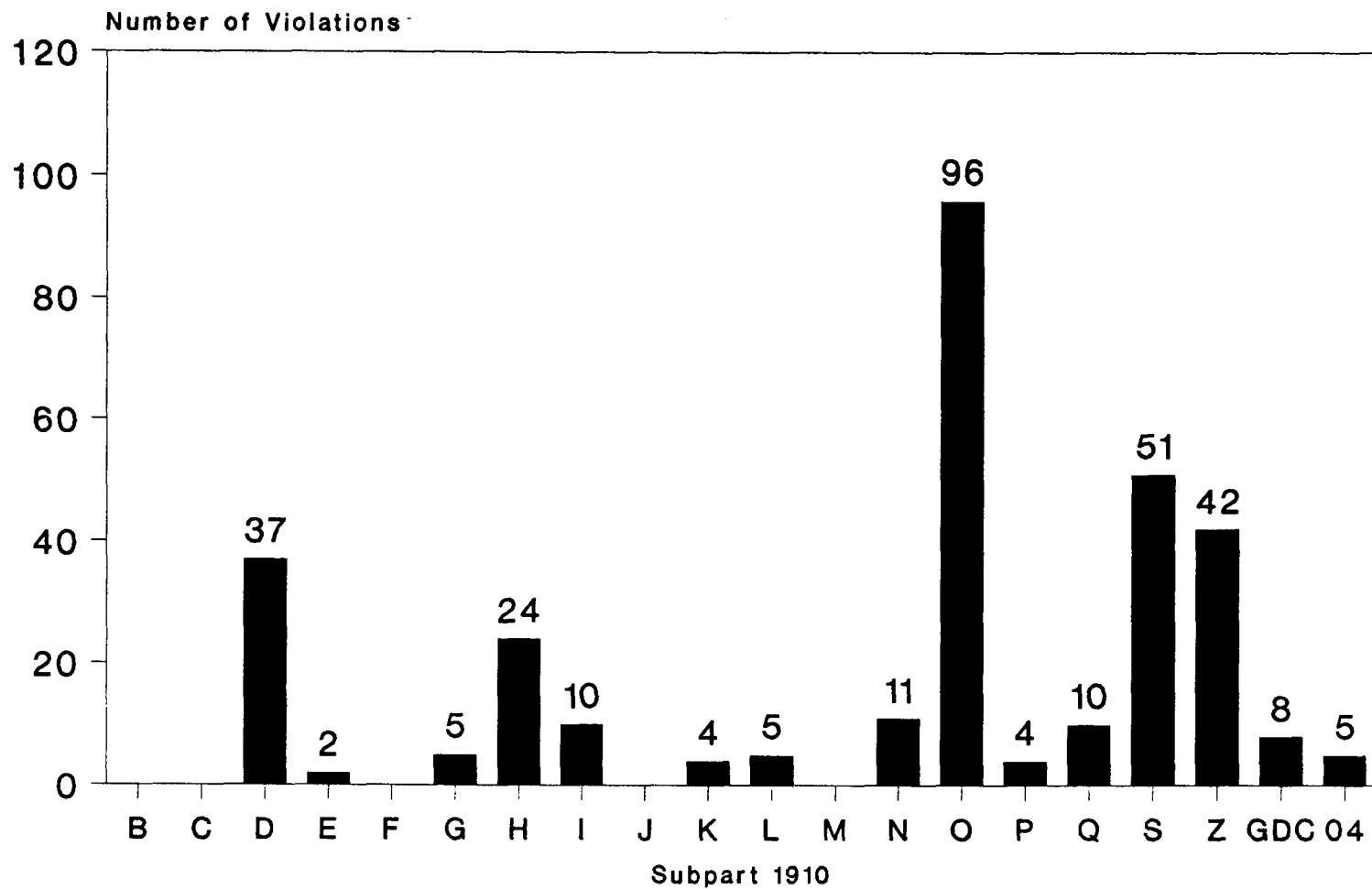
TABLE 5-12
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT Y-12 PLANT
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	Adoption and Extension of Established Federal Standards	0
C	General Safety and Health Provisions	0
D	Walking Working Surfaces	37
E	Means of Egress	2
F	Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms	0
G	Occupational Health and Environmental Control	5
H	Hazardous Materials	24
I	Personal Protective Equipment	10
J	General Environmental Controls	0
K	Medical and First Aid	4
L	Fire Protection	5
M	Compressed Gas and Compressed Air Equipment	0
N	Materials Handling and Storage	11
O	Machinery and Machine Guarding	96
P	Hand and Portable Powered Tools and Other Hand-Held Equipment	4
Q	Welding, Cutting and Brazing	10
R	Special Industries	0
S	Electrical	51

TABLE 5-12 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SAVANNAH RIVER SITE
OCCUPATIONAL SAFETY AND HEALTH STANDARDS 29 CFR 1910

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
T	Commercial Diving Operations	0
U-Y	Reserved	N/A
Z	Toxic and Hazardous Substances	<u>42</u>
	SUBTOTAL	301
P.L. 91-596, General Duty Clause Sec. 5(a)(1)		8
29 CFR 1904		<u>5</u>
	TOTAL	314

OSHA 1-B SUMMARY VIOLATIONS
Y-12 PLANT
OSHA STANDARDS 29 CFR 1910



GDC - General Duty Clause
04 - 29 CFR 1904

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5.1.2 PART 1926 - SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

5.1.2.1 1926-Subpart D - Occupational Health and Environmental Controls

Forty-seven percent of the facilities failed to fully comply with 1926 Subpart D.

Total number of supporting OSHA-1B Summary violations identified by site:

Y-12 (31)	Mound (4)
Pantex (13)	LLNL (5)
SRS (5)	Hanford (1)
BNL (11)	

5.1.2.2 1926-Subpart F- Fire Protection and Prevention

Thirty-three percent of the facilities failed to fully comply with 1926 Subpart F.

Total number of supporting OSHA-1B Summary violations identified by site:

Mound (1)	Pantex (2)
SNLL (4)	LLNL (14)
SRS (2)	

5.1.2.3 1926-Subpart J - Welding and Cutting

Thirty-three percent of the facilities failed to fully comply with 1926 Subpart J.

Total number of supporting OSHA-1B Summary violations identified by site:

Y-12 (1)	Pantex (1)
LLNL (2)	SRS (3)
Hanford (3)	

5.1.2.4 1926-Subpart K - Electrical

Forty percent of the facilities failed to fully comply with 1926 Subpart K.

NTS-PP.6-2

NTS-PP.6-3

Total number of supporting OSHA-1B Summary violations identified by site:

Y-12 (73)

Pantex (5)

SNLL (2)

LLNL (11)

SRS (10)

TABLE 5-13
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT NINE FACILITIES ASSESSED
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	13
D	Occupational Health and Environmental Control	70
E	Personal Protective and Life Saving Equipment	2
F	Fire Protection and Prevention	23
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	9
I	Tools - Hand and Power	13
J	Welding and Cutting	10
K	Electrical	101
L	Ladders and Scaffolding	15
M	Floors and Wall Openings, and Stairways	8
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	25
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	7
P	Excavations, Trenching, and Shoring	2
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-13 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT NINE FACILITIES ASSESSED
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>3</u>
	TOTAL	301

OSHA 29 CFR 1926 1-B SUMMARY VIOLATIONS
NINE DOE FACILITIES ASSESSED

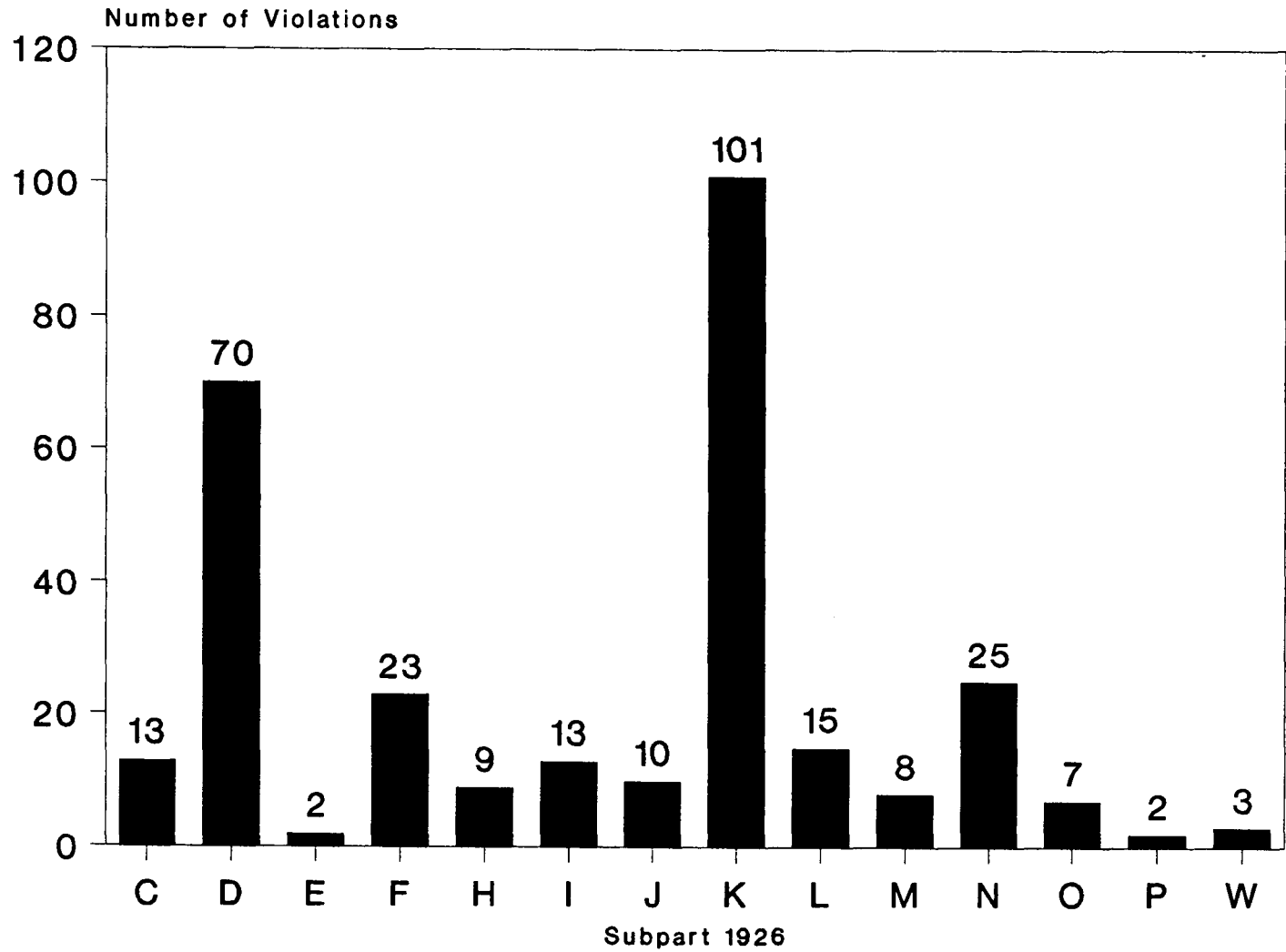


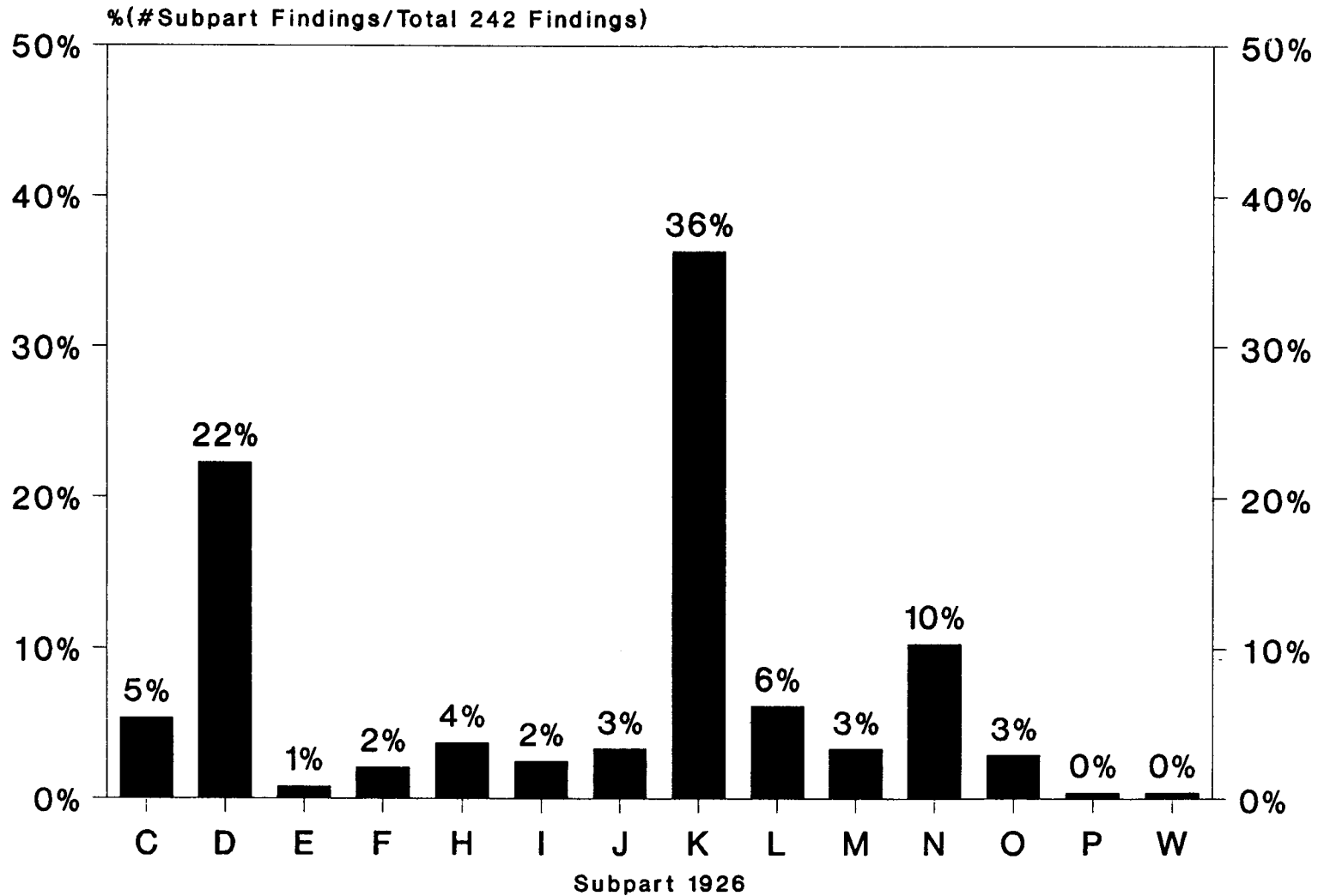
TABLE 5-14
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT DOE PRODUCTION FACILITIES
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	13
D	Occupational Health and Environmental Control	54
E	Personal Protective and Life Saving Equipment	2
F	Fire Protection and Prevention	5
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	9
I	Tools - Hand and Power	6
J	Welding and Cutting	8
K	Electrical	88
L	Ladders and Scaffolding	15
M	Floors and Wall Openings, and Stairways	8
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	25
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	7
P	Excavations, Trenching, and Shoring	1
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-14 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT DOE PRODUCTION FACILITIES
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>2</u>
	TOTAL	243

OSHA 29 CFR 1926 1-B SUMMARY VIOLATIONS DOE PRODUCTION FACILITIES



OSHA 1-B SUMMARY VIOLATIONS
DOE PRODUCTION FACILITIES
OSHA STANDARDS 29 CFR 1926

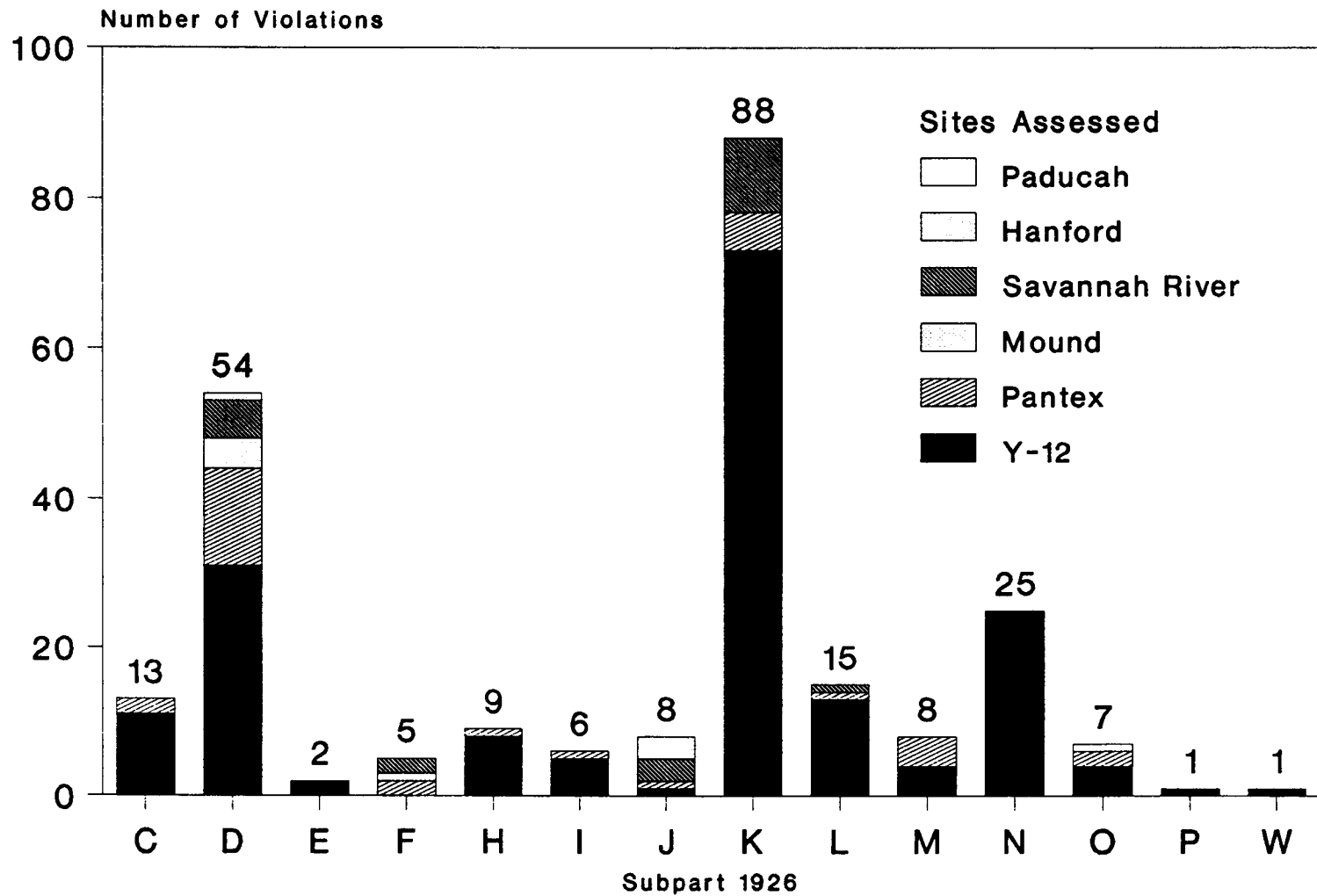


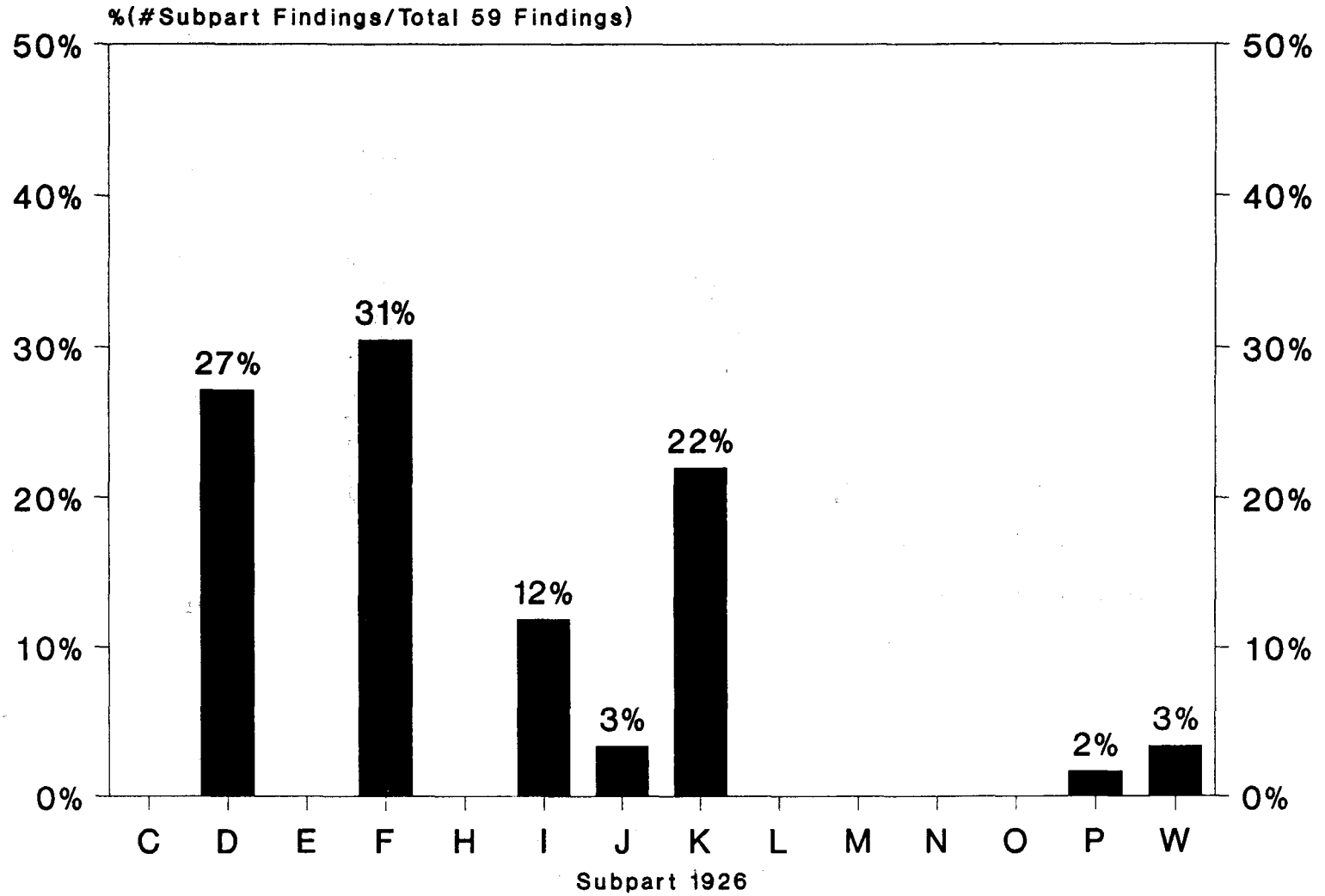
TABLE 5-15
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT DOE LABORATORY FACILITIES
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	0
D	Occupational Health and Environmental Control	16
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	18
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	0
I	Tools - Hand and Power	7
J	Welding and Cutting	2
K	Electrical	13
L	Ladders and Scaffolding	0
M	Floors and Wall Openings, and Stairways	0
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	0
P	Excavations, Trenching, and Shoring	1
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

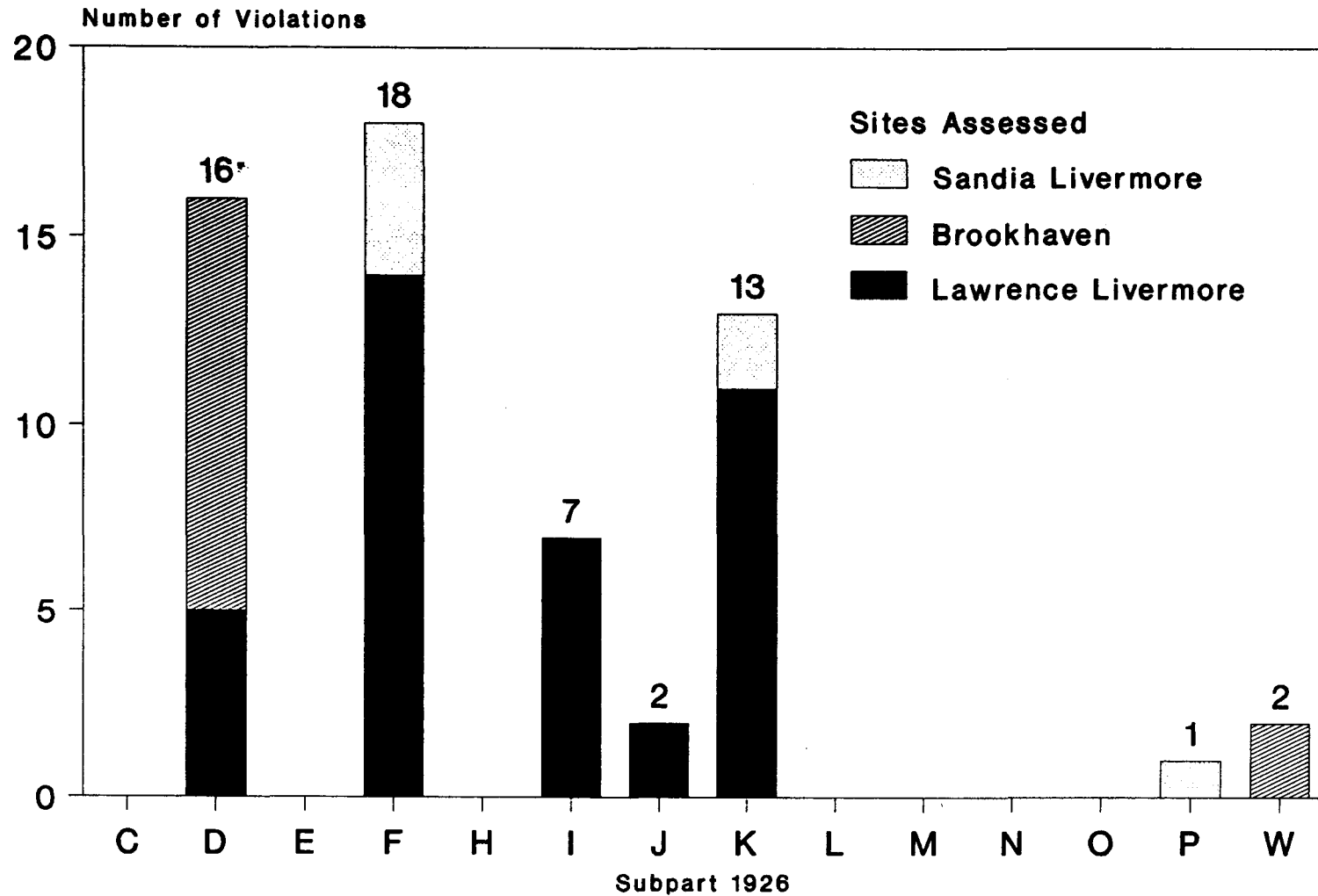
TABLE 5-15 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT DOE LABORATORY FACILITIES
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>1</u>
	TOTAL	58

5-66

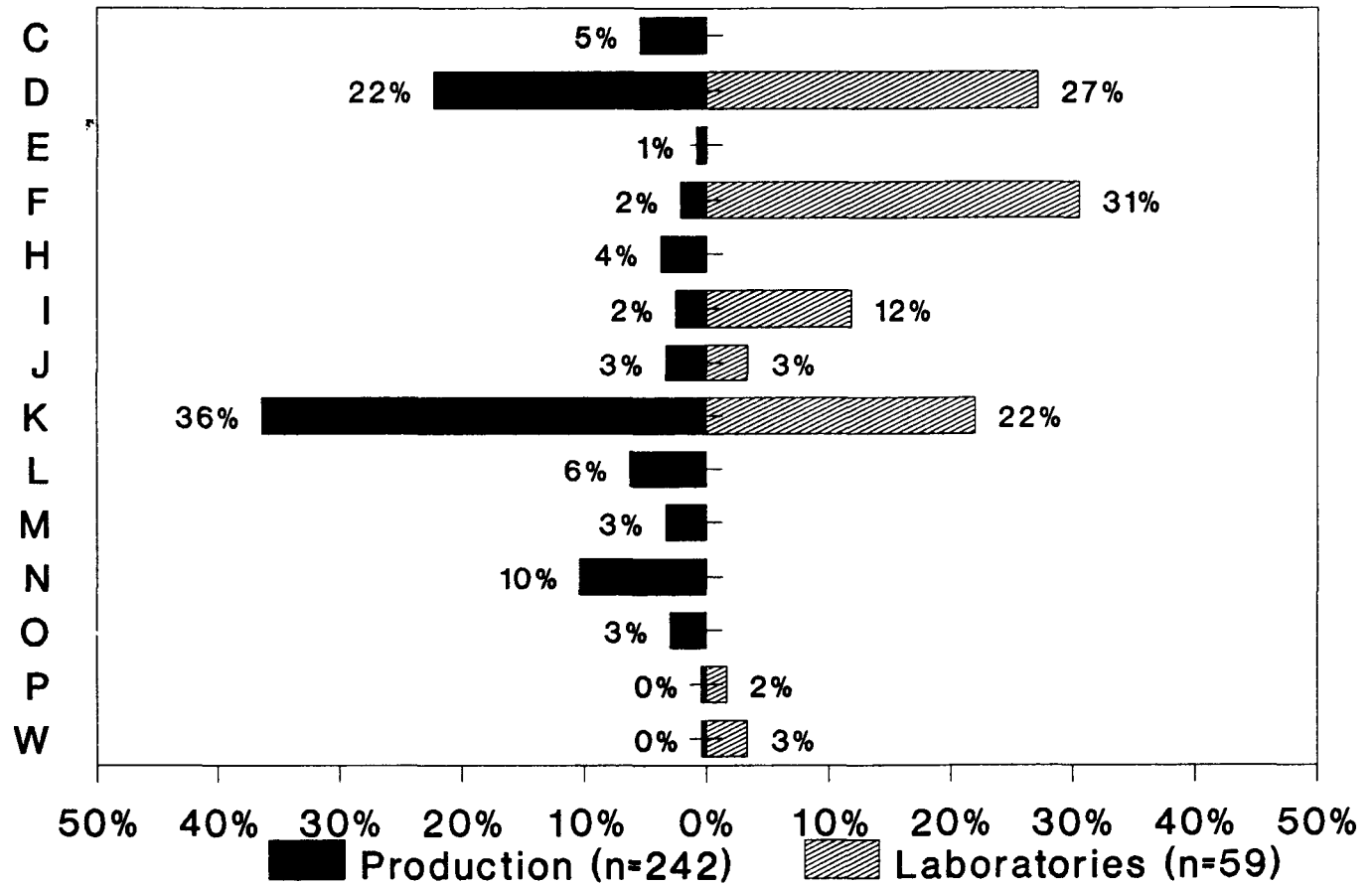


OSHA 1-B SUMMARY VIOLATIONS
DOE LABORATORIES
OSHA STANDARDS 29 CFR 1926

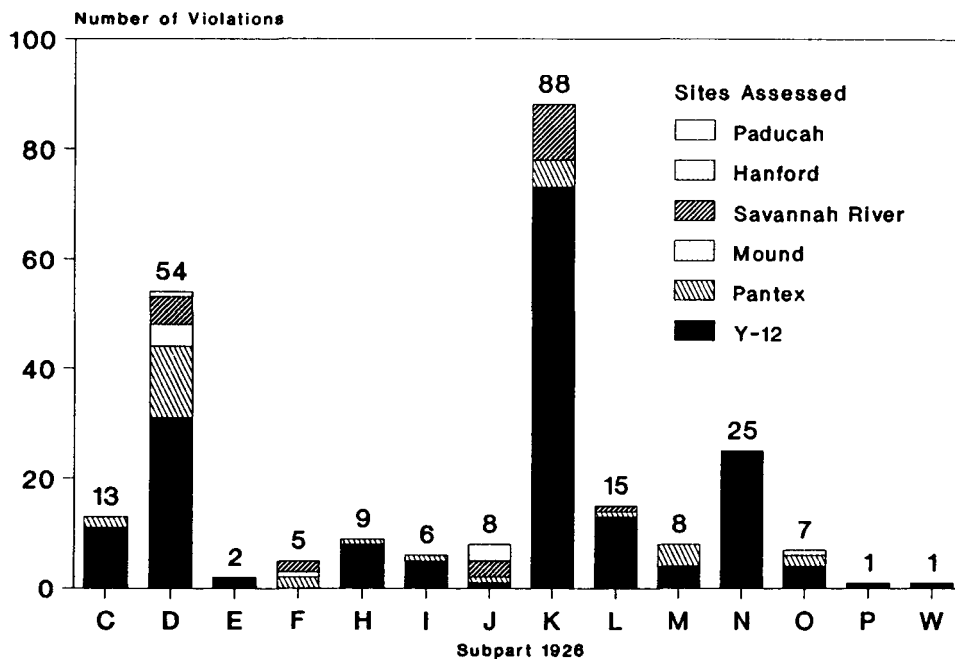


OSHA 29 CFR 1926 1-B SUMMARY VIOLATIONS
DOE PROD. vs. LAB. FACILITIES
%(#Subpart Findings/Total Findings)

Subpart 1926



OSHA 1-B SUMMARY VIOLATIONS
DOE PRODUCTION FACILITIES
OSHA STANDARDS 29 CFR 1926



OSHA 1-B SUMMARY VIOLATIONS
DOE LABORATORIES
OSHA STANDARDS 29 CFR 1926

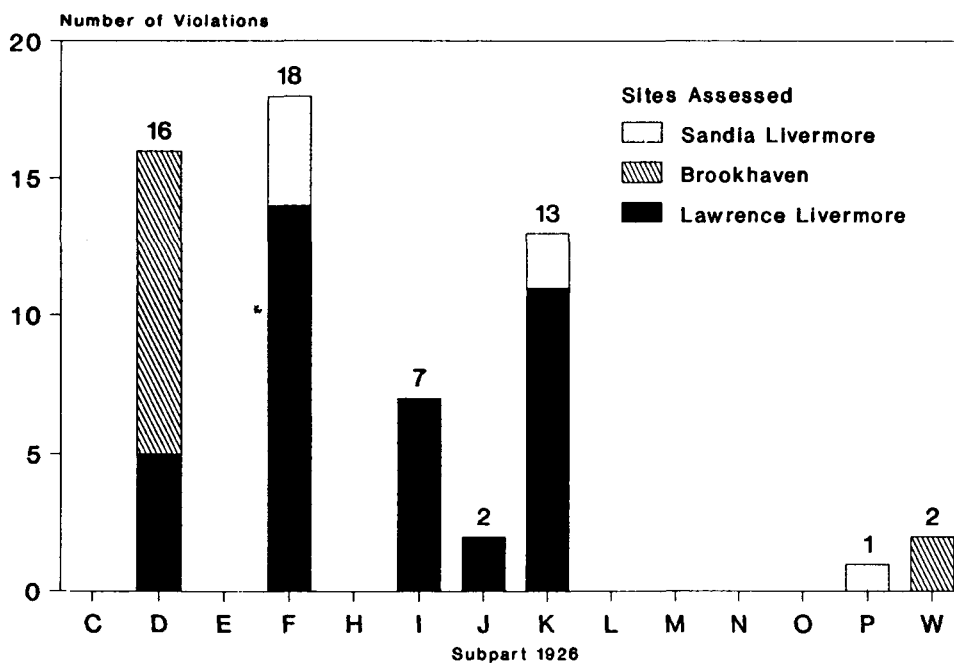


TABLE 5-16
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT BROOKHAVEN NAT'L LABORATORY
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	0
D	Occupational Health and Environmental Control	11
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	0
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	0
I	Tools - Hand and Power	0
J	Welding and Cutting	0
K	Electrical	0
L	Ladders and Scaffolding	0
M	Floors and Wall Openings, and Stairways	0
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	0
P	Excavations, Trenching, and Shoring	0
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-16 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT BROOKHAVEN NAT'L LABORATORY
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>2</u>
	TOTAL	13

OSHA 1-B SUMMARY VIOLATIONS
BROOKHAVEN NATIONAL LABORATORY
OSHA STANDARDS 29 CFR 1926

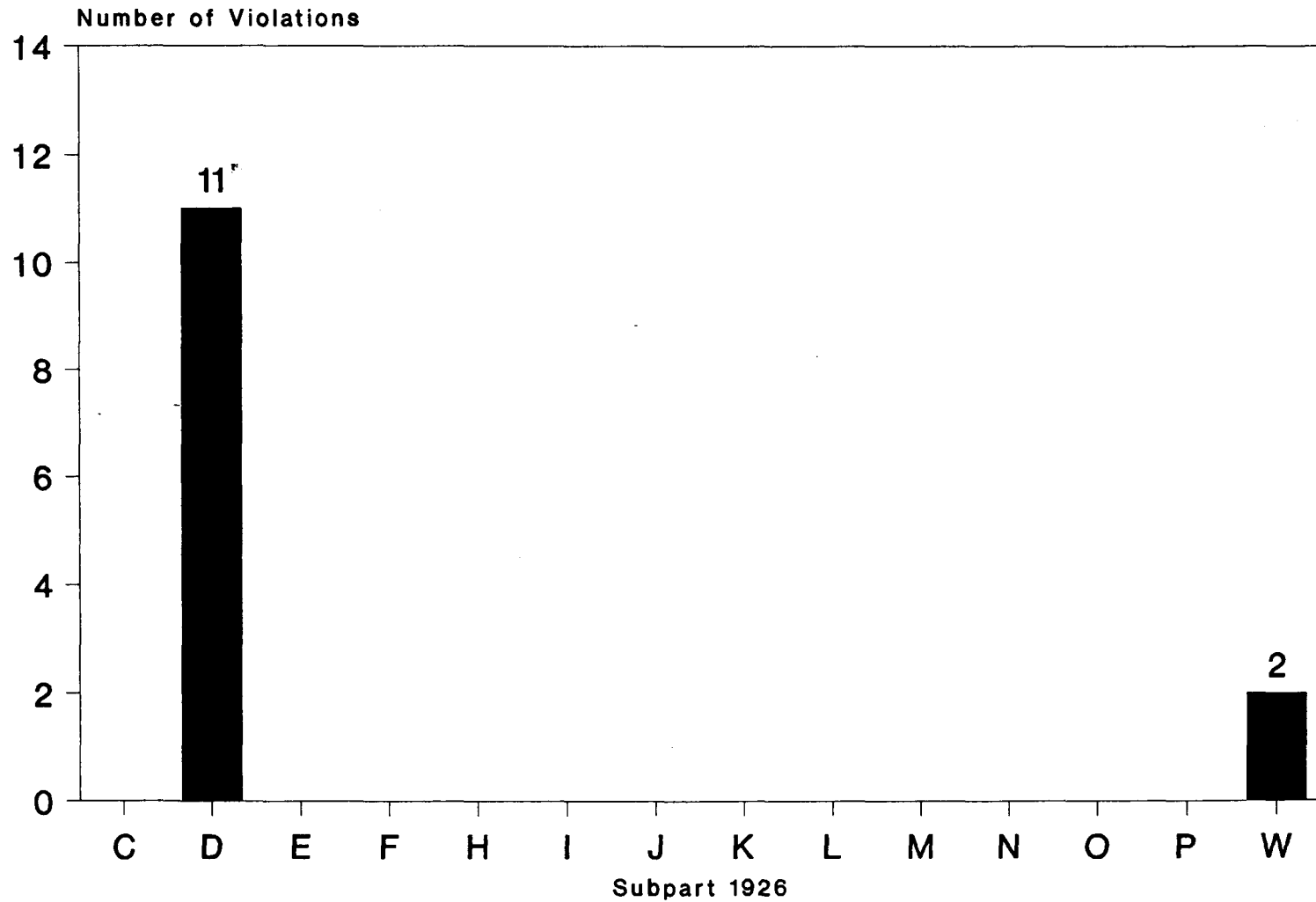


TABLE 5-17
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT HANFORD
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	0
D	Occupational Health and Environmental Control	1
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	0
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	0
I	Tools - Hand and Power	0
J	Welding and Cutting	3
K	Electrical	0
L	Ladders and Scaffolding	0
M	Floors and Wall Openings, and Stairways	0
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	0
P	Excavations, Trenching, and Shoring	0
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-17 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT HANFORD
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>0</u>
	TOTAL	4

OSHA 1-B SUMMARY VIOLATIONS
HANFORD
OSHA STANDARDS 29 CFR 1926

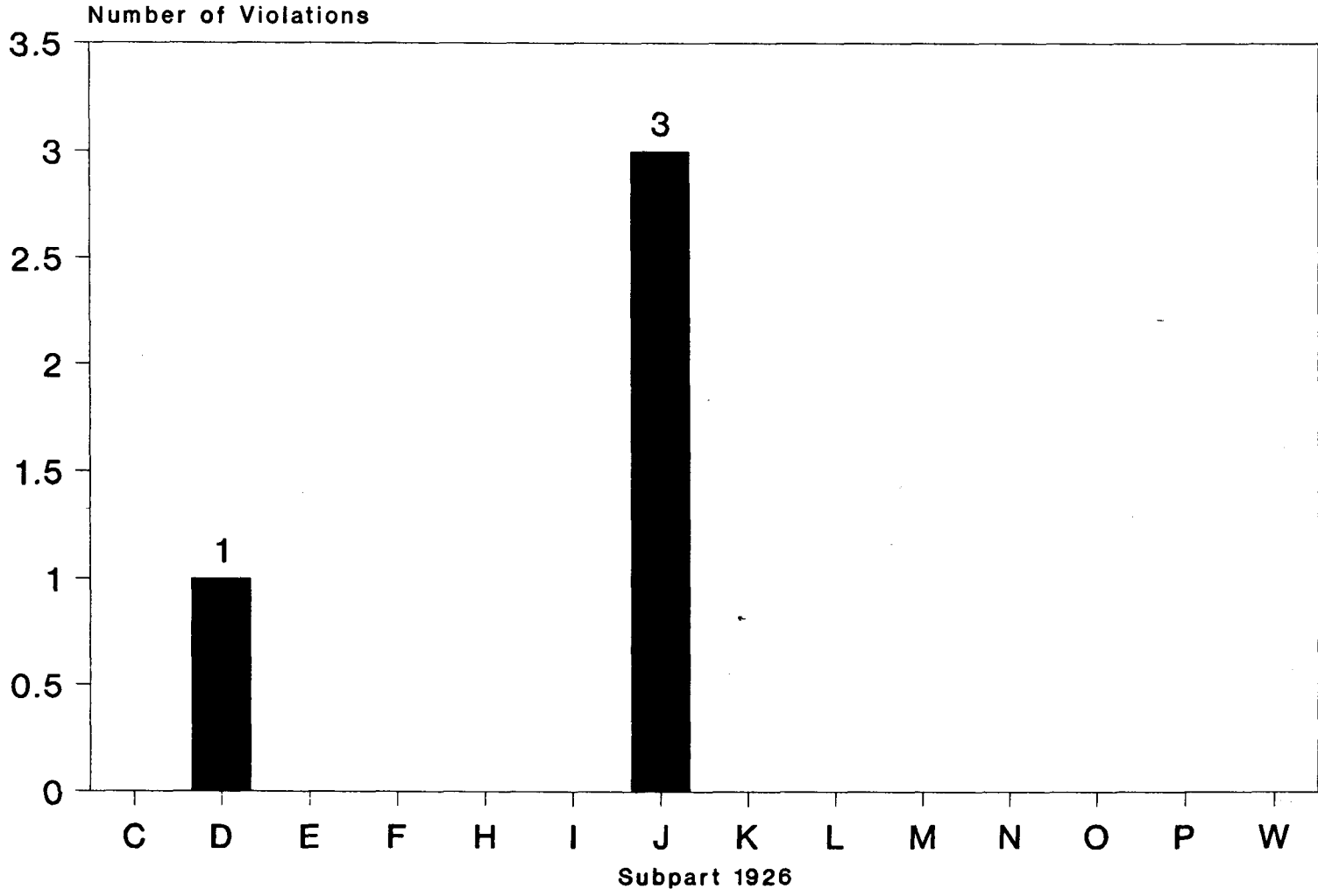


TABLE 5-18
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT LLNL
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	0
D	Occupational Health and Environmental Control	5
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	14
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	0
I	Tools - Hand and Power	7
J	Welding and Cutting	2
K	Electrical	11
L	Ladders and Scaffolding	0
M	Floors and Wall Openings, and Stairways	0
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	0
P	Excavations, Trenching, and Shoring	0
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-18 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT LLNL
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>0</u>
	TOTAL	39

OSHA 1-B SUMMARY VIOLATIONS
LAWRENCE LIVERMORE NATIONAL LABORATORY
OSHA STANDARDS 29 CFR 1926

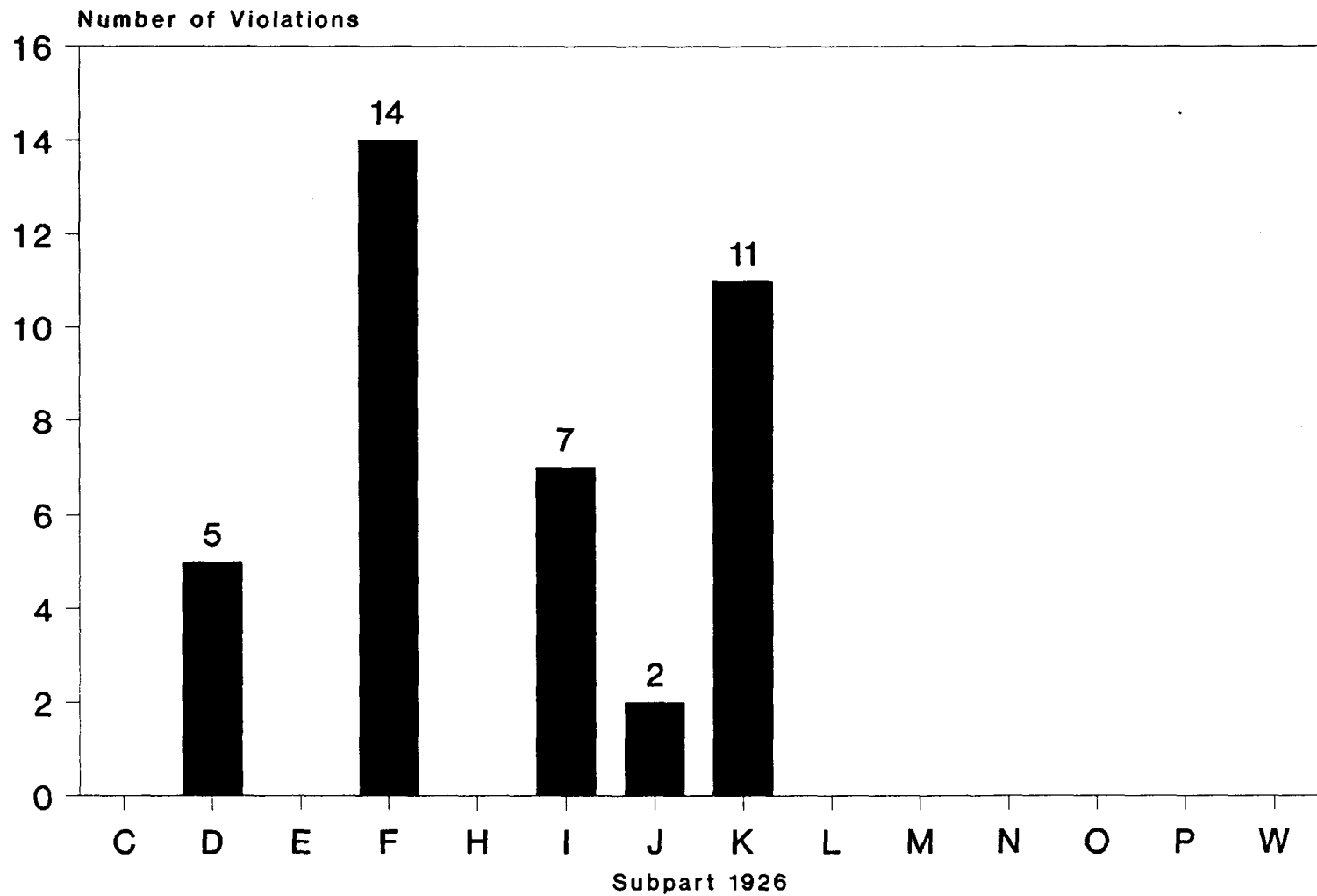


TABLE 5-19
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT MOUND PLANT
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	0
D	Occupational Health and Environmental Control	4
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	1
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	0
I	Tools - Hand and Power	0
J	Welding and Cutting	0
K	Electrical	0
L	Ladders and Scaffolding	0
M	Floors and Wall Openings, and Stairways	0
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	0
P	Excavations, Trenching, and Shoring	0
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-19 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT MOUND PLANT
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>0</u>
	TOTAL	5

OSHA 1-B SUMMARY VIOLATIONS
MOUND PLANT
OSHA STANDARDS 29 CFR 1926

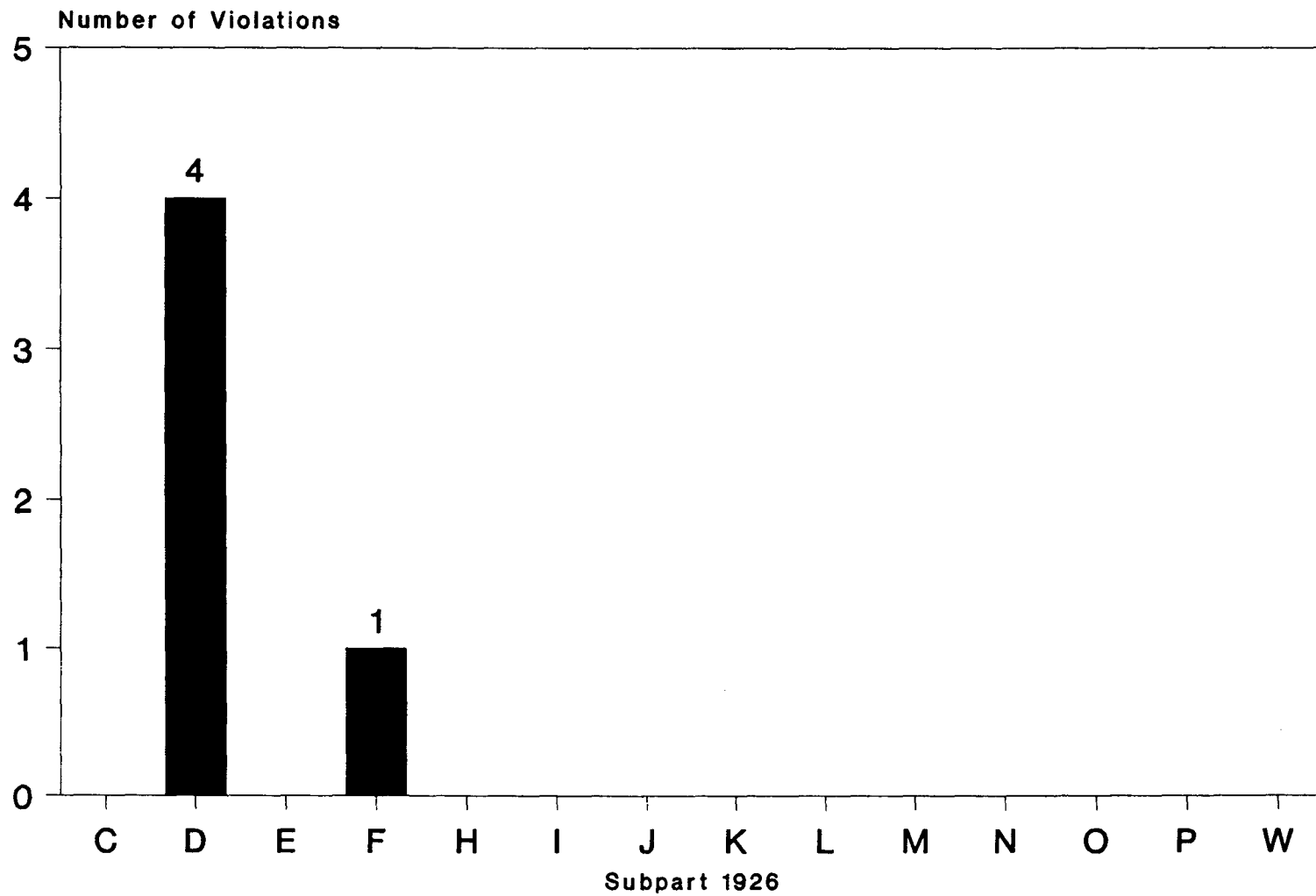


TABLE 5-20
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT PADUCAH GDP
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	0
D	Occupational Health and Environmental Control	0
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	0
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	0
I	Tools - Hand and Power	0
J	Welding and Cutting	0
K	Electrical	0
L	Ladders and Scaffolding	0
M	Floors and Wall Openings, and Stairways	0
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	1
P	Excavations, Trenching, and Shoring	0
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-20 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT PADUCAH GDP
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>0</u>
	TOTAL	1

OSHA 1-B SUMMARY VIOLATIONS
PADUCAH GASEOUS DIFFUSION PLANT
OSHA STANDARDS 29 CFR 1926

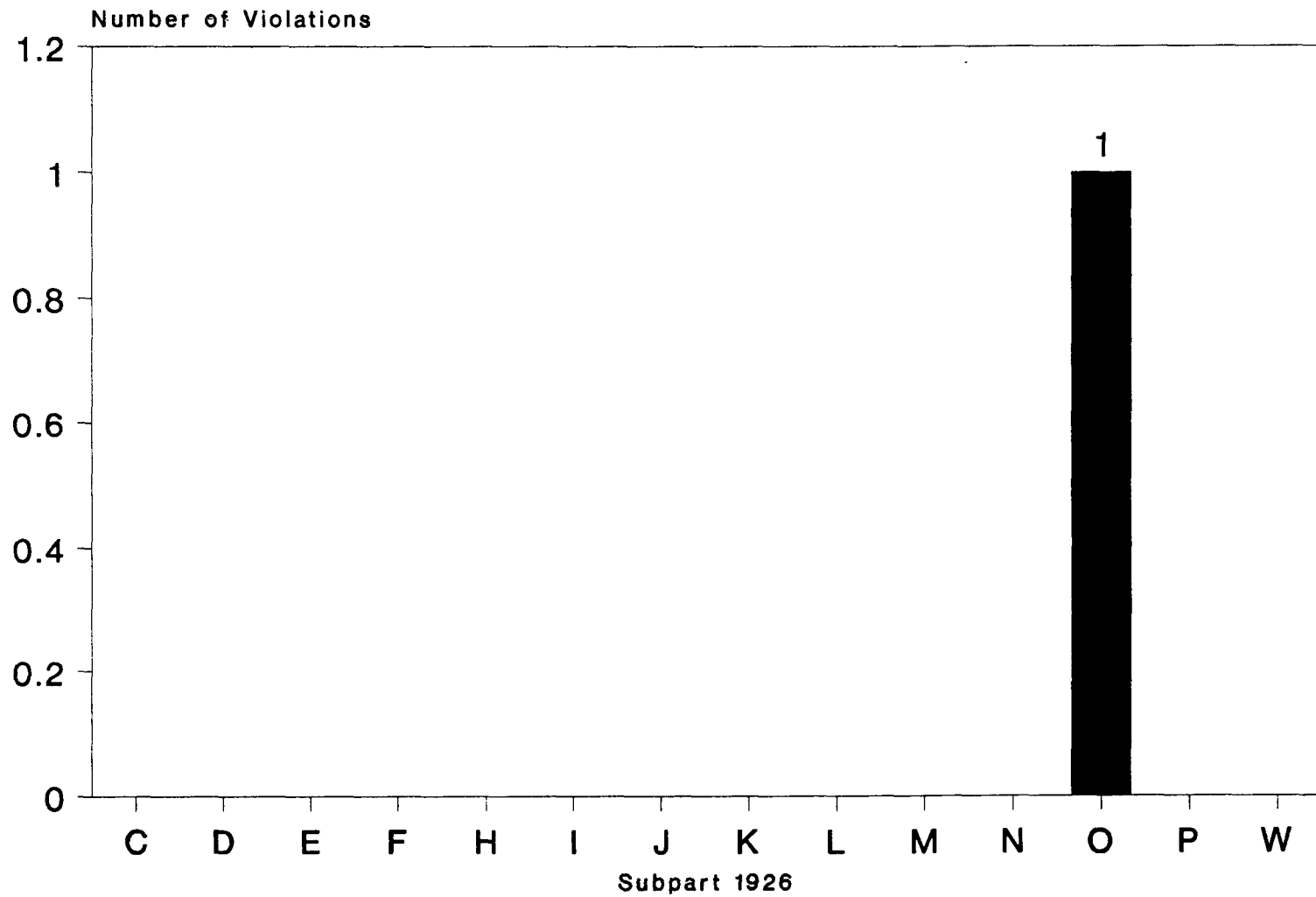


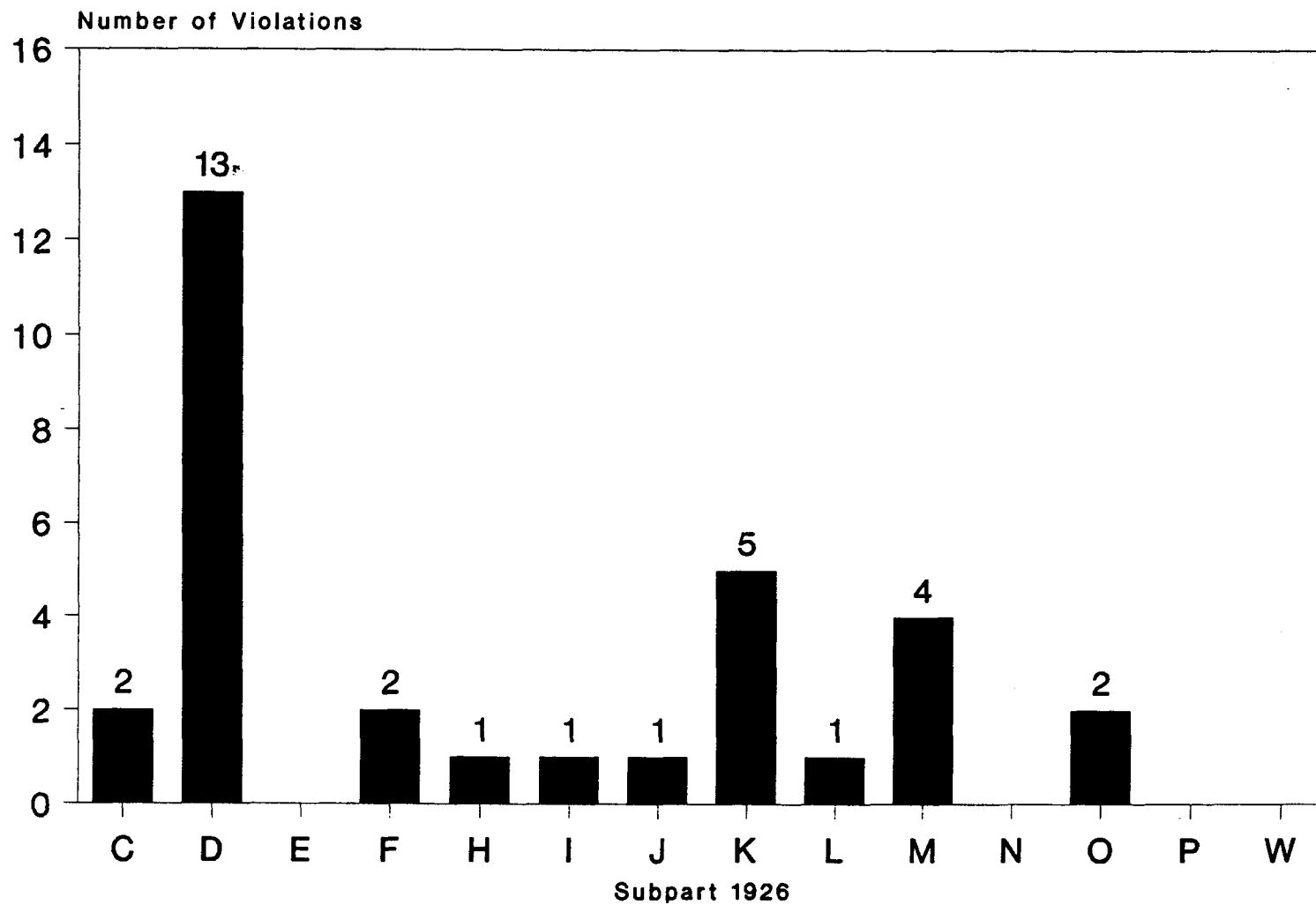
TABLE 5-21
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT PANTEX PLANT
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	2
D	Occupational Health and Environmental Control	13
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	2
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	1
I	Tools - Hand and Power	1
J	Welding and Cutting	1
K	Electrical	5
L	Ladders and Scaffolding	1
M	Floors and Wall Openings, and Stairways	4
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	2
P	Excavations, Trenching, and Shoring	0
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-21 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT PANTEX PLANT
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>0</u>
	TOTAL	32

OSHA 1-B SUMMARY VIOLATIONS
PANTEX PLANT
OSHA STANDARDS 29 CFR 1926



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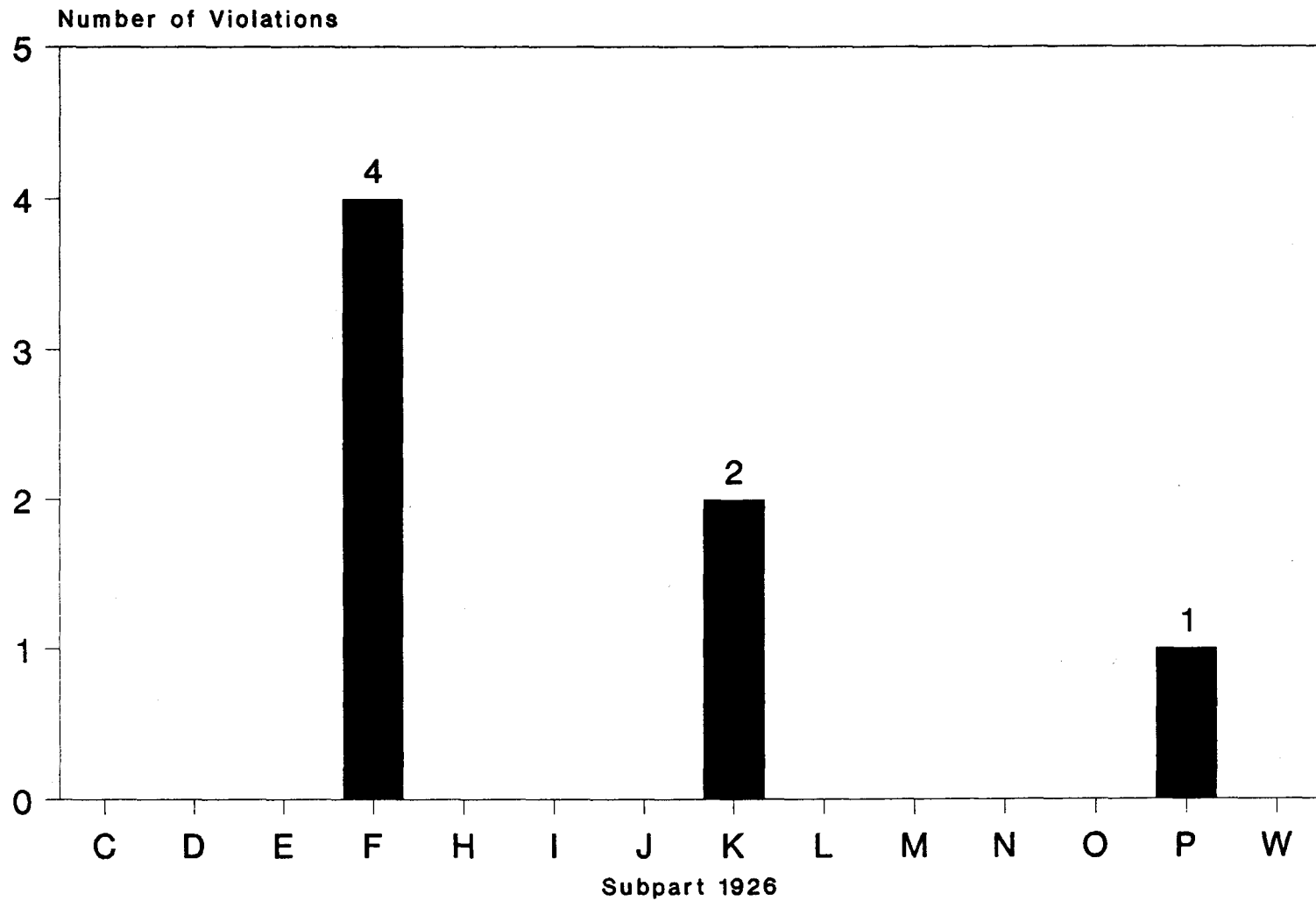
TABLE 5-22
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SANDIA LIVERMORE
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	0
D	Occupational Health and Environmental Control	0
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	4
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	0
I	Tools - Hand and Power	0
J	Welding and Cutting	0
K	Electrical	2
L	Ladders and Scaffolding	0
M	Floors and Wall Openings, and Stairways	0
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	2
P	Excavations, Trenching, and Shoring	1
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-22 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SANDIA LIVERMORE
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>0</u>
	TOTAL	7

OSHA 1-B SUMMARY VIOLATIONS
SANDIA NATIONAL LABORATORY - LIVERMORE
OSHA STANDARDS 29 CFR 1926



5-90

TABLE 5-23
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SAVANNAH RIVER SITE
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	0
D	Occupational Health and Environmental Control	5
E	Personal Protective and Life Saving Equipment	0
F	Fire Protection and Prevention	2
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	0
I	Tools - Hand and Power	0
J	Welding and Cutting	3
K	Electrical	10
L	Ladders and Scaffolding	1
M	Floors and Wall Openings, and Stairways	0
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	0
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	0
P	Excavations, Trenching, and Shoring	0
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-23 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT SAVANNAH RIVER SITE
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>0</u>
	TOTAL	21

OSHA 1-B SUMMARY VIOLATIONS
SAVANNAH RIVER SITE
OSHA STANDARDS 29 CFR 1926

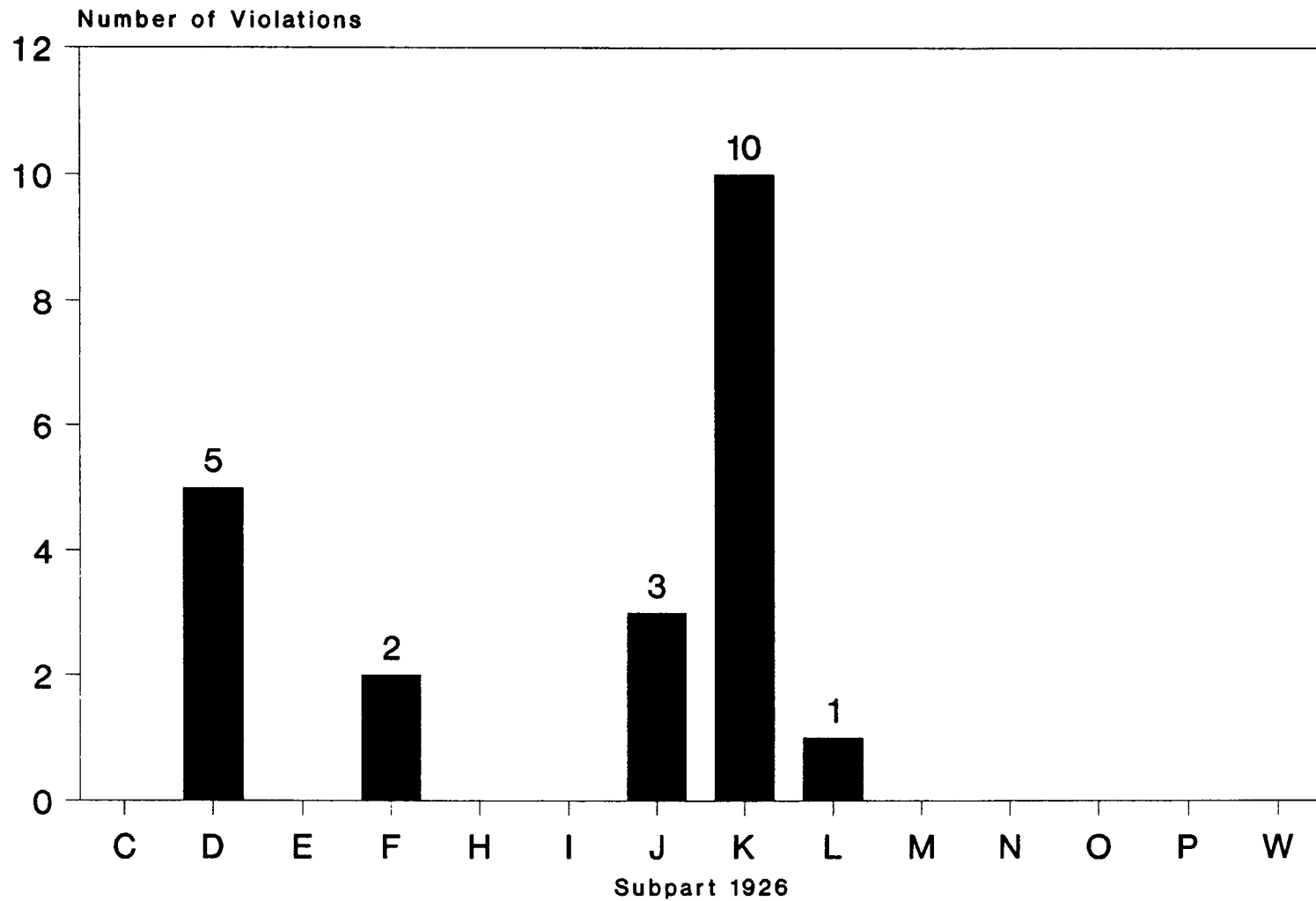


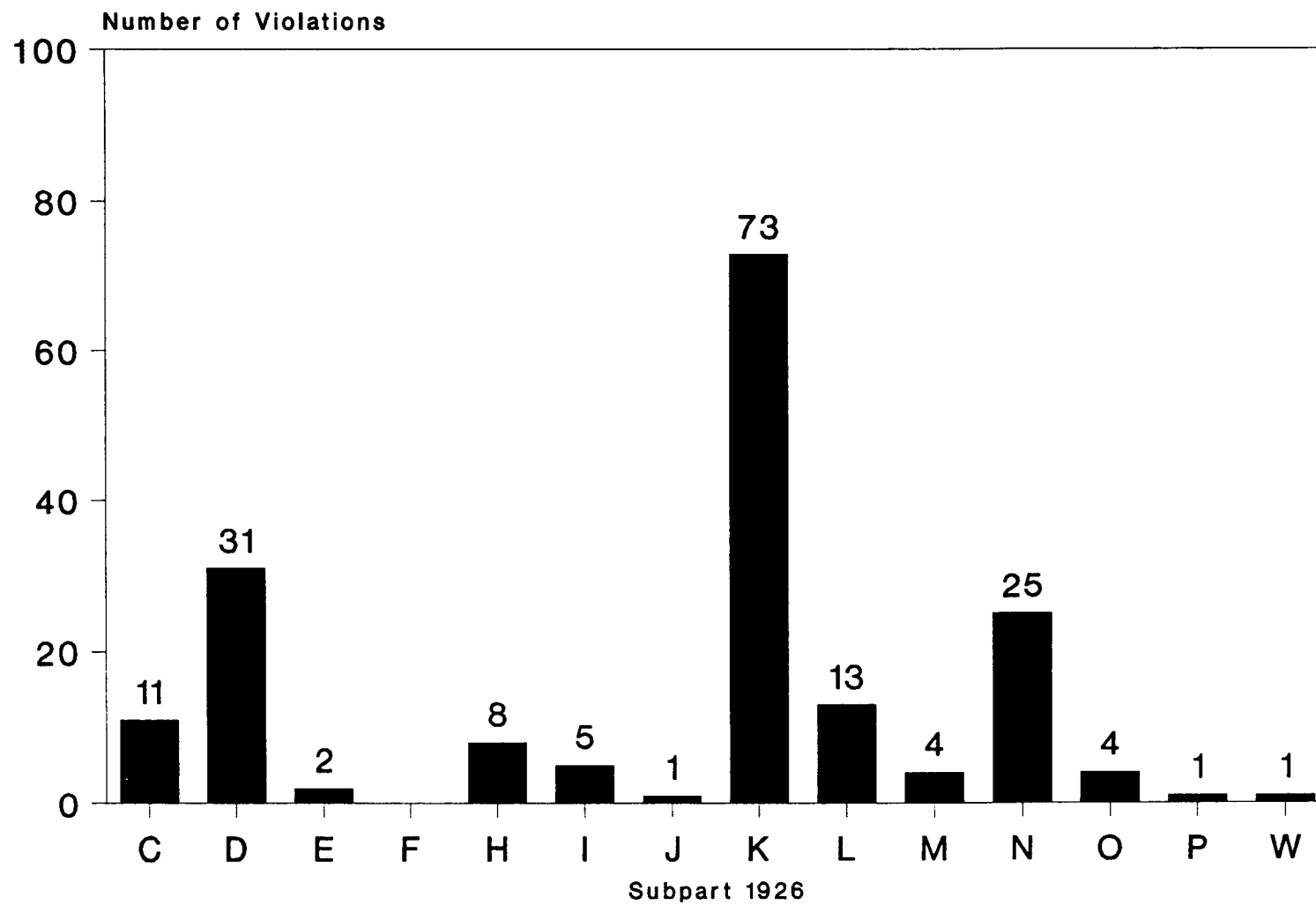
TABLE 5-24
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT Y-12 PLANT
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
A	General	0
B	General Interpretations	0
C	General Safety and Health Provisions	11
D	Occupational Health and Environmental Control	31
E	Personal Protective and Life Saving Equipment	2
F	Fire Protection and Prevention	0
G	Signs, Signals, and Barricades	0
H	Materials Handling, Storage, Use, and Disposal	8
I	Tools - Hand and Power	5
J	Welding and Cutting	1
K	Electrical	73
L	Ladders and Scaffolding	13
M	Floors and Wall Openings, and Stairways	4
N	Cranes, Derricks, Hoists, Elevators, and Conveyors	25
O	Motor Vehicles, Mechanized Equipment, and Marine Operations	4
P	Excavations, Trenching, and Shoring	1
Q	Concrete and Masonry Construction	0
R	Steel Erection	0

TABLE 5-24 (continued)
DOE TIGER TEAM ASSESSMENTS
SUMMARY OF OSHA TEAM FINDINGS AT Y-12 PLANT
SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION 29 CFR 1926

<u>Subpart</u>	<u>Title of Subpart</u>	<u>Number of Violations</u>
S	Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air	0
T	Demolition	0
U	Blasting and Use of Explosives	0
V	Power Transmission and Distribution	0
W	Rollover Protective Structures; Overhead Protection	<u>1</u>
	TOTAL	179

OSHA 1-B SUMMARY VIOLATIONS
Y-12 PLANT
OSHA STANDARDS 29 CFR 1926



Section 6

Analysis of Management Assessment

6.0 ANALYSIS OF MANAGEMENT ASSESSMENT

This section of the report provides an analysis of the results from the fifteen assessments that included a review of the management and organization aspects of ES&H programs at DOE facilities. The Rocky Flats assessment did not evaluate findings in the management and organization area.

The management and organization sections of the assessments addressed the following major areas:

- **Management Culture and Policies**
- **Site Management**
- **Appraisal Systems**
- **Self-assessments**
- **Resources**
- **Staff Development and Training**
- **Communication of ES&H Responsibilities**
- **DOE Oversight**

Analysis of management and organization findings revealed that more than eighty percent of the facilities had the following common weaknesses:

- **Staff Development, Training and Certification** - Contractor staff development, training, and certification programs have not fully identified existing deficiencies. These deficiencies may be a lack of formal/certification programs, lack of documented evaluation of program effectiveness, and ineffective use of staff incentives. Results are the assignment of unqualified or inadequately trained personnel to ES&H positions.
- **Compliance Management** - There are no integrated systems to translate laws, regulations, DOE Orders and other DOE requirements into site-specific operating procedures. The lack of such systems results in inefficient operations, inconsistent interpretation of ES&H requirements, and noncompliance with applicable ES&H requirements. Management has not utilized tracking systems, trend analysis, or root cause analysis, as tools to address ES&H issues and concerns.
- **DOE Management** - DOE organization structures, communications systems, and or human resource management plans do not facilitate contractor compliance with ES&H requirements. For example, roles and responsibilities are not clearly understood by employees. Furthermore, goals are ambiguous and do not clearly state ES&H as a priority.

- **DOE Oversight** - DOE line management oversight programs are deficient in the areas of "walking the contractor spaces" on a day-to-day basis and performing routine independent oversight activities.
- **Policy, Goals, and Objectives** - DOE management has not established policies, goals, and objectives that reflect and foster a cultural commitment to ES&H.
- **Planning** - Integrated planning and Human Resource planning deficiencies have weakened DOE sitewide ES&H programs. These programs lack prioritization schemes for correction of deficiencies and do not employ lessons learned or root cause analysis. Contractors do not participate in the sitewide planning and budgeting process leading to ineffective utilization of resources. Furthermore, human resource requirements plans for implementing ES&H programs are not being developed.

Eighty percent of the facilities assessed have inadequate or non-existent formal contractor QA programs, DOE contractor guidance on mandated DOE programs and Orders, and contractor site management to carry out their mission in full compliance with DOE's ES&H initiatives.

The following pages of consolidated data and graphs present in detail the data summarized above. Table 1 presents the criteria used in categorizing the findings. Appendix F contains a listing of the management and organization finding titles.

TABLE 6-1
RECOMMENDED MANAGEMENT PERFORMANCE CRITERIA
FOR TIGER TEAM ASSESSMENTS

1.0 COMMITMENT

1.1 Policies, Goals, and Objectives

Corporate policy ensures that company priorities are designed to establish a company culture that clearly reflects the corporate ES&H commitment.

Goals and objectives relating to ES&H implementation are well defined and communicated at all levels of the organizations.

Personal incentives (e.g., awards individual performance evaluations, promotions, salary action) ensure the site manager is fully supportive of corporate ES&H policy.

1.2 Proactive Oversight

A proactive oversight program that ensures that corporate policies, goals, and objectives are being fully implemented by site management.

1.3 Support to Site Management

The corporation maintains an awareness of planned support needs of the site and is highly responsive to sudden changes in such needs when they exceed the capacity of the site to respond.

A single point of corporate contact with full decision authority is readily accessible to the site manager and provides timely assistance for resolution of site problems.

The corporation minimizes assignments and activities of site management that are not directly related to the site mission.

1.4 Contractual Commitment

Existing contractual instruments embody terms and conditions that reflect DOE priorities for ES&H and a willingness of the corporation to be legally bound to full implementation of DOE's ES&H initiatives.

The corporation has evidenced a willingness to accept appropriate new terms and conditions to bring contractual instruments into line with DOE's current ES&H priorities.

TABLE 6-1 (continued)
RECOMMENDED MANAGEMENT PERFORMANCE CRITERIA
FOR TIGER TEAM ASSESSMENTS

2.0 ORGANIZATION

2.1 Structure

Responsibility, authority and accountability for ES&H implementation are clearly assigned to the line organization as evidenced by mission and function statements and individual job descriptions.

Interface and functional relationships between the line organization and the staff groups that provide ES&H support are well defined and understood.

Decision authorities, including the authority to stop work, are placed at the lowest levels of management or staff with the competence to make the decisions.

Staff with ES&H monitoring and verification responsibilities have sufficient independence and authority to conduct their activities and to elevate unresolved issues to higher management levels.

Spans of control in both the line and support organizations are consistent with effective implementation of DOE's priorities for ES&H.

Responsibility for subcontractor ES&H compliance is well-defined, understood and communicated.

2.2 Site Management

Site managers and supervisors develop and implement site-specific policies, goals, objectives, procedures and tasks which implement fully DOE's ES&H initiatives.

Site managers and supervisors ensure that site-specific policies, goals, objectives, procedures and tasks are communicated to and understood by all levels of site staff.

Incentives (e.g., awards, performance evaluations, promotions, salary actions) are provided at all levels to encourage managers, supervisors and staff to support ES&H excellence.

TABLE 6-1 (continued)
RECOMMENDED MANAGEMENT PERFORMANCE CRITERIA
FOR TIGER TEAM ASSESSMENTS

2.3 Communication

Directives and other forms of management information flow quickly and freely through the formal channels of communication.

Informal channels of communication are encouraged and utilized when appropriate or necessary to ensure full implementation of ES&H programs.

3.0 PLANNING

3.1 Integrated Planning

There is a sitewide strategic plan, and subordinate implementation plans, which address all programmatic and ES&H activities on an integrated and prioritized basis.

The sitewide planning and budgeting process includes procedures for analyzing ES&H risks and vulnerabilities of the entire site on a prioritized basis, and for making the necessary trade-off decisions between achieving programmatic objectives and ES&H objectives.

4.0 HUMAN RESOURCE MANAGEMENT

4.1 Human Resource Planning

A site wide human resource plan identifies short- and long-term staff needs for ES&H programs on a sitewide basis and articulates specific needs for staff acquisitions and staff development.

Short- and long-term staff acquisition, staff development, training, and certification plans are developed.

Optimum utilization of existing human resources is ensured through a process of assigning and reassigning these resources to the areas of highest ES&H priority.

Effective relations are maintained with labor unions to promote ES&H compliance.

TABLE 6-1 (continued)
RECOMMENDED MANAGEMENT PERFORMANCE CRITERIA
FOR TIGER TEAM ASSESSMENTS

4.2 Staff Development, Training, and Certification

Training and certification requirements are an integral part of the career development planning process. The training and certification programs are conducted with the formality and rigor used in QA programs.

There is a formal process for evaluating and documenting the effectiveness of the training and certification programs.

Incentives are used (e.g., awards, performance evaluations, promotions, salary actions) to motivate staff to acquire ES&H skills.

There is a formal process for flow of training and certification requirements to subcontractors.

4.3 Staff Recruitment

There is a sitewide program for contractor staff recruitment to ensure the availability of ES&H staff that are not available internally.

There is a sitewide ES&H recruitment program that is highly competitive with other prospective employers.

There is a formal process for evaluating the effectiveness of the sitewide ES&H recruitment program.

5.0 FITNESS-FOR-DUTY *

There are written policies on drug and alcohol abuse and on physical and psychological impairment, and a well publicized employee assistance program is available to all personnel.

Prospective employees are appropriately screened for fitness-for-duty before being assigned to work.

Managers and supervisors are trained in all aspects of the fitness-for-duty program.

* There was not a sufficient number of findings from the assessment reports for inclusion under this category.

TABLE 6-1 (continued)
RECOMMENDED MANAGEMENT PERFORMANCE CRITERIA
FOR TIGER TEAM ASSESSMENTS

Compliance with fitness-for-duty policy is a condition of subcontractor access to the site.

6.0 MANAGEMENT SYSTEMS

6.1 Compliance Management

Regulatory interfaces and legal, technical, programmatic and institutional support functions provide systematic guidance to the development of site-specific management directives and operating procedures.

A formal configuration management system ensures that the ES&H compliance impacts of any proposed change to site operations are systematically evaluated and formally approved before implementation.

An emergency planning and preparedness program addresses potential site emergencies and ensures that qualified personnel and equipment are in a continual state of readiness.

6.2 QA and Corrective Action Programs

Facilities have adequate formal contractor QA and/or corrective actions programs to ensure that all site ES&H activities are conducted in a manner that assures continued quality.

A sitewide QA program, including formal document control and a formal records management system, is used throughout the site.

A formal corrective action program, which incorporates trend analyses, UORs and a compliance status system, is regularly used on a sitewide basis.

6.3 Root Cause and Lessons Learned

Facilities have contractors with training programs in formal root cause analysis techniques, that do regularly use these techniques for identifying compliance deficiencies, and/or do incorporate the results of root cause analysis into the formal corrective action system. In addition, formal contractor lessons learned programs have information on site experiences.

TABLE 6-1 (continued)
RECOMMENDED MANAGEMENT PERFORMANCE CRITERIA
FOR TIGER TEAM ASSESSMENTS

6.4 Self Assessment

Managers and supervisors personally take part in periodic formal assessments of their operations.

Managers and supervisors personally take part in frequent informal assessments of their operations.

Managers and supervisors personally ensure that when ES&H deficiencies are identified, corrective action plans are developed and implemented in an expeditious manner, and that these action plans are formally included in the compliance management system.

There is a program to encourage and reward managers, supervisors and staff for identifying ES&H deficiencies and for recommending areas for ES&H improvement.

6.5 Internal Independent Assessment

There is a formal process to define the purpose, scope, frequency, schedule, participants, roles and responsibilities for internal independent assessments of ES&H activities throughout the site.

The internal independent assessments are performed by qualified personnel within the corporate or site organization who have no administrative or programmatic connection to the activity being assessed.

Senior management reviews the qualifications and independence of all participants in the internal independent assessment process and initiates appropriate actions to eliminate vested interests.

6.6 Performance Measurement System

Managers and supervisors plan, budget, authorize, monitor, and control contractor ES&H activities on a day-to-day basis. Technical, cost and schedule baselines are established for all ES&H activities and performance information is reported to first line managers, with summary reports to higher level managers, on a timely basis.

Performance measurement information is accurately incorporated into the compliance management system.

TABLE 6-1 (continued)
RECOMMENDED MANAGEMENT PERFORMANCE CRITERIA
FOR TIGER TEAM ASSESSMENTS

7.0 MANAGEMENT TEAM - PUBLIC AND INSTITUTIONAL INTERACTIONS *

The Public and Institutional Interactions area of the Management Assessment deals with performance objectives and criteria that evaluate the proactive and credible nature of contractor outreach programs and media relations that openly disclose and discuss ES&H issues and concerns related to site activities. In addition, this is an assessment of the manner in which contractor managers, supervisors, and staff cooperate with the state and local regulatory agencies to facilitate compliance with ES&H laws and regulations.

* There was not a sufficient number of findings from the assessments for inclusion under this category.

8.0 MANAGEMENT TEAM - DOE OVERSIGHT

8.1 DOE Oversight

Facilities assessed have DOE managers and staff that ensure that contractors are in full ES&H compliance either through direct day-to-day involvement in site operations or through formal independent oversight activities (i.e., audits, appraisals, or surveillance) by personnel who have vested interest in the results of assessments.

8.2 DOE Guidance

Facilities provide clear, adequate, and/or correct guidance to the contractor on mandated DOE programs and/or Orders. This category also considers DOE to ensure that contracts include appropriate terms and conditions which legally commit and motivate the contractor to full ES&H compliance.

TABLE 6-1 (continued)
RECOMMENDED MANAGEMENT PERFORMANCE CRITERIA
FOR TIGER TEAM ASSESSMENTS

8.3 DOE Management

Facilities assessed have DOE organizational structures, communications systems, and/or human resource management plans that are adequate to ensure contractor compliance with ES&H requirements. This includes having a clear understanding of line responsibilities, authorities, and accountabilities; well defined and documented interfaces and functional relationships between DOE and their contractors; and that fully qualified ES&H managers and staff are available at all levels of the DOE organization to ensure contractor compliance.

6.1 MANAGEMENT FINDINGS

6.1.1 CORPORATE COMMITMENT

The Corporate Commitment area of the Management Assessment deals with performance objectives and criteria that delineate contractor policy and culture, proactive approaches to reaching ES&H goals, support to site management for implementation of ES&H policies, and contractual agreements that articulate a strong commitment to ES&H objectives.

Findings in the assessment area of Corporate Commitment fall into four categories.

6.1.1.1 Policies, Goals, and Objectives

Eighty percent of the facilities assessed have contractors who have not established policies, goals, and/or objectives which reflect a strong commitment to ES&H excellence, fosters a culture which reflects this commitment, and/or mandates full implementation of DOE's ES&H initiatives.

Supporting findings:

KCP 156	FMPC M-03
LLNL M1	LLNL M7
WVDP E-1	PORTS OM-11
SNLL M3	SNLL M5
SNLL M6	SNLL M7
SRS M-BMPF-9	BNL MGMT/BMPF-3
BNL MGMT/BMPF-10	Pantex M/BMPF-6
Mound DO/BMPF-1	Pinellas MGMT.3
Pinellas MGMT.6	Hanford M-1
Hanford M-4	Hanford M-6

6.1.1.2 Proactive Oversight

Thirty-three percent of the facilities assessed did not have a proactive oversight program that ensures that corporate policies, goals, and objectives are being fully implemented by contractor site management.

Supporting findings:

Y-12 6.5 F5	Pantex M/BMPF-3
LLNL M7	LLNL M11
Mound DO/BMPF-1	Hanford M-6

6.1.1.3 Support to Site Management

Twenty-seven percent of the facilities assessed do not have contractors that provide timely, responsive, and/or effectual support of site management as necessary to fully implement ES&H programs.

Supporting findings:

LLNL M4	PORTS OM-6
SNLL M2	Hanford M-6

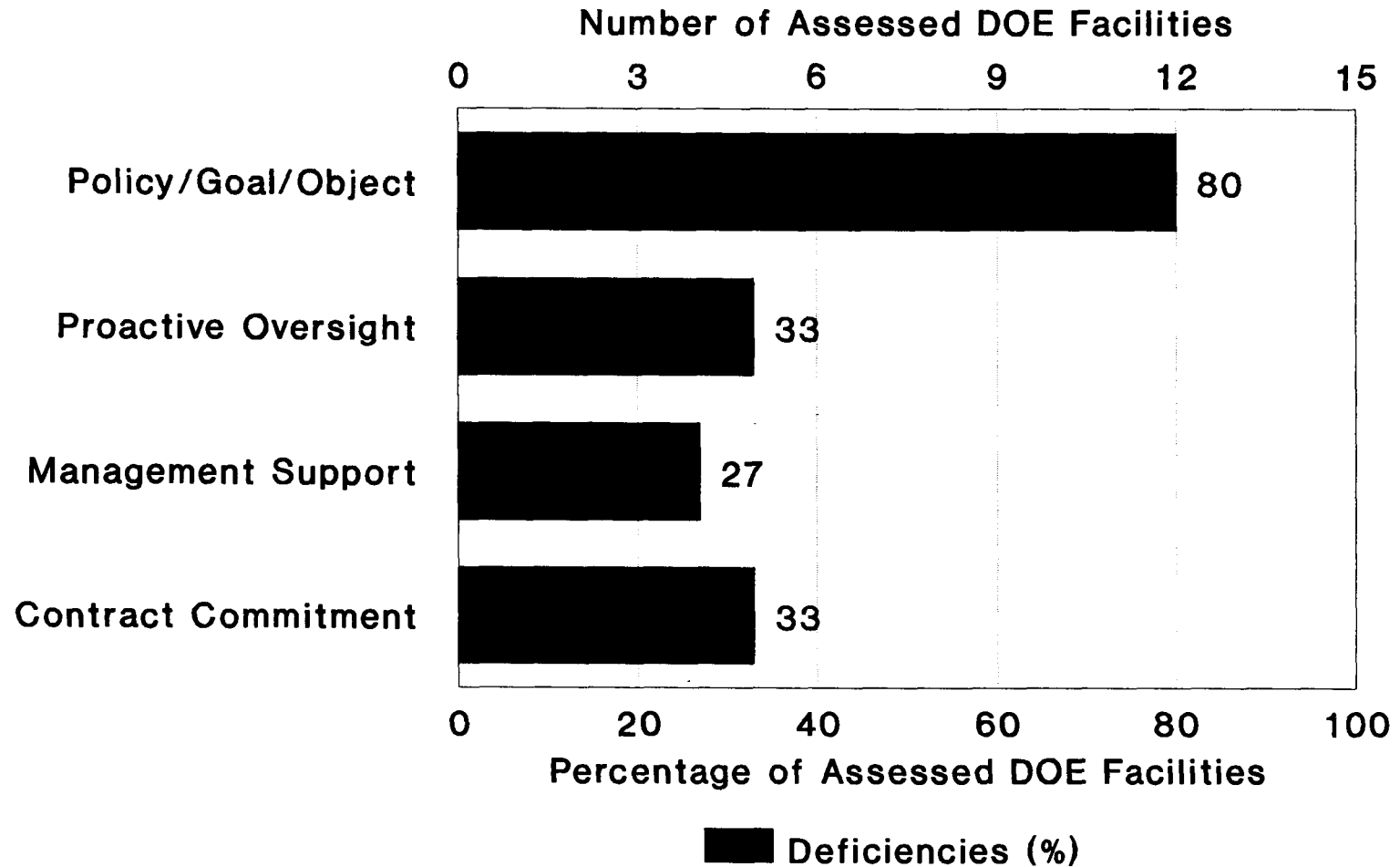
6.1.1.4 Contractual Commitment

Thirty-three percent of the facilities assessed do not have a willingness to accept contract terms and conditions that articulate a strong commitment to full implementation of DOE's ES&H initiatives by contractors.

Supporting findings:

KCP 157	SRS M-BMPF-9
BNL MGMT/BMPF-11	Pantex M/BMPF-7
Pinellas MGMT.10	

Corporate Commitment



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6.1.2 CORPORATE ORGANIZATION

The Corporate Organization area of the Management Assessment deals with performance objectives and criteria that delineate the effectiveness of contractors by assessing organizational structure, site compliance management, and organizational communication in implementing ES&H policies, goals, and objectives.

Findings in the Corporate Commitment assessment area fall into three categories.

6.1.2.1 Structure

Seventy-three percent of the facilities assessed did not have an organizational structure that provided a clear understanding of the functions, responsibilities, authorities, and accountabilities of the contractor organization(s).

Supporting findings:

NTS 5.5.1	KCP 156
Y-12 6.5 F6	LLNL M2
LLNL M4	PGDP M.1
SNLL M1	SNLL M3
SNLL M5	SRS M-BMPF-1
BNL MGMT/BMPF-1	BNL MGMT/CF-4
Pantex M/BMPF-5	Pantex M/BMPF-6
Pinellas MGMT.5	Hanford M-1
Hanford M-2	Hanford M-6

6.1.2.2 Site Management

Eighty percent of the facilities assessed did not have contractor site managers and/or supervisors who carry out the site mission in full compliance with DOE's ES&H initiatives.

Supporting findings:

NTS 5.5.1	KCP 158
LLNL M5	LLNL M7
PORTS OM-9	PORTS OM-15
PGDP M.2	SNLL M7
SRS M-CF-3	BNL MGMT/BMPF-3
BNL MGMT/BMPF-10	BNL MGMT/BMPF-11
Pantex M/BMPF-5	Pantex M/BMPF-8
Mound DO/BMPF-1	Pinellas MGMT.2
Pinellas MGMT.4	Pinellas MGMT.6
Hanford M-1	Hanford M-2
Hanford M-5	Hanford M-6
Hanford M-16	Hanford M-18
Hanford M-19	

6.1.2.3 Communication

Seventy-three percent of the facilities assessed did not have contractors with adequate formal and/or informal channels of communication to facilitate full implementation of ES&H programs.

Supporting findings:

KCP 155

KCP 163

FMPC M-10

PORTS OM-11

PGDP M.2

SNLL M6

SRS M-CF-3

BNL MGMT/BMPF-1

Pantex M/BMPF-4

Mound DO/BMPF-1

Mound RC/BMPF-1

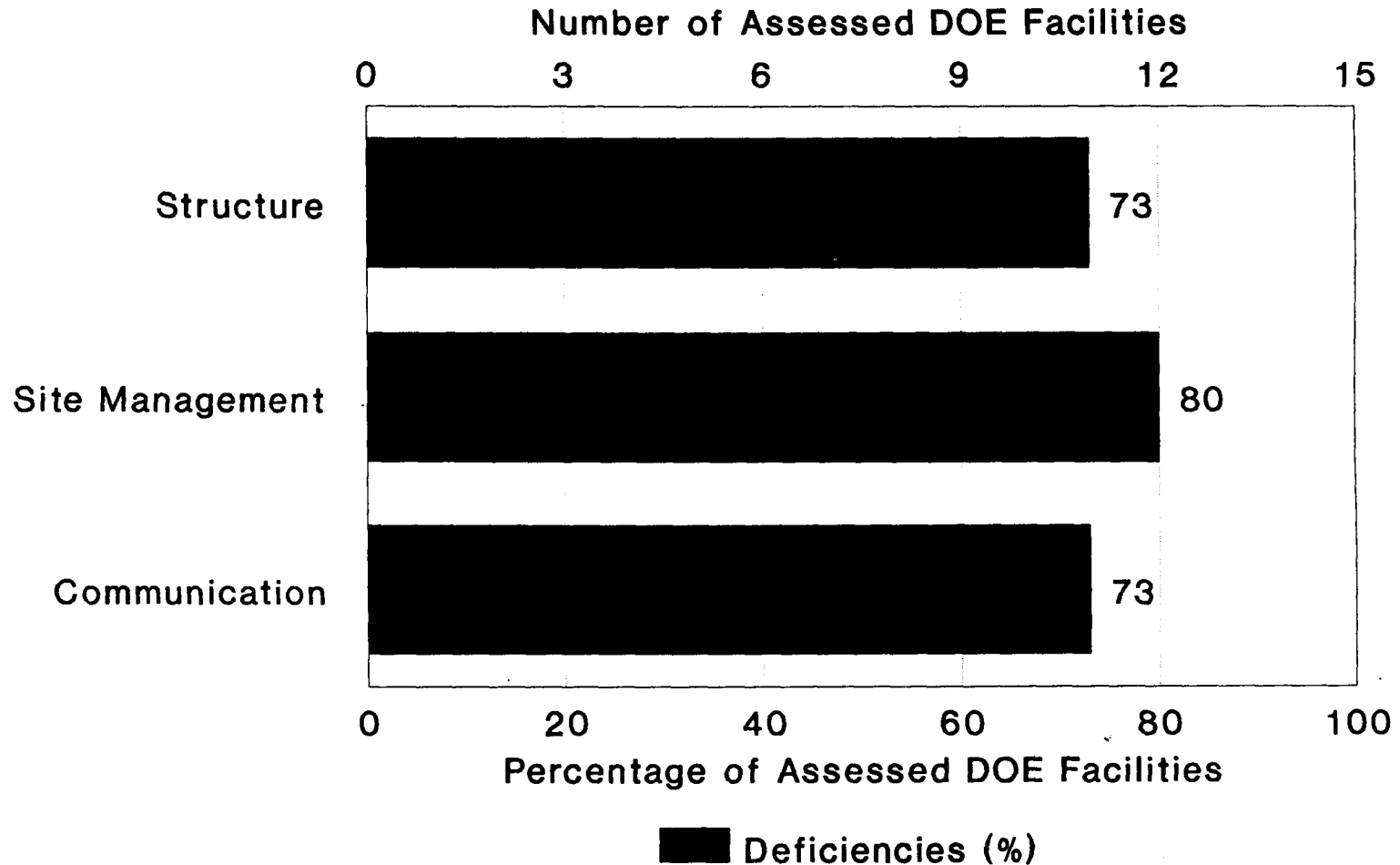
Pinellas MGMT.1

Pinellas MGMT.3

Pinellas MGMT.4

Hanford M-5

Corporate Organization



6.1.3 CORPORATE PLANNING

The Corporate Planning area of the Management Assessment deals with a performance objective and two criteria that evaluate the presence of an integrated planning function by contractors. This is to include sitewide strategic planning and subordinate implementation plans, as well as budget planning and risk analysis which address all programmatic and ES&H activities on a prioritized basis.

Findings in the Corporate Commitment assessment area fall into one category.

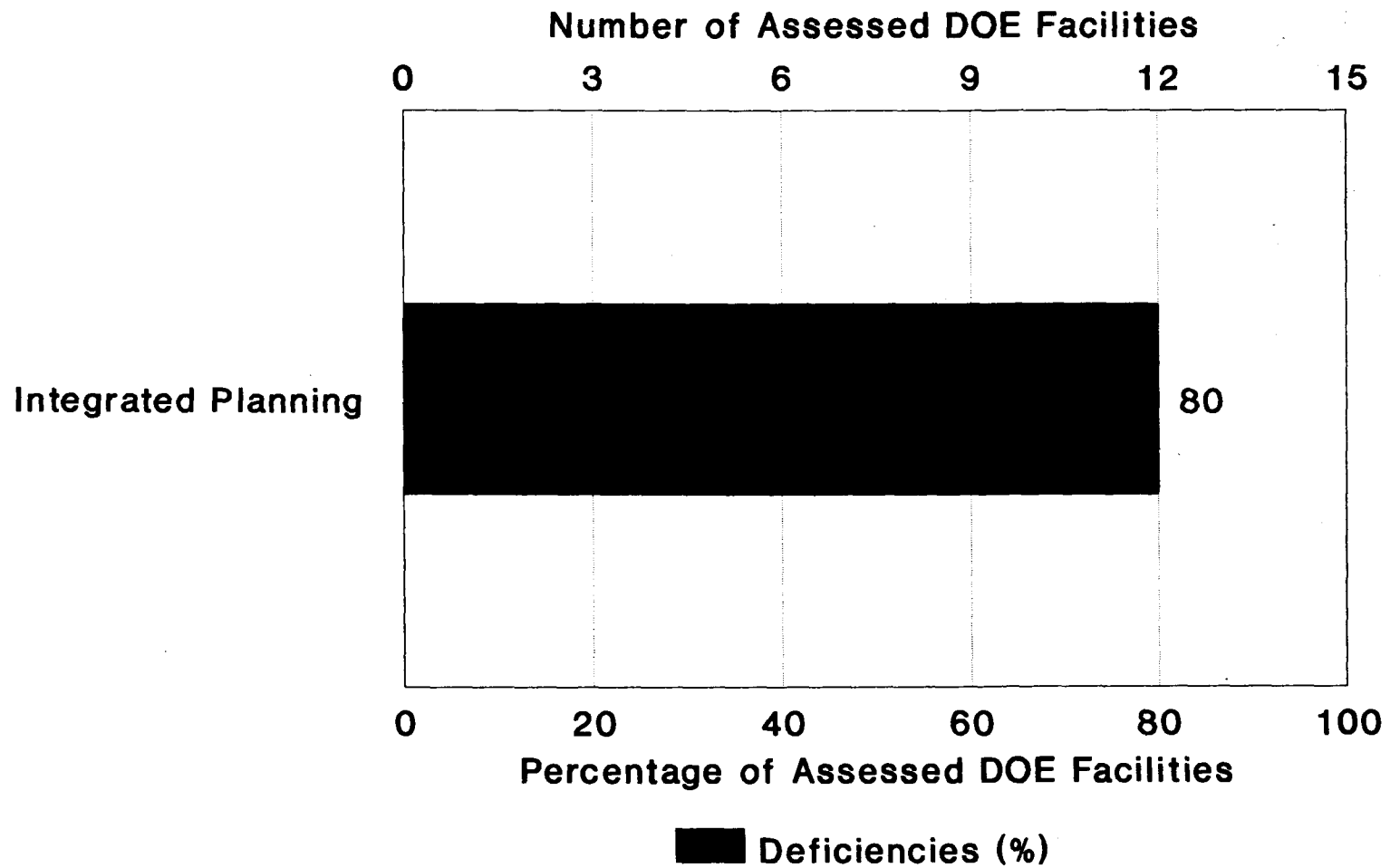
6.1.3.1. Integrated Planning

Eighty percent of the facilities assessed do not have contractors that participate in a site wide planning and budget process which addresses all programmatic and ES&H activities on an integrated and prioritized basis.

Supporting findings:

KCP 164	FMPC M-01
Y-12 6.5 F3	LLNL M1
LLNL M9	PORTS OM-5
PORTS OM-11	PGDP M.3
SNLL M7	SNLL M8
SRS M-BMPF-4	SRS M-BMPF-9
BNL MGMT/BMPF-4	BNL MGMT/BMPF-6
Pantex M/BMPF-2	Mound O/BMPF-2
Hanford M-4	Hanford M-7

Corporate Planning



6.1.4 HUMAN RESOURCE MANAGEMENT

The Human Resource Management area of the Management Assessment deals with performance objectives and criteria that evaluate contractor adequacy in human resource planning functions; staff development, training, and certification; staff recruitment programs; and, fitness-for-duty concerns. Although considered in the analysis, there were only two findings that addressed fitness-for-duty concerns and therefore, these concerns were not included in this report.

Findings in the Human Resource Management assessment area fall into three categories.

6.1.4.1 Human Resource Planning

Eighty percent of the facilities assessed do not have contractors that identify, prioritize, and/or develop plans to ensure that human resource requirements for full implementation of sitewide ES&H programs are met. This includes identifying short- and long-term staffing needs and development, optimal utilization of existing resources, and maintaining effective labor relations to promote ES&H compliance.

Supporting findings:

NTS 5.5.1	Y-12 6.5 F10
FMPC M-04	FMPC M-06
LLNL M9	WVDP C-1
PORTS OM-2	PORTS OM-3
PORTS OM-4	PGDP M.4
SNLL M8	Pantex M/BMPF-4
Mound O/BMPF-1	Pinellas MGMT.7
Hanford M-7	Hanford M-8

6.1.4.2 Staff Development, Training, and Certification

Ninety-three percent of the facilities assessed do not have effective contractor programs for staff development, training, and certification to ensure that only fully qualified personnel are assigned to ES&H programs. This includes development of formal training/certification programs, documented evaluations of program effectiveness, use of staff incentives, and the formal process for subcontractor training activities.

Supporting findings:

NTS 5.5.1	KCP 159
Y-12 6.5 F12	FMPC M-04
LLNL M9	WVDP C-4
PORTS OM-7	PORTS OM-8
PGDP M.5	SRS M-CF-7
BNL MGMT/BMPF-3	BNL MGMT/BMPF-7
BNL MGMT/BMPF-11	Pantex M/BMPF-8
Pantex M/BMPF-9	Pantex M/BMPF-10
Mound O/BMPF-1	Pinellas MGMT.6
Hanford M-8	Hanford M-20

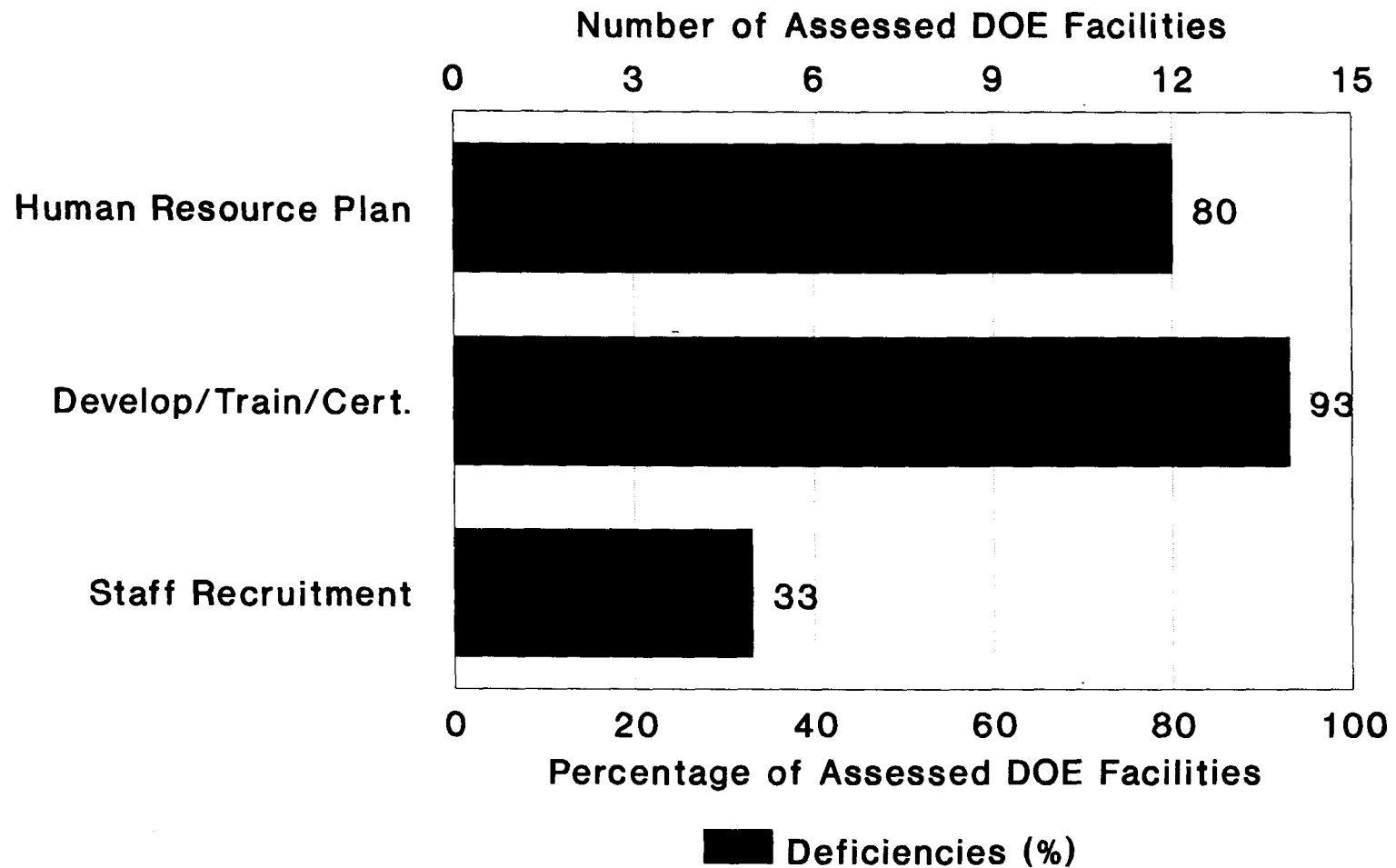
6.1.4.3 Staff Recruitment

Thirty-three percent of the facilities assessed did not have a sitewide program for contractor staff recruitment to ensure the availability of ES&H staff that are not available internally. This includes the presence of a highly competitive recruitment program and a program evaluation process.

Supporting findings:

FMPC M-06	PORTS OM-4
Pantex M/BMPF-10	Mound O/BMPF-2
Hanford M-8	

Human Resource Management



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6.1.5 MANAGEMENT SYSTEMS

The Management Systems area of the Management Assessment deals with performance objectives and criteria that evaluate the adequacy of contractor systems for compliance management, quality assurance (QA) management, self assessment, internal independent assessment, external assessment, and performance measurement. Although considered in the analysis, there was only one finding that addressed external assessment concerns and, therefore, it was not included in this report.

Findings in the Human Resource Management assessment area fall into six categories.

6.1.5.1 Compliance Management

Ninety-three percent of the facilities assessed did not have an integrated set of systems to translate laws, regulations, DOE Orders and other DOE requirements into site-specific operating procedures to ensure activities, by the contractor, are conducted in a fully compliant manner. This also includes configuration management and emergency planning and preparedness programs.

Supporting findings:

NTS 5.5.1	Y-12 6.5 F3
KCP 162	KCP 164
FMPC M-10	LLNL M5
PORTS OM-9	PGDP M.7
SNLL M4	SNLL M10
SRS M-BMPF-2	BNL MGMT/BMPF-9
BNL MGMT/BMPF-10	BNL MGMT/CF-6
Pantex M/BMPF-3	Mound RC/BMPF-3
Pinellas MGMT.2	Pinellas MGMT.5
Hanford M-19	

6.1.5.2 QA and Corrective Action Programs

Eighty percent of the facilities assessed either lack or do not have adequate formal contractor QA and/or corrective actions programs to ensure that all site ES&H activities are conducted in a manner that assures continued quality.

Supporting findings:

KCP 162	Y-12 6.5 F4
Y-12 6.5 F7	Y-12 6.5 F8
Y-12 6.5 F11	Y-12 6.5 F13
FMPC M-01	FMPC M-11
LLNL M3	LLNL M6
LLNL M11	Mound OE/BMPF-1
PGDP M.7	PGDP M.9
SNLL M3	SNLL M10
SRS M-BMPF-2	SRS M-BMPF-11
SRS M-CF-3	SRS M-CF-5
BNL MGMT/BMPF-8	BNL MGMT/CF-5
Pantex M/BMPF-11	Pantex M/CF-1
Pinellas MGMT.2	Hanford M-2
Hanford M-12	Hanford M-19

6.1.5.3 Root Cause and Lessons Learned

Fifty-three percent of the facilities assessed have contractors with no training programs in formal root cause analysis techniques, that do not regularly use these techniques for identifying compliance deficiencies, and/or do not incorporate the results of root cause analysis into the formal corrective action system. In addition, formal contractor lessons learned programs are either lacking or inadequate to disseminate information on site experiences.

Supporting findings:

LLNL M10	LLNL M11
PORTS OM-10	SNLL M10
SRS M-CF-6	SRS M-BMPF-12
BNL MGMT/BMPF-2	BNL MGMT/BMPF-9
Mound RC/BMPF-1	Pinellas MGMT.11
Hanford M-12	Hanford M-17

6.1.5.4 Self Assessment

Sixty percent of the facilities assessed did not have contractor managers and supervisors directly and actively engaged in addressing the performance of their operations to ensure the constant identification of areas for improvement.

Supporting findings:

KCP 162	LLNL M11
WVDP D-1	SNLL M11
PGDP M.8	PGDP M.10
SRS M-BMPF-13	BNL MGMT/CF-3
Pinellas MGMT.8	Pinellas MGMT.15
Hanford M-11	Hanford M-16

6.1.5.5 Internal Independent Assessment

Seventy-three percent of the facilities assessed have contractors that do not conduct internal independent assessments (i.e., audits, appraisals, and surveillances) on a formal and regular basis employing site personnel from the contractor organization who have no vested interest in the result of the assessments.

Supporting findings:

KCP 160	LLNL M10
WVDP D-1	PGDP M.11
PORTS OM-12	PORTS OM-13
SNLL M9	Pantex M/CF-1
BNL MGMT/CF-3	BNL MGMT/CF-4
Mound OE/BMPF-1	Pinellas MGMT.15
Hanford M-5	Hanford M-9
Hanford M-10	

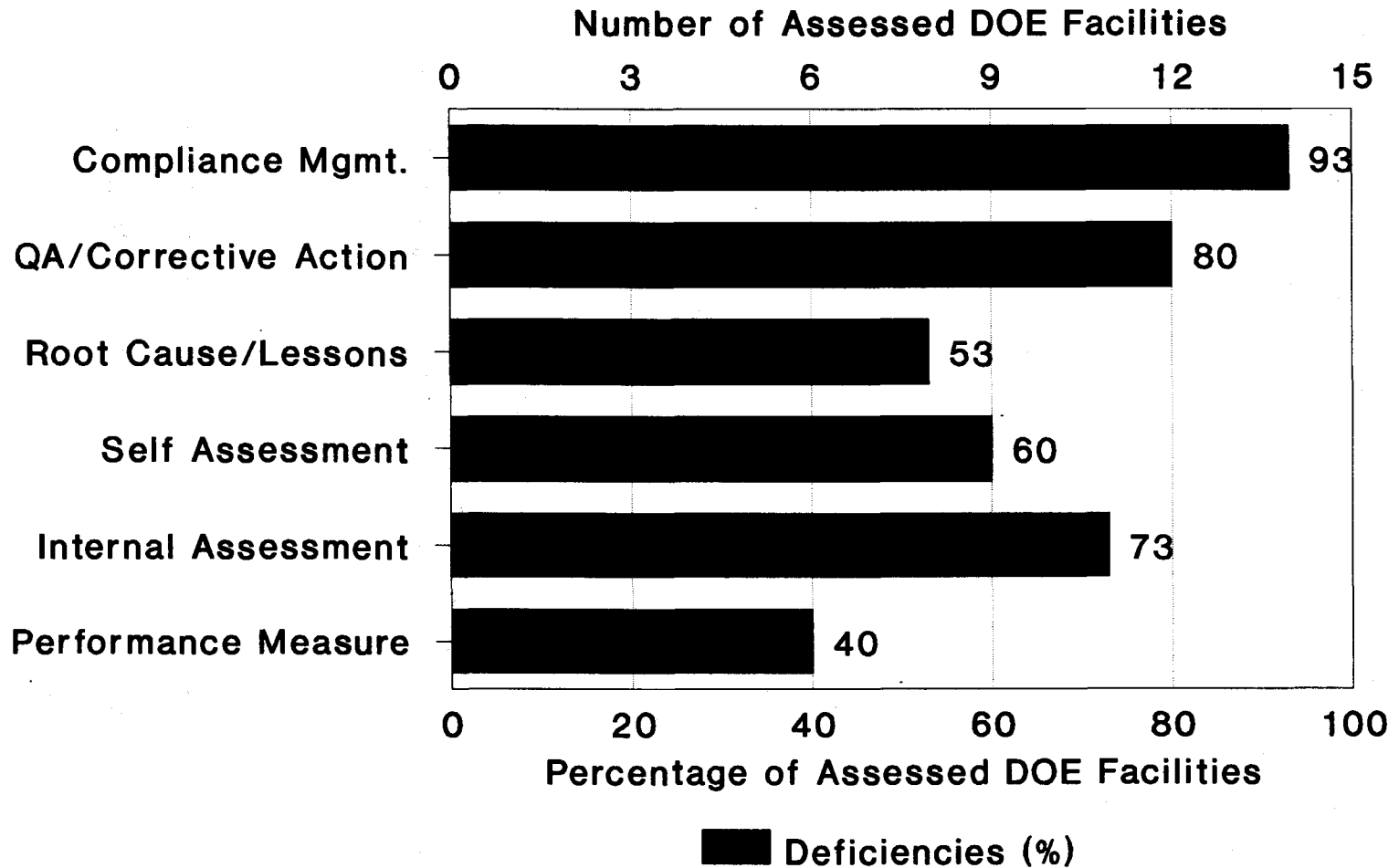
6.1.5.6 Performance Measurement System

Forty percent of the facilities assessed do not have managers and supervisors who plan, budget, authorize, monitor, and control contractor ES&H activities on a day-to-day basis.

Supporting findings:

KCP 160	KCP 163
PORTS OM-10	BNL MGMT/BMPF-9
Pantex M/BMPF-11	Pinellas MGMT.8
Hanford M-21	

Management Systems



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6.1.6 PUBLIC AND INSTITUTIONAL INTERACTIONS

The Public and Institutional Interactions area of the Management Assessment deals with performance objectives and criteria that evaluate the proactive and credible nature of contractor outreach programs and media relations that openly disclose and discuss ES&H issues and concerns related to site activities. In addition, this is an assessment of the manner in which contractor managers, supervisors, and staff cooperate with the state and local regulatory agencies to facilitate compliance with ES&H laws and regulations. Although considered in the analysis, only two findings addressed these concerns -- too few to be included in the report.

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6.1.7 DOE OVERSIGHT

The DOE Oversight area of the Management Assessment deals with the performance of DOE operations office and site office managers and staff in being actively and personally involved in oversight of their contractors to ensure that they comply fully with ES&H requirements established by law, regulation, and DOE policy.

Findings in the DOE Oversight assessment area fall into three categories.

6.1.7.1 DOE Oversight

Eighty-seven percent of the facilities assessed do not have DOE managers and staff that ensure that contractors are in full ES&H compliance either through direct day-to-day involvement in site operations or through formal independent oversight activities (i.e., audits, appraisals, or surveillances) by personnel who have no vested interest in the results of assessments.

Supporting findings:

NTS 5.5.5	KCP 160
FMPC M-07	FMPC M-11
LLNL M13	LLNL M14
WVDP F-1	PORTS OM-19
PGDP M.12	Pantex M/BMPF-12
SRS M-BMPF-2	SRS M-CF-4
BNL MGMT/CF-7	BNL MGMT/CF-8
Mound RC//BMPF-3	Mound OE/BMPF-1
Pinellas MGMT.13	Pinellas MGMT.14
Hanford M-5	Hanford M-13
Hanford M-14	

6.1.7.2 DOE Guidance

Eighty percent of the facilities assessed did not provide clear, adequate, and/or correct guidance to the contractor on mandated DOE programs and/or Orders. This category also considers the failure of DOE to ensure that contracts include appropriate terms and conditions which legally commit and motivate the contractor to full ES&H compliance.

Supporting findings:

KCP 155

KCP 157

KCP 165

LLNL M12

LLNL M15

LLNL M16

FMPC M-02

FMPC M-03

WVDP A-3

WVDP B-1

WVDP C-1

PORTS OM-16

SNLL M12

SNLL M13

PGDP M.14

BNL MGMT/CF-2

Pantex M/BMPF-1

Pantex M/BMPF-7

Pantex M/BMPF-12

Mound DO/BMPF-2

Pinellas MGMT.1

Pinellas MGMT.10

Hanford M-3

Hanford M-5

Hanford M-15

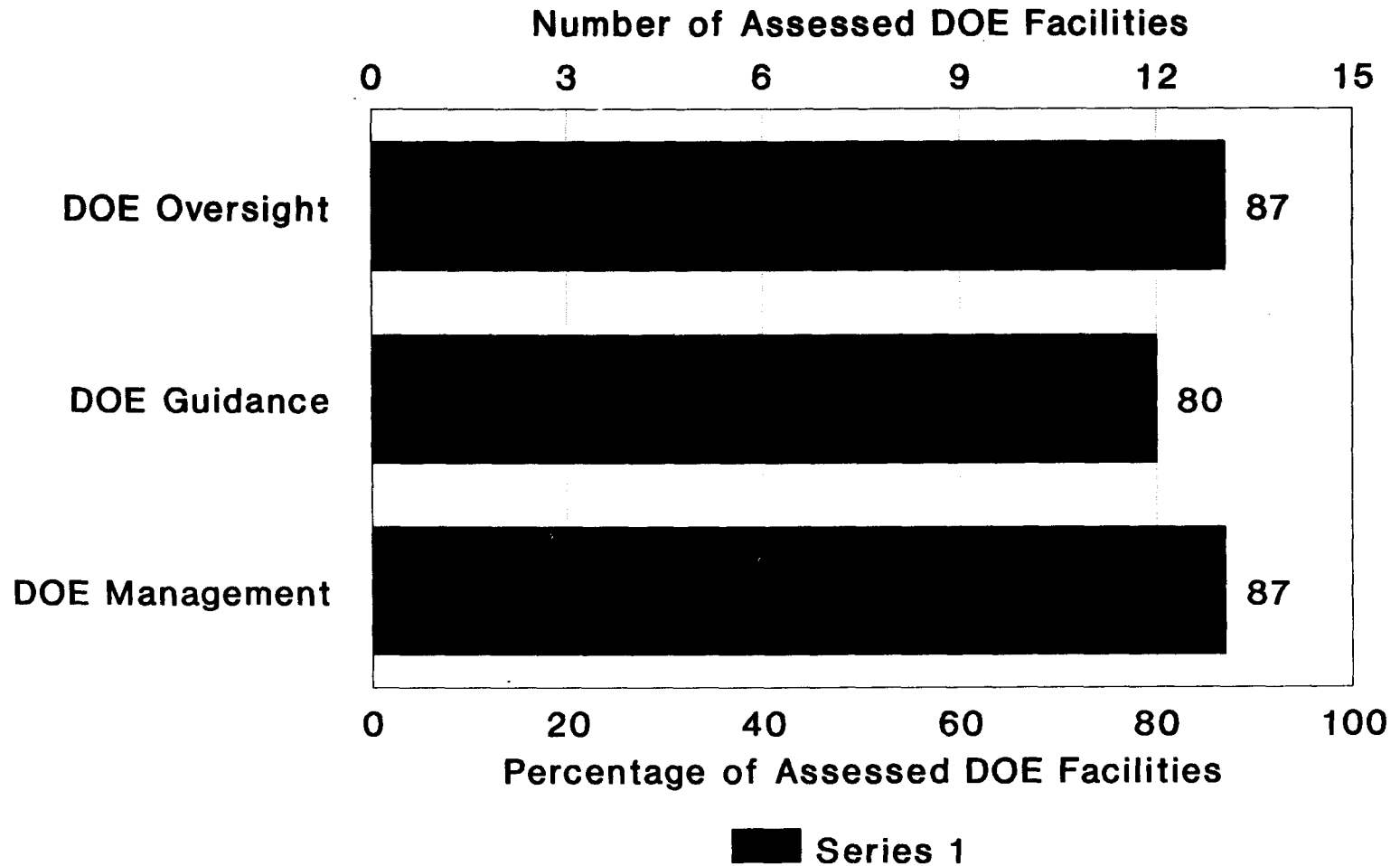
6.1.7.3 DOE Management

Eighty-seven percent of the facilities assessed have DOE organizational structures, communications systems, and/or human resource management plans that are inadequate to ensure contractor compliance with ES&H requirements. This includes having a clear understanding of line responsibilities, authorities, and accountabilities; well defined and documented interfaces and functional relationships between DOE and their contractors; and that fully qualified ES&H managers and staff are available at all levels of the DOE organization to ensure contractor compliance.

Supporting findings:

NTS 5.5.5	Y-12 6.5 F1
FMPC M-05	PGDP M.13
LLNL M12	LLNL M13
WVDP B-1	WVDP C-2
PORTS OM-17	PORTS OM-18
SNLL M14	Pinellas MGMT.12
SRS M-BMPF-1	SRS M-CF-4
BNL MGMT/CF-9	BNL MGMT/BMPF-12
Mound O/BMPF-2	Mound DO/BMPF-2
Hanford M-3	Hanford M-4
Hanford M-5	Hanford M-13
Hanford M-14	Hanford M-15

DOE Oversight



Appendix A
Executive Summaries
First Sixteen Tiger Team Reports

ROCKY FLATS PLANT

OBJECTIVES:

The Environmental Team has undertaken audit and sampling/monitoring activities to perform an assessment of environmental on conditions at the Rocky Flats Plant (RFP). The assessment was conducted from June 6 through July 21, 1989.

The objectives of these activities were to determine: whether or not any imminent threat exists to public health or the environment as a result of RFP activities; if RFP operations are being conducted in accordance with applicable environmental requirements and best management practices; and the current status of previously identified environmental problems. In addition, existing environmental management programs at RFP were evaluated. Weaknesses or gaps in the programs were identified and recommendations developed.

ACTIONS TAKEN:

An environmental audit was performed and recommendations were provided to be used as a basis for improvements in areas such as:

- environmental monitoring
- site remediation
- waste management
- quality assurance
- sewage treatment plant operation
- waste stream characterization
- environmental impact analysis

A supplemental environmental monitoring program was implemented to better characterize and monitor materials released to the environment from the Plant (e.g., sewage treatment plant influent/effluent, site boundary drainage sediment, outdoor storage pad drainage, ambient air monitoring for organics, stack/vent monitoring for organics). Results of the analyses will be provided in separate reports.

The aerial surveys previously scheduled for 1991 were performed to determine if the environmental radioactivity had changed since 1981 and to provide additional information on the interaction of groundwater and surface water. Results of the surveys will be provided in separate reports.

OBSERVATIONS:

- No situations which pose an imminent threat to public health or the environment were observed.

- **Implementation of the environmental programs lacks coordination and is hindered by poor communication. The lines of authority and responsibility are fragmented and not clearly defined. A strategy that integrates the existing management and information systems needs to be developed and implemented.**
- **Environmental monitoring programs require improvements to more accurately characterize and monitor plant-related emissions, discharges, and ambient conditions.**
- **Effective implementation of the site remediation program has been adversely impacted by poor communications, coordination, planning and scheduling.**
- **Implementation of an effective waste management program has been severely hindered by site waste storage constraints, conservative waste classification practices, and a lack of options for treatment and final disposition of waste.**
- **The quality and reliability of sample collection, laboratory analysis, and other information generated in support of the environmental monitoring and restoration programs are not adequate to achieve program goals.**
- **Management and maintenance of the sewage treatment plant (STP) has received low priority resulting in inefficient operation which could create problems in meeting future permit requirements.**
- **The 1987 Waste Stream Characterization Study, which is used to support waste management activities (e.g., permits and waste classification), does not reflect current waste processes at the plant. The study has never been fully reviewed. Consequently, internal inconsistencies exist. The scope of the study was not broad enough to serve as an effective waste management tool.**
- **A comprehensive strategy needs to be developed and implemented for performing activities required by the National Environmental Policy Act.**

WEST VALLEY DEMONSTRATION PROJECT

An Environment, Safety and Health "Tiger Team" Assessment was conducted at the West Valley Demonstration Project (WVDP) from July 7 to July 28, 1989. This assessment was the first conducted at a DOE site in response to one of Secretary Watkins' ten initiatives to strengthen DOE environmental protection and waste management activities.

The Tiger Team was chartered to conduct an onsite, independent assessment of WVDP's environment, safety and health (ES&H) programs to assure compliance with applicable Federal and State laws, regulations, and standards, and DOE Orders. The objective is to provide to the Secretary of Energy the following information: current ES&H compliance status of each facility; specific noncompliance items; "root causes" for noncompliance items; evaluation of the adequacy of ES&H organization and resources (DOE and contractor) and needed modifications; and where warranted, recommendations for addressing identified problem areas.

The Assessment Team did not identify any problems at WVDP that present an undue risk to public or worker health, or the environment. Demonstrable performance against recognized ES&H indicators (e.g., radiation exposure, air and water emissions, and occupational safety parameters) has been favorable against DOE and industry averages. The team did identify several areas which will require additional attention to ensure full compliance with regulatory or DOE requirements.

Environmental Assessment

Twelve environmental assessment findings represent actual or potential noncompliance with Federal or State regulations. Three represented nonconformances with DOE Orders. The compliance-related findings, although not serious from an environmental impact standpoint, will require mitigation in the near-term to avoid the consequence of enforcement actions by the regulatory agencies.

The more significant findings, from an environmental protection and compliance standpoint, are in waste management.

The first involves the treatment and storage of mixed waste at WVDP without ensuring that the hazardous component is managed in accordance with applicable RCRA provisions. Such an approach, although not currently subject to regulatory compliance under RCRA, is mandated by the recently promulgated DOE 5400.3 (dated February 22, 1989). Mixed waste will be regulated by the State of New York once EPA authorization is received, as anticipated. While discussions have been initiated by WVDP with the State to clarify prospective requirements, the State has yet to assign a high priority to this needed coordination effort. Quite apart from this activity, however, WVDP needs to upgrade its mixed waste

management procedures to ensure conformance with those relevant and substantive portions of existing hazardous waste requirements. This can and should be done in parallel while awaiting State authorization.

Second, WVDP has not fully implemented a hazardous waste management program that satisfies applicable State generator requirements. Lack of a comprehensive program has resulted in past compliance problems in storing hazardous materials, and could result in potential future problems. WVDP is taking steps to expedite implementation of its Hazardous Waste Management Program.

A final waste management issue addresses the lack of acceptable, permanent disposal alternatives for low-level, TRU, and mixed radioactive wastes stored onsite. Mixed and radioactive Wastes will continue to accumulate onsite at a projected rate of about 40,000 to 50,000 cubic feet per year. While not currently a compliance issue, the suitability of the existing (and planned) temporary storage structures will need to be reevaluated for their long-term adequacy under RCRA requirements.

Other environmental compliance findings addressed largely administrative and procedural requirements under various regulations. These included an identified unpermitted effluent discharge point (now blocked) and improperly signed State SPDES Discharge Monitoring Reports (contractor, as opposed to DOE). Procedural discrepancies in how the NEPA process is administered at WVDP were also found, which are largely traceable to lack of clear DOE programmatic guidance on NEPA implementation and inappropriate delegation of decision making down to the WVDP site level.

Safety and Health Assessment

The safety and health portion of the Tiger Team Assessment was performed in the form of a Technical Safety Appraisal. Although some sixty concerns were identified, those of a compliance nature or with significant hazard potential composed about a fourth of these concerns and tended to be in one of three areas: emergency preparedness, industrial hygiene, and fire protection. While several compliance findings were made against DOE Orders and standards in other safety areas, e.g., radiation protection, these were considered more procedural in nature and not reflective of an overall programmatic weakness.

In emergency preparedness, program weaknesses were illustrated by findings that: Possible consequences of criticality and chemical releases are not being evaluated; site specific emergency planning zones are not defined per DOE 5500.3; and annual retraining on emergency/abnormal procedures is not being met.

In personnel protection (industrial hygiene and occupational safety), nonconformances that were identified included: DOE 5480.10 is not being satisfied in workplace hazard assessment, surveillance, and recordkeeping; and the hazard communication program is deficient in the identification and labelling of chemicals in the workplace.

For fire protection, effective program implementation has lagged. At present, the WVDP site is not in full conformance with the NFPA Life Safety Code nor does it qualify as an improved risk facility. The site lacks pre-fire plans for fire suppression strategy and tactics. The scheduled program for inspection and testing of fire suppression equipment and systems is not in conformance with NFPA requirements.

Probable Root Causes

A strong attribute of the WVDP organization is the strong nuclear safety culture that has been instilled in the workplace by the contractor. The attitudes and discipline exhibited by workers is traceable to a larger corporate approach to nuclear safety by Westinghouse that is shared by WVNS managers and DOE/WVPO.

The strength, however, is contrasted by a dissimilar approach in the past to the non-nuclear aspects of environment, safety and health at the site. With radioactive waste management as the site's primary mission, management and environmental cleanup of attendant hazardous wastes did not receive sufficient attention. This perception was reinforced by the recognition that no waste streams resulted from the operations, and by feedback from EPA and the State which, while acknowledging compliance issues in this area, indicated a substantial concern did not exist on their part. Likewise, the Cost-Plus-Award-Fee criteria in place at WVDP did not include environmental factors until recently. Environmental resource needs have been competing with programmatic ones, with the former giving ground even though environmental compliance should have been a factor. Again a perception prevailed that the treatment of a large amount of high-level radioactive waste satisfied both environmental and programmatic needs simultaneously. Insufficient inhouse environmental expertise at the site tended to delay recognition and reaction to compliance issues. Management at all levels lack suitable training in RCRA compliance, NEPA implementation, and breaking issues in environmental compliance, e.g., mixed waste management. Awareness of these issues by WVDP has grown over the past year, and suitable actions are underway to strengthen non-nuclear and hazardous waste programs.

Another root cause for observed deficiencies was the basing of ES&H planning on a past expectation of short project life (6-8 years). With newly extended project life (now 20-30 years), the contractor and DOE site office need to take, and have

initiated, steps to expand ES&H assurance programs to more appropriately fit a more permanent operation. Key elements of this planning are increased ES&H staffing, more rigorous onsite surveillance programs, and physical plant improvements.

DOE oversight of ES&H performance at WVDP has not been adequate. Historically, this can be attributed to three reasons: insufficient ES&H staff resources, lack of management understanding of (and sensitivity to) environmental compliance matters, and organizational dysfunctions.

To illustrate, Nuclear Energy has programmatic responsibility for WVDP, but has no ES&H staff resources. This has effectively forced delegation of key ES&H oversight activities to ID. At ID, line responsibility for WVDP resides with the Assistant Manager for Nuclear Programs, with independent ES&H oversight provided by the Assistant Manager for ES&H. However, the latter currently possesses what limited environmental expertise is located within the Operations Office. Therefore, DOE line responsibility for environmental compliance is effectively deferred to the DOE West Valley Project Office, where one recently transferred (from ID) environmental specialist resides. At present, this individual and others at WVDP have been unable to sustain an onsite routine surveillance program for ES&H that would constitute "real time" oversight by DOE. While resource constraints are a factor, such deferral of line ES&H responsibility has led to delayed responsiveness to compliance issues, isolation from ES&H policy developments, and an inconsistent approach to NEPA implementation.

FEED MATERIALS PRODUCTION CENTER

In an announcement on June 27, 1989, the Secretary of Energy established independent Tiger Teams to conduct environment, safety, and health (ES&H) compliance assessments at U.S. Department of Energy (DOE) facilities. This report presents the assessment of the Feed Materials Production Center (FMPC) at Fernald, Ohio.

The purpose of the assessment at FMPC is to provide the Secretary with information regarding current ES&H compliance status, specific ES&H noncompliance items, evaluation of the adequacy of the ES&H organizations and resources (DOE and contractor), and root causes for noncompliance items. Areas reviewed included performance under Federal, state, and local agreements and permits; compliance with Federal, state and DOE orders and requirements; adequacy of operations and other site activities, such as training, procedures, document control, quality assurance, and emergency preparedness; and management and staff, including resources, planning, and interactions with outside agencies.

The FMPC has been producing uranium for DOE programs since the 1950s. The original facilities are still being used, and until recently, only modest improvements have been made. During this same time, FMPC facilities and related practices have not kept pace with changing regulatory and DOE ES&H requirements.

As a result, when Westinghouse Materials Company of Ohio (WMCO) took over the contract to operate the FMPC for DOE in 1986, the site was in noncompliance with several ES&H statutes and regulations. Although DOE and WMCO initiated a number of actions to address many of the problems confronting the site and progress has been made, the goal of full compliance has yet to be achieved.

This assessment includes a number of ES&H findings, many of which were known by DOE and WMCO management prior to the assessment. For some of these findings, corrective actions are planned or under way; for others, corrective actions have not yet been identified.

The major findings of the assessment are discussed below. The FMPC does not meet all of the requirements of the Federal environmental statutes and regulations or all of the DOE environmental requirements. Also, the FMPC is not in complete compliance with agreements it has made with the U.S. Environmental Protection Agency (EPA) and the Ohio Environmental Protection Agency (OEPA). Those statutes and regulations where requirements are not being fully met include:

- Resource Conservation and Recovery Act
- Comprehensive Environmental Response, Compensation and Liability Act/Superfund Amendments Reauthorization Act

- Clean Air Act
- Clean Water Act
- National Environmental Policy Act
- DOE Order 5400.1, General Environmental Protection Program.

Examples of areas where environmental requirements are not being met include: incomplete hazardous waste characterization, inadequate hazardous waste storage, incomplete characterization and monitoring of air emission sources, inadequate treatment of wastewater streams, lack of timely implementation of the sitewide remedial investigation work plan, and inappropriate National Environmental Policy Act process.

It is the opinion of the Compliance Assessment Team that the areas where environmental requirements are not being met do not currently constitute an imminent threat to public health or welfare. However, the EPA Region V disagrees with this conclusion and considers the six removal actions being undertaken at the FMPC to be the result of an endangerment to public health and welfare. The removal actions generally involve remediation of contaminated groundwater, control of runoff from waste pits, cleanup of contaminated soil, and work on the K-65 silos. The discrepancy is due to the difference between the use of the term "imminent threat" and the EPA definition of "endangerment to public health and welfare." The use of "imminent threat" refers to situations where acute, near-term health effects will result if no remedial action occurs. The EPA use of the phrase "endangerment to public health and welfare" is much broader, pursuant to its statutory authority under SARA Section 105(a). It includes long-term, chronic health effects and the potential for those impacts as well as their actual occurrence.

In regard to safety, although approved standard operating procedures are used extensively and the FMPC has a below DOE-average injury rate, it is clear that over the years, the FMPC has not kept pace with changing safety and health requirements. As a result, the production facilities do not meet all of the DOE safety regulations governing facility operations.

Specifically, the analytical process to establish the safety envelope and operating parameters for the FMPC is not in accordance with DOE requirements (i.e., the necessary safety analyses or safety assessments have not been prepared and the operational safety requirements that are based on the analyses or assessments are not defined). Based on the available analytical data, the Compliance Assessment Team was unable to determine the adequacy of the safety envelope associated with the operation of the FMPC.

In addition, DOE orders require that existing nuclear facilities be compared to current design criteria and that such facilities be modified as necessary. The Compliance Assessment Team concluded that the FMPC production facilities have not been compared to current design criteria and could find only limited evidence of the facilities being evaluated against any previous criteria in the past.

One condition at the site where the relative risk needs updating involves the two K-65 storage silos. These aboveground concrete structures contain approximately 26,000 drum equivalents (55 gallons per drum) of semisolid radioactive waste. A 1986 study indicates that the silo domes were considered to be structurally unsound and could possibly fail at anytime, and that the walls of the structures had a useful life expectancy from 5 to 10 years. As a result of the study, WMCO completed actions to mitigate effects of dome failure. At the time of this assessment, the Compliance Assessment Team had no other information that predicted the useful life of the silos, beyond that contained in the 1986 study, or that validated the adequacy of the WMCO mitigating actions.

The Compliance Assessment Team performed an analysis to determine probable root causes of the key findings. Based on this analysis, it is the opinion of the team that competing priorities preclude focusing adequate resources on environmental compliance, safety upgrades, and well-structured management systems. This then results in acceptance of conditions that do not meet regulatory requirements or the extension of remediation of these conditions beyond what should be reasonably acceptable to DOE and the regulatory community.

Progress has been made toward bringing the site up to today's standards, and plans are in place for continued improvements.

Some recently completed or initiated improvements include:

- reduction of the hazardous waste inventory,
- reduction in the size of the radioactively contaminated areas,
- improvements in the Resource Conservation and Recovery Act training program,
- construction of additional covered storage for hazardous waste,
- upgrades in facility air filtration,
- improvements in identification and characterization of emission sources,
- improvements in stormwater drainage control,
- improvement in National Environmental Policy Act documentation,

- improvements in process wastewater treatment,
- implementation of an as low as reasonably achievable (ALARA) program and a reduction in personnel exposure,
- establishment of Resource Conservation and Recovery Act compliance as an FMPC priority, and
- removal of all PCB-contaminated capacitors from service.

As an overall conclusion, it is the opinion of the Compliance Assessment Team that since 1986 the Oak Ridge Operations Office, the DOE Site Office, and WMCO have made progress at the site toward the goal of full compliance with ES&H requirements. However, to accomplish future improvements in a timely manner and to achieve full ES&H compliance, there must be clear delineation of the FMPC mission, adequate resources, a comprehensive plan of action, effective implementation of the plan, timely follow-up on action items, and effective oversight of the process.

Y-12 PLANT

This final report provides an overall environmental, safety, and health (ES&H) compliance assessment of the Y-12 Plant at Oak Ridge, Tennessee. The Y-12 Plant is operated for the DOE by Martin Marietta Energy Systems, Inc. (MMES). This assessment was conducted in response to a June 27, 1989 Secretarial initiative to evaluate ES&H programs at DOE facilities. In addition to an ES&H review conducted by DOE managers and specialists, a team of Occupational Safety and Health Administration (OSHA) compliance officers from the Department of Labor assessed the facility's compliance with OSHA regulations.

Generally, the environmental findings represent a tabulation of existing problems for which corrective actions are planned or already under way. The safety findings reflect a slower-than-expected progress in correcting procedural and training problems at the facility, a finding confirmed by the large number of findings by the OSHA inspectors. While DOE site and contractor management at Y-12 reflected a high degree of commitment to health and safety concerns, the inability to obtain and retain qualified, competent staff due to limited resources and competing programs limits their ability to fully implement necessary corrective action programs. The management assessment identified the need to implement management systems and controls necessary to ensure penetration of ES&H objectives throughout the line organization.

A brief summary of environmental, safety, OSHA, and management concerns follows. The reader is referred to Section 2 and subsequent sections of the report for a full description.

Environment

The environmental assessment identified findings of potential noncompliance with Federal and state regulations, DOE orders, and nonconformance with acceptable best management practices. However, none were of a nature that indicated undue risk to public health or the environment with continued operation of the Y-12 Plant.

Areas of principal concern were the indefinite storage of Land-Disposal-Restricted or mixed (hazardous and radioactive) wastes and the lack of permits for all wastewater discharges into East Fork Poplar Creek.

To remedy these areas of concern, the Y-12 Plant needs to (1) continue efforts to reduce the amount of mixed waste in storage through waste minimization, solvent substitution, and pursue off-site treatment options; and (2) continue to identify, eliminate, divert, or collect and treat all of its wastewater discharges and obtain a National Pollutant Discharge Elimination System permit for the remaining discharges.

Health and Safety

The Health- and Safety-related activities in operations and training, maintenance and technical support, engineering, and major modifications were generally satisfactory and are improving. In these areas, however, the status and the pace of improvement indicate that more effort should be made. The key areas where greater effort is needed are in increasing the use and control of operating procedures, ensuring comprehensive on-the-job training, establishing current safety analysis documentation, and maintaining as-built drawings. Deficiencies were identified in the radiation protection program during the assessment related to the performance and adequacy of surveys of all significant radiological areas and operations and in the adequacy of Safety Work Permits and procedural controls. Also, widespread deficiencies identified in a recent (July/August 1989) Radiological Protection Program Appraisal will require significant management attention.

Occupational Safety and Health Administration

A significant number of OSHA violations (500) were discovered, with many involving failure to follow basic safety guidance. This was thought to be reflective of a recent shift in the site contractor's management policy from one of trying to meet the intent of DOE Orders to a policy of compliance. The effectiveness of contractor management and DOE oversight is not adequate.

Management and Organization

A positive ES&H culture, openly supported by MMES top management, now exists at the Y-12 Plant. However, this culture has not fully penetrated the plant's line organization to the floor level.

A major weakness with the ES&H program is the lack of internal management controls and systems that are necessary to ensure that management commitments are fully implemented. This weakness is exemplified by deficiencies in ES&H procedures and in inadequate training and self-assessment programs. The probable root cause for the delay in the development of these management systems particularly in the area of safety and health, was the management assumption, prior to 1988, that new requirements were not cost-effective or necessary to protect worker health and safety. Management believed that substantial compliance, but not necessarily strict compliance to DOE health and safety regulations was all that was expected. Factors that contributed to the persistence of this condition included inadequate DOE oversight, insufficient budget outlays and an antiquated physical plant. Given the limited resource environment and a large number of outstanding audit and appraisal findings, it is essential that the Y-12 Plant institute an organizational, risk-based system for prioritizing ES&H concerns.

While adequate improvements to ES&H management systems are already under way, their implementation needs to be accelerated and closely monitored by DOE.

PANTEX PLANT

This document provides an overall environmental, safety and health (ES&H) compliance and management assessment of the Pantex Plant located near Amarillo, Texas. This plant is a Department of Energy (DOE) government owned, contractor operated activity under the management of the DOE Amarillo Area Office (AAO) of the Albuquerque Operations (AL) Office. The main mission of the Pantex Plant is the manufacture of high explosive components, and the assembly, maintenance and retirement of nuclear weapons. In addition to the overall assessment, a specific review of workplace conditions, as they relate to health and safety, was performed by a team of compliance officers from the Occupational Safety and Health Administration (OSHA) of the Department of Labor.

The assessment of the Pantex Plant was undertaken as part of a 10-point initiative announced by Secretary of Energy James D. Watkins on June 27, 1989, to strengthen environmental protection and waste management activities in the DOE. The assessment was conducted by a Tiger Team consisting of three teams of Federal and private sector specialists in the disciplines of environment, safety and health, management and organization, and an OSHA team.

The scope of the Pantex Plant Tiger Team Assessment included:

- compliance with applicable Federal, State and local regulations, requirements, permits, agreements, orders and consent decrees;**
- compliance with DOE Order requirements for ES&H activities;**
- conformance with applicable OSHA requirements;**
- adequacy of DOE and the site contractor's ES&H management programs;**
- conformance with applicable "best" or "accepted industry practices;" and,**
- identification of root causes for noncompliance.**

On-site activities for the assessment took place from October 2, 1989 to October 31, 1989, and included document review, observation of site operations, and interviews with DOE and site contractor personnel. Using these sources of information the Tiger Team developed findings. These findings fall into three general categories: compliance findings, best management practice findings, and noteworthy practices. Compliance findings and best management practices findings were then evaluated to determine root causes for the noncompliances identified. In addition to these two categories of findings, the Tiger Team identified a noteworthy practice that can have general application to other DOE facilities.

Although a significant number of environmental, and safety and health, management and organization findings and OSHA violations were identified at the Pantex Plant, which represent problems requiring corrective action, they do not pose an immediate or imminent threat to public and worker health, or the environment, with continued operation of the facility.

Key Findings and a Noteworthy Practice

A brief summary of environmental, safety and health, and management key findings and noteworthy practices follows. For a full description of these and other findings, the reader is referred to Section 2 and subsequent sections of the report.

Environment

The Environmental Assessment Team identified three key compliance findings. It was noted that the Pantex Plant has not sought a National Pollutant Discharge Elimination System (NPDES) determination as to whether an NPDES permit is required from the Environmental Protection Agency for discharges into playas on the site. Other noncompliance findings deal with conformance with documentation and process requirements of DOE Orders relating to the National Environmental Policy Act.

Environmental best management practice findings include observations that the Pantex Plant groundwater monitoring is insufficient to assess the site's impact on the underlying aquifer(s); and that Pantex Plant sampling protocols for surface water, groundwater, air, soil and biota do not meet current industry standards. In addition, the Pantex Plant does not yet have in-place an Environmental Monitoring Plan to formally direct and update its ongoing Environmental Monitoring effort.

Safety and Health

The Safety and Health Assessment team identified thirteen compliance findings. One of these findings, which is supported by several other findings, is considered key. The contractor was evaluated as having a serious lack of experienced technical capability in the area of health physics and radiation technician support for routine operations and, particularly for potential radiation contamination incidents. The remaining findings dealt with deficiencies and inconsistencies in safety documentation and procedure.

Occupational Safety and Health

The OSHA inspection of the Pantex Plant was completed in about the same period at the Tiger Team report. The OSHA final report is appended to the final Tiger Team report. At the time the Tiger Team completed its field assessment, 168 OSHA report forms were ready for analysis. Of these 168 report forms, 28 alleged

violations of construction standards, 133 alleged violations of industrial safety standards, and 6 alleged to a hazardous situation in which no standard was violated. One report form referred to an OSHA reporting requirement.

Management and Organization

The Management and Organization Assessment Team had six key best management practice findings. Three of the findings related to organization and administration issues. One of these findings describes how the DOE ES&H directives contribute to an ineffective system of policy direction, another notes the absence of an integrated ES&H Program planning process in DOE, and the third finding reflects the situation that the professional staffs at the Amarillo Area Office and Mason & Hanger - Silas Mason Co., Inc. (the Pantex Plant site contractor) are spending as much as 80-90% of their time reacting to outside audits and reviews.

With regard to the communications of ES&H objectives, the Team is concerned about needed changes in the operating culture at the Pantex Plant from a production orientation to a greater awareness of ES&H responsibilities. Also of concern is the subjectivity of the Performance Evaluation Plan that is used to assign a rating that determines the proper fee to the site contractor in the Cost Plus Award Fee process. A finding related to resources, notes the inadequacy of directly relevant technical expertise in the site contractor's ES&H oversight organization.

Noteworthy Practice

One noteworthy practice was identified. The Pantex Plant has developed the application of protective covers for safety purposes to protect certain assemblies containing radioactive material from ballistic discharge. This is a significant enhancement of the interface between security and safety.

Root Cause Analysis

All of the noncompliance and best management practice findings of the Tiger Team were subjected to a root cause analysis in order to determine the underlying contributing reasons for the observed deficiencies documented by the Tiger Team. The methodology used is described in Section 1.5 and Appendix E.

Conclusions derived from the root cause analysis follow:

- Resources available (dollars and people) are insufficient to accomplish the job as presently defined.
- ES&H policy is promulgated in numerous orders at the Headquarters, AL, and AAO level. They are voluminous, unclear, often duplicative and considered generally inadequate to ensure their correct and timely implementation.

- **The site contractor does not approach the management of information in an integrated manner, and lacks adequate records and tracking systems for ES&H matters. The support organization is primarily production-oriented.**
- **The present mode of operations at the Pantex Plant relative to ES&H matters is reactive in nature. This is created and perpetuated by, among other things, the essentially continuous unconsolidated audit activity on site, reporting requirements generated by these audits, the nonintegrated planning and budgeting processes, the lack of objectively stated expectations in the cost plus award fee plan, and the inadequate number of trained or qualified staff to perform the tasks.**

These root causes need to be addressed at all levels of DOE and the site contractor for their specific applicability and required action.

MOUND PLANT

This report documents the results of the Tiger Team Assessment of the Mound Plant conducted from October 10 to November 2, 1989. The purpose of the assessment was to provide the Secretary of Energy with the status of environment, safety and health (ES&H) programs at the U.S. Department of Energy's (DOE's) Mound Plant. The plant, located in Miamisburg, Ohio, is operated for the Department by EG&G Mound Applied Technologies, Inc. (EG&G Mound).

The Tiger Team Assessment was conducted by a team composed of professionals from DOE and its consultants and of compliance officers from the Department of Labor's Occupational Safety and Health Administration (OSHA). It should be noted that at the time of the Tiger Team Assessment, operations were not typical of normal conditions in all areas; hourly workers (who represent 19 percent of the worker population) responsible for performing many maintenance and operational activities were on strike. Nevertheless, it is believed that the assessment provides an accurate overview of the status of ES&H programs at the Mound Plant.

The assessment identified no problems at the Mound Plant that warranted curtailment or cessation of operations. However, the Team did identify many areas that will require additional attention to achieve full compliance with regulatory or DOE requirements.

The openness and forthrightness of the DOE Albuquerque Operations Office (AL), the Dayton Area Office (DAO), and EG&G Mound contributed substantially to the ability of the Team to complete the assessment effectively and in reasonable time. During initial briefings and throughout the assessment, the Team was provided a thorough accounting of ES&H issues and contributing factors at the site. These problems and causes were validated during the course of the assessment and the Team found that, in most cases, some actions were already under way or planned to correct the situations.

A generally responsible environmental program was found at the Mound Plant. Most problems identified in the findings were already recognized and corrective plans had been developed. The Team felt, however, that a more comprehensive plan should be developed to fully characterize and remediate areas of soil and groundwater contamination. The safety and health program assessment reflected a need for more discipline in the conduct of all operations, including the preparation of Safety Analysis Reports (SARs); more effective self-audits and inspections by plant personnel, and an immediate need to address safety training for supervisors and workers. In the occupational safety area, a need to achieve and maintain compliance with OSHA standards clearly existed. The management assessment identified a need to more proactively communicate and reinforce ES&H policy objectives through all levels of the organization, and to generate greater rigor in operations through more formal management systems. A noteworthy practice was identified in each assessment area.

EG&G Mound and DAO give emphasis to and have achieved notable success in their relations with the Miamisburg community. In addition, working relationships with State of Ohio and Federal Environmental Protection Agency officials are very positive. Although these are not regulatory compliance findings, they do represent favorable conditions related to environmental, safety and health performance.

Environment

The environmental assessment addressed all environmental media and applicable Federal, state and local regulations; requirements; and best management practices (BMPs). Although the largest number of findings were in the area of waste management, this does not indicate, in the Team's judgment, that the program was deficient in any major respect.

The most significant finding dealt with the manner in which on- and off-site characterization and cleanup activities are performed at the site. An Interagency Agreement (IAG), which is currently under negotiation, should resolve most of the problems associated with this concern. Several other areas of concern were identified in the environmental assessment. These include the lack of the following: documented procedures associated with the environmental monitoring programs; complete recordkeeping; characterization of all point-source discharges; and quality assurance procedures. A noteworthy practice associated with the exemplary operations at the Sanitary Wastewater Treatment Plant was identified.

Safety and Health

The Safety and Health Team found that a developed safety culture was not imbedded throughout the Mound Plant organization. The current culture lacks a disciplined approach to the conduct of all operations; a process of self-appraisals with feedback to management; a training program to address immediate deficiencies; and timely preparation of safety analysis documentation. There was a general lack of appreciation by supervisors and workers of the need for more disciplined operations. Although deficiencies also were noted in the emergency preparedness area, the Team identified a noteworthy practice associated with the application of resources to the program and the general results achieved.

Occupational Safety and Health

A team from OSHA in the U.S. Department of Labor (DOL) assessed compliance with OSHA regulations. Based on the Team's preliminary information, a stronger, more effective program is needed by DOE and EG&G Mound. Specifically, the Tiger Team concluded that supervisory knowledge and worker adherence to industrial safety procedures and practices needed improvement; that better trained personnel who could conduct more vigorous inspections for identifying workplace hazards were needed; and that a more formalized tracking and energetic abatement

program was essential. In addition, DOE's oversight must be strengthened to identify and correct shortcomings in the contractor's program. A total of 131 violations, many of which would require neither extensive resources nor time to correct, were noted.

Management and Organization

The Management Team found that the desired ES&H culture at the Mound Plant was in varying stages of development. Top management was committed to change but the message was not effectively propagating through the organization. More effective means to promulgate the message are necessary. Management systems with sufficient discipline and formalization to provide for comprehensive follow-up, trend analysis, and communication of lessons learned were needed. ES&H training programs were not fully implemented and training requirements for line and staff personnel engaged in ES&H activities were generally not well defined. Policy direction was not always clear and consistently interpreted. A noteworthy practice dealing with AL and EG&G Mound development of a risk-based assessment system was identified.

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PORTSMOUTH GASEOUS DIFFUSION PLANT

This report provides an overall environmental, safety, and health (ES&H) compliance assessment of the Portsmouth Gaseous Diffusion Plant (PORTS) at Piketon, Ohio. This plant is a Department of Energy (DOE) government-owned, contractor-operated (Martin Marietta Energy Systems [MMES] facility). It is managed by the Portsmouth Enrichment Office of the Oak Ridge Operations (OR) Office under the Nuclear Energy Program Office. The single mission at PORTS is to produce "enriched uranium", which has an increased concentration of the U-235 isotope. The Plant was last reviewed by DOE Headquarters in an Environmental Survey and a Technical Safety Appraisal, for environmental and health and safety issues, respectively, both performed in 1986.

Environment, Safety, and Health programs at PORTS are in a state of change. A risk-based approach founded on performance as measured by occupational safety and public exposure statistics has given way to one oriented to full compliance with ES&H requirements. Until recently, however, this evolution has been a reactionary one, responding to external regulatory pressures rather than an overall ES&H strategy. The result has been an imbalance in the PORTS management approach to ES&H. Notable progress has been achieved in environmental compliance, but longstanding and fundamental workplace safety deficiencies remain unresolved.

Both the corporate and onsite management of MMES recognize and support the need for the changes embodied in Secretary Watkins' ES&H policies and directives. Initiatives such as the Long Range Health and Safety Plan at the corporate level and the Model Facility Program at PORTS are first steps to a more proactive posture in identifying root ES&H problems, setting priorities, and effectively allocating resources. However, this Tiger Team assessment has found a wide gap between the expectations of management and the way in which those expectations are actually carried out within the plant by supervisors and workers. The prevailing safety culture within the workplace has impeded the progress of the management goals being established. Key elements of the ES&H program -- procedures, inplant inspections, and training -- are not being implemented effectively, making this transition more difficult at PORTS.

The lack of technical self-sufficiency among PORTS employees is seen as the most fundamental challenge facing MMES management in ES&H areas. The transition from an industrial environment to one more consistent with nuclear facility practices requires a workforce that 1) meets the demand for formality and discipline in operations, and 2) better understands workplace hazards and the basis for procedures. This transition requires not only an influx of new expertise, but more importantly, a concerted effort to retrain and reorient the current workforce. Resolution of these and other issues raised in this report resides less with capital improvements or even new standards, but rather with DOE and MMES line management's commitment and capability to manage lasting change.

A brief summary of environment, safety and health, and management concerns follows. An overall summary of all major Tiger Team Assessment findings and noteworthy practices is presented in Section 2.0.

Environment

Several of the more significant compliance findings are beyond the ability of PORTS to address alone. These findings include the issue of leaking PCB gaskets in the process buildings, protracted storage of restricted land-banned mixed wastes, and lack of National Environmental Policy Act (NEPA) and Resource Conservation and Recovery Act (RCRA) integration. These issues are being resolved through discussions with the Environmental Protection Agency (EPA) and DOE Headquarters guidance activities. No major exclusions were noted from either air or National Pollution Discharge Elimination System (NPDES) permits. Efforts toward addressing waste handling and past releases demonstrated notable improvements over past performances in addressing compliance issues.

Other concerns reflect an inattention by the site to basic requirements of the environmental compliance process. Most notably, NEPA approvals must be completed before initiating projects, and air emission points must be properly permitted. Shortcomings in environmental program management were reflected by the lack of formality in several areas of the program. For example, self-assessment activities, documentation of sampling and analysis procedures, and quality assurance and control for radiological measurements were found lacking.

A review was conducted of current practices (i.e., controls on, monitoring of, and experience with) UF_6 releases from process operations. The results were compared to past practices where such releases (actual or where postulated) posed an environmental protection issue. The results showed that the potential for such events having environmental implications now, and in the future, has been substantially reduced.

Safety and Health

While strengths in the PORTS safety and health program were noted in emergency preparedness, operations (in terms of more stringent UF_6 release controls), and aspects of the radiation control program, fundamental weaknesses were found in implementing the radiological contamination, occupational safety, and worker training programs.

Contamination control is a major concern at PORTS. Efforts have been underway to reduce contamination levels in the major process building. Inadequate contamination control and occupational safety practices in three PORTS maintenance support facilities were considered sufficiently serious to warrant immediate corrective measures by the contractor. These measures were accomplished while the Team was on site. A breakdown in standard workplace

controls was found in these facilities, with widespread evidence of eating, drinking, and smoking in contaminated areas; a lack of routine contamination surveys being conducted; and little follow-up and accountability to contamination surveys and tagging. The larger issue of upgrading the PORTS contamination control program is being addressed in the implementation plan for DOE Order 5480.11 (Occupational Radiation Protection).

Occupational safety concerns centered on basic Occupational Safety and Health Administration (OSHA) and DOE requirements and procedures not being implemented in the workplace. Although many of these requirements and procedures are prescribed by the PORTS Safety Manual, they are neither understood by workers, nor enforced by supervisors. Unsafe practices requiring prompt abatement were observed during Team member walk-throughs. Management is cognizant of the scope of these deficiencies (raised in an earlier ORO appraisal) and is determining how best to implement an OSHA compliance program consistent with the Secretary's 10-Point Initiative.

Management from MMES has recognized that the PORTS safety analysis report (SAR) is inadequate. It is being revised, although the time frame for completion (FY 1994) seems protracted. Derivative operational safety requirements (OSRs) are not clearly prescribed; written procedures to define acceptable conduct of operations in the context of OSRs and DOE requirements are incomplete and not consistently enforced. The formality and discipline that guide typical nuclear operations are lacking at PORTS, a root cause for many findings.

Management and Organization

Martin Marietta Energy Systems management at PORTS is in the process of adjusting to the change in ES&H expectations. Management performance over the past three years has been reactionary, focusing on needed ES&H upgrades when prompted by audits, appraisals, and regulatory activity. This attitude is now changing, with MMES taking a number of initiatives to establish realistic ES&H goals, allocate resources, and instill greater accountability to ES&H in the conduct of operations at PORTS. These initiatives are too recent to be judged for their effectiveness. To be successful, the roles and responsibilities of the Nuclear Energy Program Office and the ORO Office must be clarified; the technical isolation of the PORTS facility must be diminished; the technical ES&H self-sufficiency of DOE and MMES at the site must be strengthened; and the adversarial labor relations environment at PORTS must be lessened. Positive first steps by MMES were noted on all these issues.

However, oversight of the contractor (by DOE), onsite surveillance (by the Area Office), ES&H appraisals (by ORO), and programmatic reviews (by the Nuclear Energy Program Office) have not been effectively performed in the past. Each area needs to be included as an integral aspect of implementing SEN-6, the Secretarial directive on governing line ES&H responsibility.

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NEVADA TEST SITE

This document provides an overall environmental, safety and health (ES&H) compliance assessment of the Nevada Test Site (NTS) in Nye County, Nevada. The NTS Operations were the subject of a comprehensive review by a multi-disciplinary team of environmental specialists in 1987, resulting in the Environmental Survey Preliminary Report of April 1988. The Nevada Test Site Environmental Survey Action Plan (October 1988, latest version September 1989) was developed by DOE/NV in response to the findings in the Environmental Survey Preliminary Report. The NTS Operations were also the subject of a recent (1989) Mini-Technical Safety Appraisal. The major focus of the current Compliance Assessment included environmental compliance, a Technical Safety Appraisal, and a management appraisal. This Technical Safety Appraisal incorporated in its review Occupational Safety and Health Administration (OSHA) compliance issues.

Although a significant number of environmental, safety and health findings and concerns are contained in this Report, when viewed in context of the size of the operation and the number of ongoing activities and contractors, the ES&H programs at the NTS are basically sound. None of the findings or concerns reflect situations that present an immediate risk to public health or the environment. Generally, the environmental findings represent a tabulation of existing problems of which the Nevada Operations Office (NV) is already aware, and for which corrective actions are planned or already under way.

The NTS Safety and Health (S&H) program is on the threshold of transition. NV is making progress to gain control of the ES&H programs at NTS and to instill a modern safety culture; but this process has not been consolidated yet and will require user and contractor acceptance for full implementation. Lack of formal safety requirements provided by NV/NTSO reflect insufficient NV guidance, which is compounded by the lack of NV oversight and enforcement of DOE safety policies. The S&H program at NTS is carried out by knowledgeable contractors, directed by the user laboratories, often applying state-of-the-art technology.

Summary of Key Findings and Probable Root Causes

Environment

The Environmental assessment identified findings of potential noncompliance with Federal and state regulations, DOE orders, and nonattainment with acceptable best management practices. However, none were of a nature that indicated undue risk to public health or the environment with continued operation of the NTS.

Areas of principal concern were environmental problems resulting either from a lack of NV oversight or an inconsistency in the oversight of the users of the NTS. Some of the more significant Environmental Subteam findings representative of this includes findings related to incomplete Waste characterization at the NTS and the finding that wastes are accepted at the NTS Radioactive Waste Management Site from generators that are not approved under NVO-325 guidelines.

Safety and Health

The effectiveness of the S&H program at NTS was generally satisfactory, as reported in Section 4.0. Some 102 concerns were identified by the S&H Subteam. One concern regarding accountability of personnel in tunnels and shafts, resulted in NV taking compensatory actions during the appraisal to ensure full accountability of personnel in the tunnels and shafts on an interim basis while a permanent personnel accountability system is developed.

The majority of the concerns can be characterized predominantly in the areas of Emergency Preparedness, Radiation Protection, Personnel Protection (including Industrial Hygiene, Electrical Safety and Hazard Communication) and Training, although shortcomings were found in all areas. The deficiencies derive largely from the lack of effective NV/NTSO direction and oversight of the ES&H activities. There is no effective NV oversight presence at NTS. OSHA compliance appears good, based on inspection of selected facilities, although minimum deficiencies were observed.

Management and Organization

A positive ES&H culture is espoused by the top management at NV at the Nevada Test Site. However, this culture has not fully penetrated the Site's line organization to the floor level.

A current weakness in the management of ES&H programs is an incomplete and insufficient set of internal management controls and systems that would ensure that management commitments are fully implemented. This weakness is exemplified by deficiencies in ES&H procedures and in adequate training and self-assessment programs.

The probable root causes for the delay in the development of these management systems are 1) a widespread perception, prior to 1988, that new ES&H requirements were not cost-effective or necessary to maintain an historically excellent health and safety record at the NTS, and 2) the cultural changes and organizational learning required to fully implement these systems constitutes a substantial undertaking.

Given the limited resource environment and an apparent incongruity between implementation of new regulatory requirements and the budgetary process, it is essential that the NTS continue to be proactive in ES&H management and continue to use a well-planned, systematic and prioritized response to longterm ES&H compliance. While improvements to ES&H management systems are already under way, their implementation needs to be closely monitored by DOE.

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KANSAS CITY PLANT

This document provides an overall environmental, safety and health (ES&H) compliance assessment of the Kansas City Plant (KCP) and the Kansas City Area Office (KCAO) conducted between November 6, 1989 and December 7, 1989, at Kansas City, Missouri.

The purpose of the assessment at the KCP/KCAO is to provide the Secretary with information regarding ES&H compliance findings based on applicable federal, state and local regulations, permits, agreements and other requirements, U.S. Department of Energy (DOE) ES&H Orders and Guidance, best management practices (BMP) findings based on conformance with "best" or "accepted" industry practices, and noteworthy practices that may be transferred to other DOE facilities.

Specifically, the assessment team identified 172 findings, including 17 noteworthy practices. Of all the deficiencies found, none warranted curtailment or cessation of the KCP operations. The assessment teams also determined that the environmental programs and ES&H management were generally sound and that the safety and health (S&H) program implementation needs higher priority.

A brief summary of the environmental, safety and health, and management concerns follows. Reference sections 3.0, 4.0, and 5.0 of the KCP assessment for a more detailed description.

Environment

The environmental assessment identified areas of concern with the current environmental regulatory compliance status and associated vulnerabilities of KCP, root causes for noncompliance, adequacy of DOE and site contractor environmental management programs, and response actions to address the identified problem areas.

The KCP/KCAO environmental program is basically sound and takes a proactive approach to environmental management. This is reflected in the nature of the findings, which identify areas in a otherwise sound environmental program, that need improvement. Fifty findings were identified during the KCP environmental assessment and approximately half of the findings reflect potential problems of noncompliance. Twenty-six findings identify conditions that do not meet acceptable best management practices.

The most significant environmental findings identified during the Tiger Team Assessment include:

- Situations were identified where land-disposal-restricted hazardous waste were improperly stored and inadequately characterized.

- Resource Conservation and Recovery Act (RCRA) storage facilities were located in a 100-year floodplain. NEPA analysis has not been performed addressing location of a "critical action" in a 500-year floodplain.
- Over 500 sewer connections have been identified which could allow wastewater flows prohibited by the KCP-NPDES Permit to enter the storm sewer system.

Safety and Health

The safety and health assessment evaluated the effectiveness of the KCP S&H programs in the following eight functional areas: Occupational Safety, Industrial Hygiene, Electrical Safety, Fire Protection/Life Safety, Emergency Preparedness, Radiation Protection, Safety-Security Interface, and Medical Services.

The S&H assessment revealed the following key concerns:

- Strict compliance with the DOE Occupational Safety Standards has not been consistently implemented at KCP. Problems were identified relating to reporting, inspections/oversight, equipment guarding, use of flexible electric cords, hazards communication, analysis of illness/injury statistics, and maintenance requests.
- The Industrial Hygiene Program at KCP has been effective in controlling employee exposure to hazardous materials at the plant. Improvements in the program are on-going. Problems were identified with the work place monitoring programs, ventilation system assessments/upgrades, and asbestos abatement procedures.
- The electrical distribution system received a favorable assessment; however, there was concern about KCP's noncompliance with the National Electrical Code and best management practices in the area of work-related practices, procedures, and training.
- The Fire Protection category received a favorable assessment; however, there are deficiencies that prevent KCP from fully complying with the Life Safety Code and providing sufficient assurance that installed fire protection is reliable. In addition problems were identified in the areas of fire risk assessment, evacuation adequacy, and evacuation accounting.
- The KCP Emergency Response Program is in need of management attention to meet the requirements of DOE Orders. Problems also were identified in the areas of evacuation routing, personnel accountability, accident/risk assessment, and training.

- The radiation protection assessment supported the results of previous assessments which revealed that a true health procedures used to survey "returned parts" for radioactivity require improvement.
- The Safety-Security Interface is good but needs to be improved in construction project design to ensure that sufficient emergency egress routes are available, and in identification of hazards associated with activities involving the use of weapons in the vicinity of hazardous materials and equipment.
- Findings of the July 1989 Medical Services appraisal revealed that these services were being well run by a competent and professional staff; however, problems were identified in the areas of lack of medical staff visits to the workplaces and illness classification and reporting.

Management

The purpose of this assessment was to 1) evaluate the adequacy of ES&H programs at KCP; 2) identify areas where improvement is needed; 3) contribute, together with the safety and health, and environmental assessments, to the analysis of basic underlying causes; and 4) highlight particularly noteworthy efforts that could benefit other parts of the DOE complex.

The management assessment identified the following key concerns:

- Deficiencies occur in some of the basic ES&H management systems and processes that are needed to ensure a high quality environmental and safety program. Some of the key areas in which problems were identified include: communication and implementation of DOE ES&H Orders and requirements, performance of ES&H oversight and quality assurance activities; assessment and evaluation of ES&H risks; and the use of systems to track issues, develop trends, and identify priorities.
- The gap between management's commitment to a strong ES&H program and implementation at lower levels must be closed if KCP is to realize the full potential of a well-planned executed ES&H program.

The management assessment also found seven noteworthy practices for potential use at other DOE facilities. These include strengthened ES&H responsibilities of line management and incorporating ES&H compliance in weapons design and production activities.

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PINELLAS PLANT

This report documents the results of the Tiger Team Assessment of the Pinellas Plant conducted from January 15 to February 2, 1990. The purpose of the assessment was to provide the Secretary of Energy with the status of Environment, Safety and Health (ES&H) Programs at the U.S. Department of Energy's (DOE's) Pinellas Plant. The plant, located in Pinellas County, Florida, is operated for the Department by General Electric Neutron Devices Department (GEND).

The Tiger Team Assessment was conducted by a team comprised of professionals from DOE, contractors and consultants.

The assessment did not identify any problems at the Pinellas Plant which present an undue risk to public health or the environment. The Tiger Team cited four Category II Concerns in the Safety and Health area that require immediate attention to formulate corrective action plans and to initiate the corrective measures. The Tiger Team also identified areas which will require additional attention to achieve full compliance with regulatory or DOE requirements.

The openness and forthrightness of the Albuquerque Operations Office (AL), the Pinellas Area Office (PAO), and GEND contributed substantially to the ability of the Tiger Team to complete the assessment effectively and in reasonable time. During initial briefings and throughout the assessment, the Tiger Team was provided an objective accounting of known ES&H problems and contributing factors at the site. Many of these problems and causes were validated during the course of the assessment.

The Pinellas Plant is a facility which can be characterized as a high technology electronics manufacturing operation. In its operations, the plant handles more than 5000 different chemicals and a few sources of radioactivity. Radioactive materials include triply encapsulated plutonium dioxide (Pu-238), gaseous and adsorbed tritium, and krypton-85. Compared to most other facilities in the DOE complex, the inventories of hazardous materials are low but still significant from the standpoint of worker safety and potential offsite effects in the plant's urban setting.

Over the last several years, management emphasis has led to increased productivity and quality while accomplishing a 10 percent reduction in total staff. To a major extent this improvement resulted from decentralizing responsibility and authority to local floor managers in charge of product lines and production operations. This culture change yielded its intended result and offers promise for an enhanced recognition by all employees of a sense of ownership of environment,

safety and health concerns consistent with DOE's policies. The benefit of accelerating ES&H awareness that can be derived from this decentralization needs to be balanced to ensure that both uniformity and formality of operations exists site-wide at the Pinellas Plant.

Today there is a marked informality associated with many operations at the site. In some instances, documentation is absent or incomplete, procedures are outdated or unused, and lines of authority are not clear.

In January 1989, the importance of ES&H began to surface within GEND consistent with the Operational Surety Initiatives of the Albuquerque Operations Office (AL) begun in October 1988. The efforts by GEND, PAO and AL were accelerated by Admiral Watkins' ten-point initiative in July 1989. GEND assembled many of its key staff into a Technical Safety Assessment Team (TSAT) to examine and recommend improvements to its Safety and Health Program and to develop a plan of action. The decentralized management responsibility had the additional benefit of involving much of the work force in the process, thus achieving a significant degree of buy-in and acceptance of the final product. The GEND self-assessment is a progressive and encouraging first step to fully develop a comprehensive Safety and Health (S&H) Program at the Pinellas Plant. Actions are underway to correct specific shortcomings identified in the GEND self-assessment, particularly in the S&H areas.

The Tiger Team found that the Environment Program has not received the same level of attention at the Pinellas Plant as the S&H area. While some problems identified in the findings were recognized and corrective plans developed, a more comprehensive plan should be developed to fully characterize and remediate areas of soil and groundwater contamination and that efforts should be increased to ensure that permits exist for all air pollution sources.

The Safety and Health assessment reflected needs for preparing a site-wide safety assessment, strengthening the Occupational Safety Program, implementing an effective nonweapons QA program, more effective self audits and inspections by plant personnel, and establishing of uniform ES&H training for supervisors and workers.

The Management assessment identified a need to communicate more proactively and reinforce ES&H policy objectives throughout PAO and GEND, and to generate greater rigor in operational controls through more formal management systems. GEND and PAO emphasize relations with the local community. In addition, the PAO has developed positive and effective working relationships with State and local officials, and the Federal Environmental Protection Agency. Although these are not regulatory compliance findings, they do represent favorable conditions related to environment, safety and health performance.

Environment

The environmental assessment identified 38 findings representing compliance issues and 22 findings concerning nonattainment of acceptable best management practices. None represent an undue risk to public health and the environment from continued operation of the Pinellas Plant. However, the assessment does indicate a lack of attention to environmental management for a facility with the size and type of operations of the Pinellas Plant. The key findings and causal factors are discussed below.

The Environment Subteam identified six key findings that represent potential compliance problems with regard to Federal and State regulations, or DOE Orders. These problems concern 1) the addition of small quantities of radioactive waste to non-radioactive classified waste to solve a classified waste disposal problem; 2) incomplete documentation of dose-assessments; 3) lack of adequate characterization of inactive waste sites; 4) deficiencies in the site-wide environmental monitoring program; 5) on- and offsite groundwater contamination which is above State standards; and 6) failure to apply for air pollution permits. A key National Environmental Policy Act (NEPA) finding concerned reliance by the site on an outdated site-wide Environmental Assessment which has no documented Finding of No Significant Impact (FONSI).

There are three causal factors that characterize the environmental assessment findings. First, Pinellas Plant management has not accorded the same level of importance to environmental requirements and issues as it has to the Safety and Health Program. Second, both PAO and GEND are understaffed and do not have sufficient experienced environmental talent. Third, the increasing requirements, coupled with the understaffing, lead to competing priority demands which reduce the ability of the environmental staff to perform its self-assessment function. Furthermore, existing resources are not being utilized effectively during a period of increasing demand.

Safety and Health

The Safety and Health (S&H) Subteam identified 93 concerns in the Safety and Health Program. Of the 93 concerns, four were ranked as Category II by application of the Technical Safety Appraisal criteria, requiring immediate corrective or compensatory action. The Category II concerns related to: 1) possible use of salvaged parts in critical safety systems without assurance that the required function had been maintained; 2) violation of DOE requirements for response to offsite transportation incidents involving hazardous materials; 3) unsafe practices in violation of DOE (Occupational Safety and Health Act) requirements, particularly with respect to hoisting and rigging and cryogenic safety; and 4) noncompliance with essential elements of the Life Safety Code. Corrective and/or compensatory actions are underway for each of these concerns.

The S&H Subteam noted that the GEND program appears to be on the threshold of transition to a more disciplined safety and health culture. There was an awareness at all levels of management in GEND and PAO on the importance of safety and health. However, a system to objectively assess program requirements has not been implemented.

Four causal factors contributed to these findings. First, there is not an organization that can provide independent oversight (i.e. the present organization is currently responsible for both line management and oversight). Second, a nonweapons quality assurance program is not fully functional. Third, a management program to develop, control, and document site-wide operations and functions has not been established. Finally, AL and PAO have not required GEND to provide a comprehensive site-wide hazards analysis.

The S&H Subteam identified noteworthy practices related to the extension of the Diamond Label Program for chemicals to include storage class and disposal class, formal documentation of the GE Convalescence Assistance to Recovering Employees program, and an excellent procedure for handling radiation-contaminated individuals.

Management

Over the past year, the Pinellas Plant has made commendable efforts to identify weaknesses in, and plan corrective actions to, its ES&H program. Systemic problems must be overcome in order to fulfill DOE's current expectations.

The communication and interpretation of ES&H policy from DOE to GEND, and within GEND, need to be improved. This includes establishing goals and objectives that can be owned and tracked throughout the organization and more effectively utilizing the Cost Plus Award Fee process.

To properly reflect the importance of ES&H, management systems within DOE and GEND need greater formality and more disciplined application. This includes the need for environmental and safety assessments, updating of policy and procedural documents, and the documentation of compliance with applicable regulations.

Management oversight of ES&H activities must be more rigorous by DOE and GEND. This includes not only the quality and quantity of appraisals, but also the definition of duties and responsibilities and the establishment of tracking systems to monitor and trend performance indicators and outstanding commitments.

Plans for ES&H improvements are generally appropriate to the accomplishment of DOE's expectations; however, the Management Subteam is concerned that a lack of technically qualified personnel in key positions jeopardizes the timely achievement of these plans. GEND and PAO are competing for a limited pool of experienced talent in the ES&H area. This shortfall of talent is exacerbated by the time necessary to acquire security clearances.

The probable root causes can be traced to an emphasis on production which has traditionally overshadowed interest in fully complying with environment, health and safety requirements. In addition, there is a widespread mindset that the Pinellas Plant poses no unusual or unique risks.

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SAVANNAH RIVER SITE

This report documents the results of the Tiger Team compliance assessment of the Savannah River Site conducted from January 29 to March 23, 1990. The purpose of the assessment was to provide the Secretary of Energy with a report on the status of Environment, Safety and Health (ES&H) Programs at the U. S. Department of Energy's (DOE's) Savannah River Site (SRS). The site, located in three counties (Aiken, Barnwell, and Allendale) in western South Carolina, is operated for the Department by the Westinghouse Savannah River Company (WSRC).

The Tiger Team compliance assessment was conducted by a team comprised of professionals from DOE, contractors, and consultants.

Assessment Overview

The assessment did not identify any problems at the Savannah River Site which warranted curtailment or cessation of site operations. The Management and Organization Subteam cited 13 findings and the Environment Subteam cited 101 findings. There were 294 Concerns in the Safety and Health area; 11 of those Concerns were Category II that require immediate attention to formulate corrective action plans and to initiate immediate corrective measures. The Team also identified areas which will require additional attention to achieve full compliance with regulatory or DOE requirements.

The openness, forthrightness and cooperative spirit of the Savannah River Operations Office (DOE-SR) and the WSRC contributed substantially to the ability of the Team to complete the assessment effectively and in a reasonable time. Furthermore, the assessment was facilitated by a high quality self-assessment which was conducted by WSRC prior to the beginning of the Tiger Team compliance assessment. The self-assessment was found to be a comprehensive treatment of major sitewide compliance concerns and plans for corrective actions. These concerns and associated causes were validated during the course of the assessment.

The SRS Tiger Team Compliance Assessment was conducted during a period of transition and dramatic change at the site and this report presents a snapshot of the conditions which were found during this time. These changes were observed to be impacting profoundly on all aspects of site operations. After 40 years as Management and Operating contractor at SRS, E. I. du Pont de Nemours & Co. (Du Pont) was replaced by the WSRC on April 1, 1989. The previous contract with Du Pont was on a Cost Plus No Fee basis while WSRC is operating the site on a Cost Plus Award Fee (CPAF) incentive basis with the DOE. This change of contractors followed several years of intense criticism leveled at site operations by DOE and a number of highly respected review panels. Such criticism focused primarily on the contractor's failure to stay abreast of and implement appropriate commercial

nuclear and national consensus standards and criteria to assure that operations were conducted in a safe and environmentally acceptable manner. Investigations of several incidents involving reactor operations highlighted how far the site had fallen behind the commercial nuclear industry.

Concurrent with the change in the SRS M&O contractor, other important changes were occurring in the DOE which added further urgency and focus to the changes needed at the site. Secretary of Energy James D. Watkins announced a series of Departmental policies and initiatives in the spring and summer of 1989 as a framework for cultural change which clearly delineated his expectations that the Department would manage and operate its facilities in compliance with environment, safety, and health requirements. Based on the Secretary's policies and guidance from DOE Headquarters components and the DOE-SR, a new concept was created by SRS management for conducting activities at the site.

WSRC has implemented a consolidated organization that integrates previously disaggregated elements into a unified management structure. This structure should facilitate the implementation of new policies and requirements at the site. Also, additional managers and staff, many with commercial nuclear or nuclear navy experience, have been brought to SRS to fill key management and support positions particularly in the Reactor Restart Program. Clearly there is strong top management commitment for cultural change at SRS. Such commitments supported by a variety of initiatives appear to provide a sound framework for achieving the following future objectives:

- establishment of a closer working relationship with DOE, oriented toward meeting customer needs,
- achievement of compliance with both the letter and spirit of applicable DOE requirements, and
- achievement of excellence through continuous improvements in all areas.

Numerous self-assessments and performance improvement plans have been initiated which include the reactor restart program, the development of a sitewide hierarchical set of policies and procedures, and the establishment of nuclear material processing facilities which meet or exceed commercial nuclear industry standards for safety, operations, training, and maintenance. Several key performance improvement initiatives have been developed and are being implemented such as the Westinghouse Total Quality concept, the Reactor Operations Management Plan (ROMP), and the Nuclear Materials Processing Division (NMPD) Performance Improvement Plan (PIP) among others. Systems are being established within the Management Integration Department to ultimately provide management with the tools to track and assess WSRC commitments. Of special significance is the Westinghouse Total Quality concept that is being introduced at the WSRC site using Corporate resources and an experience base of

nearly 10 years. Although the complete institutionalization of this concept is expected to take place over the next 2-3 years, it should provide the framework and methodology through which WSRC and DOE-SR will be able to effect a positive cultural change in the future.

DOE-SR has also conducted a general self-assessment and has identified a number of specific weaknesses which need to be corrected to improve the performance of its management and oversight responsibilities. Initiatives have been planned and implemented, in part, to improve the DOE-SR organization and management structure, training and qualifications of staff, and ownership and accountability aspects of their role by locating staff at the facilities.

Environment Subteam

The environmental assessment identified 35 findings representing compliance issues and 66 findings concerning realization of acceptable Best Management Practices. This assessment indicates that for a facility of the size and type of operations of the SRS, the environmental programs have focused on many of the fundamental compliance issues and have been mostly successful in their resolution. Management of the environmental program is still faced with recurring compliance deficiencies and environmental contamination issues (e.g., M-Area groundwater contamination, radiological contamination in the Savannah River Swamp and Creek Plantation Swamp, radioactive and mixed waste tanks, the inactive waste disposal sites, facility decommissioning and decontamination) that will be a part of the long term environmental management efforts. An increased emphasis on integrating formal regulatory interpretations in a progressive manner will be needed for these issues.

The Environment Subteam identified four key findings which represent actual or potential compliance findings with regard to Federal and state regulations, or DOE Orders. Those findings involve 1) deficiencies in the waste management program; 2) failure to meet State water pollution control requirements; 3) inadequate monitoring of radiological releases; and 4) deficiencies within the SRS quality assurance activities. Following is a discussion of these key findings.

Deficiencies in the Waste Management Program were associated with the handling and storage of hazardous wastes, and failure to meet routine Resource Conservation and Recovery Act (RCRA) administrative requirements. Furthermore, the storage and generation of Land Disposal Restricted (LDR) wastes are issues.

Failure to meet State water pollution control requirements was based on the lack of a comprehensive assessment of 11 minor thermal discharges to streams site-wide, as required by South Carolina Department of Health and Environmental Control (SCDHEC); unresolved fish kill issues, which must be resolved prior to restart of reactors discharging to L-Lake and PAR Pond; and inspection and protection of the drinking water systems that potentially could pose health risks.

Specific deficiencies were found relative to the monitoring of radiological releases. The lack of technical specifications for effluent monitoring at K, L, and P-Reactors, inadequacies in monitoring for tritium in liquid effluents, and the lack of proper documentation to support tritium release data were observed as serious deficiencies in the radiological monitoring program.

The overall quality assurance program has not been fully implemented. The environmental assessment concluded that there is a lack of documented quality assurance plans for environmental monitoring and surveillance programs, untimely reporting of environmental protection appraisals, and deficiencies in the oversight and review of environmental data.

There appears to be a good understanding of the key issues, most of which have been previously identified through external reviews and self-assessments performed by DOE-SR and WSRC. Most of these key issues are being actively pursued, such as discussions on the Federal Facilities Agreement (FFA), to satisfy requirements of Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which involves active dialogue among DOE-SR, the U.S. Environmental Protection Agency (EPA) Region IV, and the SCDHEC, even though such discussions have been affected by unresolved differences between the EPA and SCDHEC. In addition, a Federal Facilities Compliance Agreement (FFCA) is being actively pursued by SRS regarding RCRA facilities and corrective actions with satisfactory progress being made.

The Environment Subteam identified one noteworthy practice. DOE-SR has produced a well organized and researched, exceptionally detailed, easy-to-understand, Environmental Protection Program Guide. The Guide provides comprehensive information on the site-wide operation of the DOE-SR Environmental Division.

Safety and Health Subteams

Safety and health assessments of WSRC non-reactor facilities were performed by three Safety and Health (S&H) Subteams. These assessments included tritium facilities, selected waste management facilities, and the SRL facilities as well as the sitewide elements of Aviation Safety, Emergency Preparedness, Medical Services, Packaging and Transportation, and an Inspection for Occupational Safety and Health Act (OSHA) compliance. Collectively, the three S&H Subteams identified 294 Concerns. Eleven of the concerns necessitated immediate corrective action by the contractor.

The S&H Subteams expressed concerns in all but one of the health and safety disciplines examined during the appraisal. Seven of the most important generic concerns, based upon potential hazard and compliance considerations, are listed below:

- The SRS is not in compliance with many DOE Orders and standards. This results from the WSRC change in the Du Pont direction from an "intent to comply" to an actual compliance mode of operation.
- Key management initiatives defining duties, responsibilities, and accountabilities for sitewide compliance have not been fully integrated into a management system that can be used to assess and communicate WSRC's ability to meet commitments to DOE.
- Training deficiencies were observed in many areas including technical training for management and operations personnel. Other specific training deficiencies were noted for emergency response and fire protection personnel, responses to abnormal operating conditions, and radiation workers.
- The transfer of technology and lessons learned both from within and outside the SRS is not effective in raising the safety and environmental awareness of staff. Areas of weakness include waste and effluent minimization, human factors considerations, and concerns identified with auxiliary systems.
- Many readily and easily correctable industrial Safety deficiencies persist and line managers are not trained to identify OSHA-type deficiencies and to eliminate these types of hazards. Some of these are serious, Life Safety Code nonconformances.
- The absence of trained emergency preparedness staff in the operating areas, facility deficiencies, the lack of "first responder" training, and the absence of an adequate drill program at the operating facilities level, are significant. Emergency preparedness implementation does not assure mitigating measures to prevent the escalation of small events and the protection of on-site personnel.
- Safety reviews and follow-up actions have not been performed by DOE-SR in a timely manner.

The 1970 Occupational Safety and Health Act (OSHA) requires DOE to enforce all standards at its facilities such that they meet or exceed existing OSHA regulations. As a part of this evaluation, an OSHA-type compliance inspection was performed at the SRS to assess workplace compliance with the safety and hygiene requirements of OSHA. This inspection resulted in more than 230 violations, many of which were promptly corrected by the contractor, however, several significant program deficiencies were identified. These deficiencies indicated that many common safety requirements have not been implemented by DOE-SR and the contractor. There is evidence of a move at SRS toward compliance with OSHA

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- **WSRC senior managers are strongly committed to excellence in SRS operations as demonstrated by the number and quality of critical self-assessments and performance improvement plans.**
- **The lack of detailed implementation strategies incorporating near-term goals, priorities, and performance indicators has led to differences in award fee and performance improvement expectations between DOE-SR and WSRC.**
- **The effectiveness of WSRC management oversight is diminished by the lack of an effective quality assurance program that provides independent evaluations of operations and management control systems.**
- **WSRC organizational and individual accountability for ES&H activities is being adversely affected by the absence of a complete set of clearly-defined authorities, responsibilities, and communication between organizational elements.**
- **DOE-SR has reorganized to provide improved oversight of SRS operations and is actively recruiting new personnel with commercial and naval nuclear backgrounds; however, understaffing and the lack of technical training are contributing to inconsistent technical interactions and insufficient oversight of SRS operations.**
- **WSRC managers, supervisors, and operators express a strong desire to improve Conduct of Operations; but performance deficiencies continue in areas such as procedural adherence and control of testing, maintenance, and operations.**
- **WSRC does not effectively use tracking, trending, "lessons learned," or root cause analysis systems to identify and correct deficiencies in a proactive manner.**
- **More timely and aggressive action is required at the facility level to implement INPO guidelines and industry "good practices."**

WSRC has several initiatives underway designed to move the site into a compliance mode of operation and effect an overall change in the culture of the site, however, they are in an early state of implementation. WSRC now has the challenge of managing a significant level of change. Presently, the many new initiatives are not fully integrated and prioritized so they can provide management with a comprehensive approach to managing that change and assessing their ability to meet commitments, both internal and external to the WSRC. Management has not adequately communicated their plan for change to all levels of the organization to obtain a common sitewide commitment and direction under WSRC. Although many mid-level managers, supervisors, and operators express a

strong desire to improve operations, many of these individuals lack the required knowledge of how to achieve such change. Of equal concern is the relatively slow pace with which WSRC is implementing immediate sitewide changes that do not require systems development or integration. This condition was observed in the operations area where opportunities for making immediate, high-impact changes, leading to improvements in the Conduct of Operations, have not been exploited.

The Management Subteam identified 13 findings that comprise the following deficiencies: lack of compliance with DOE Orders and requirements, inadequate oversight of ES&H activities, insufficient development and implementation of procedures within operating units, lack of a comprehensive sitewide training approach and implementation strategies for performance improvement initiatives, and poor definition of communications between responsibilities of organizational units. Following is a discussion of each of these deficiencies.

WSRC is not in full compliance with many DOE Orders and other regulatory requirements. In particular the areas of radiation protection, emergency preparedness, and maintenance were frequently cited as not being in compliance.

Both DOE-SR and WSRC are using a substantial number of tracking systems that are both duplicative and ineffective in providing DOE-SR and WSRC senior management with current ES&H commitment information. The effectiveness of WSRC oversight of ES&H activities has been diminished by the lack of an effective quality assurance program that provides independent evaluations of operations and management control systems. Overall it was concluded that DOE-SR has not provided sufficient oversight of ES&H activities due, in part, to understaffing and insufficient technical training of staff. Actions have been taken to correct this deficiency which include a recent reorganization directed at a more appropriate alignment of programs with DOE-Headquarters, assembly of a team of assistant managers with commercial nuclear and nuclear navy experience, location of some organizational units in the site facilities, and the use of outside support contractors for training and audit functions.

Although WSRC has established a hierarchical set of policies and procedures common to all organizations, the development of implementing procedures in the operating areas needs to be accelerated. The lack of procedural adherence identified in numerous previous assessments of NMPD as well as other areas of WSRC continues to be a major deficiency. The use of improper procedures and the conduct of some operations with the incorrect revision of procedures, indicate the need for management attention and an accelerated cultural change in this area.

ES&H and Quality Assurance (QA) training is not in compliance with DOE Orders and other regulatory requirements. Adequate training has not been provided to managers, supervisors, and other personnel. This deficiency was identified in several instances by the S&H Subteams.

Although positive performance improvement initiatives have been identified in many areas, several factors were found that have inhibited their timely implementation. DOE-SR and WSRC have not yet reached agreement on realistic near-term expectations; near-term and long-term implementation strategies have not been developed; and senior management expectations have not been effectively communicated down into the organization.

The accountability for ES&H activities has been adversely affected by the absence of a complete set of defined authorities, responsibilities and communication among SRS organizational elements. This was noted not only between DOE-SR and WSRC, but also with DOE-SR and the other SRS prime contractors.

Three noteworthy practices were identified. Two were associated with WSRC computer programs: Performance Criteria and Evaluation System (PCES) for radiation safety criteria and Compliance Matrix Program (COMAX) for facility design criteria. WSRC's incident reporting system Site Item Reportability and Issue Management (SIRIM) was also determined to be noteworthy.

Root Causes/Contributing Causes

An analysis of the concerns, findings, and supporting discussions in the five Subteam Reports was performed by the Management Subteam to identify the basic or root causes. Root Causes are defined as: a) those items which if corrected could prevent occurrence or recurrence of the situations and conditions that were found, and b) those specific/systemic factors that could cause or create conditions that may be less than adequate or could result in accidents or incidents.

The Management Subteam team analysis resulted in the identification of five root causes and two contributing causes which are enumerated below:

1. DOE-SR and WSRC are not effectively communicating management expectations, responsibilities, authorities, and accountabilities across and within organizations.
2. DOE-SR and WSRC management are not obtaining enough accurate information reflecting actual performance and status to determine all the actions necessary to meet commitments and expectations.
3. DOE-SR and WSRC are not providing sufficient training to their personnel in specific expectations, supervisory management skills, and management policies, programs, and procedures.
4. DOE-SR and WSRC have not agreed upon an implementation strategy incorporating near-term goals, priorities, and feedback mechanisms for performance improvement initiatives.

5. **WSRC Quality Assurance organizations are not adequately proactive or effective in providing independent oversight.**

Although not root causes, these contributing causes were identified to be of enough significance to highlight separately.

1. **WSRC management does not always implement steps to ensure high standards are demanded and maintained. Where these standards are not being met, management does not always take on-the-spot effective corrective actions in order to promote their expectations.**
2. **WSRC management is not requiring effective system and process reviews for determining SRS risk/hazard assessments for facilities, personnel and equipment.**

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LAWRENCE LIVERMORE NATIONAL LABORATORY

This report documents the results of the Tiger Team Assessment of the Lawrence Livermore National Laboratory (LLNL) (including the Site 300 area), Livermore, California, conducted from February 26 to April 5, 1990. The purpose of the assessment was to provide the Secretary of Energy with the status of Environment, Safety and Health (ES&H) Programs at LLNL. LLNL is operated by the University of California for the Department of Energy (DOE), and is a multi-program, mission-oriented institution engaged in fundamental and applied research programs that require a multidisciplinary approach.

The Tiger Team Assessment was conducted by a team comprised of professionals from DOE, contractors, and consultants.

The Tiger Team concluded that curtailment or cessation of any operations at LLNL is not warranted. Compliance issues identified by the Tiger Team are known to Federal, State, and local permitting agencies. Nevertheless, there are a significant number of ES&H findings and concerns identified in the report that require prompt management attention. Although LLNL management subscribes to the recent Secretarial ES&H initiatives and acknowledges the imperative for action, a significant change in culture is required before LLNL can attain consistent and verifiable compliance with statutes, regulations, and DOE Orders. Environmental and safety activities are informal, fragmented, and inconsistently implemented. In general, there is no comprehensive sitewide strategy and coordinated direction for ES&H programs.

Although formal management self-assessment has not historically been a part of LLNL culture and, consequently, has not been integrated into formal management controls, LLNL has taken some positive first steps in assessing its status relative to the Secretary's ES&H initiatives (e.g., safety team reviews, environmental compliance reviews/audits, Occupational Safety and Health Act audits, and audits conducted in preparation for the Tiger Team Assessment). While these activities have been conducted generally on an ad hoc, limited basis, they have generated a body of useful information for determining current status and initiating a plan of corrective action.

DOE San Francisco Operations Office (SAN) management is committed to change in its oversight responsibility at LLNL for ES&H matters and has done a self-assessment of its ES&H activities. SAN is aware of ES&H problems and issues at LLNL, has plans to locate ES&H oversight personnel at LLNL, and has had discussions with the DOE Headquarters Program Office on these issues. However, DOE Headquarters has not clearly defined its expectations of SAN in this regard. Consequently, there is no comprehensive plan for DOE oversight of LLNL ES&H programs.

Summary of Key Findings and Probable Root Causes

Environmental

Strengths noted were that LLNL has the highly skilled professional resources to resolve the technical issues associated with the findings of this Assessment (although they may not be involved with environmental activities), and LLNL's analytical laboratories have state-of-the-art instrumentation which can serve the environmental program well.

The Environmental Subteam identified findings of potential noncompliance with Federal and State regulations and DOE Orders; and nonattainment of acceptable best management practices. However, none of these deficiencies present an immediate risk to public health or the environment.

Environmental findings, associated root causes, and observations of LLNL operations reveal an environmental protection program that is informal, fragmented, inconsistently implemented, uncoordinated, and hindered by poor communications. Major concerns relate to organization and implementation of programs, although technical deficiencies have been identified. The key areas of concern are: environmental programs lack key elements needed for effective implementation, air monitoring programs do not have some necessary elements for accurate characterization and monitoring, systems are not in place to properly characterize and manage wastes, and quality assurance programs for environmental activities have not been developed or implemented.

In characterizing potential root causes, the Environmental Subteam constructed a three-tier system to define the relationship between the findings and root causes. The fundamental nature of many of the findings is such that the findings themselves are root causes of other more specific findings. There is one underlying root cause for all the findings: Although top management has indicated that environmental protection is a top priority, environmental concerns have yet to become an integral part of LLNL operations.

Safety and Health

Strengths were noted in health programs, technical competence, criticality safety, medical services, laser safety, training programs provided by the Hazards Control Department, and emergency response capability (exclusive of planning and training, which was in the early stages of development).

Safety programs, however, were generally informal and inconsistently implemented. Responsibility and authority for safety were diffused; training programs were deficient in structure, documentation, and implementation; management controls for safety were inadequate; maintenance of systems related to safety was deficient in a number of areas; and noncompliance with Federal and local regulations and DOE Orders was widespread.

Areas of principal concern were the direct result of informality and lack of management involvement in safety activities. There is an assumption on the part of management that safety is inherent in LLNL operations, which is not supported by independent verification and self-assessment. Likewise, SAN has not exercised close oversight of safety and health activities at LLNL, nor established effective controls to verify compliance. Many of the areas of noncompliance were the direct result of informality in safety operations and weaknesses in training.

Occupational Safety and Health Act (OSHA) Compliance

An inspection of OSHA compliance revealed a total of 247 inconsistencies: 208 in the area of general industry and 39 in construction. The majority of the inconsistencies would be classified by OSHA as "other-than-serious." The findings generally related to electrical hazards, the Hazard Communication Program, walking/working surfaces, and compressed gas storage. Observations specific to construction were related chiefly to fire hazards: improper storage of flammable materials and availability of fire extinguishers.

The deficiencies identified were attributable largely to the absence of training, formal procedures, and an internal audit program, as well as lack of supervisors carrying out responsibilities with respect to container labeling, providing Material Safety Data Sheets, and communicating safety information to employees.

Management and Organization

Key management findings are supported by the environmental, and safety and health assessments, especially with respect to discipline, formality, management controls, and self-assessment in programs related to ES&H compliance. Roles, responsibilities, and expectations at all levels throughout LLNL were not clearly defined, communicated, or understood relative to ES&H activities. There were no sitewide strategic and subordinate implementation plans to define and accomplish ES&H objectives. Although SAN appreciates the need for more aggressive oversight of ES&H at LLNL, the absence of formal authority from Defense Programs at DOE Headquarters and limited onsite resources have hindered development of SAN's role, as well as the establishment of an effective onsite program of oversight.

The Management Subteam identified three root causes for the findings and concerns identified in the Assessment. LLNL management does not yet have a full appreciation of all the DOE ES&H requirements or their impact on LLNL operations. Secondly, LLNL's collegial and informal management culture is not well suited to the demands of ES&H compliance, which require formality, goals, plans, and a disciplined management control system. Finally, there is a long-standing tradition of direct linkage from DOE Headquarters to LLNL, with minimal oversight and virtually no involvement by SAN.

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BROOKHAVEN NATIONAL LABORATORY

This report documents the results of the Department of Energy's (DOE's) Tiger Team Assessment conducted at Brookhaven National Laboratory (BNL) in Upton, New York, between March 26 and April 27, 1990. This independent assessment was conducted by a team comprised of professionals from the Department, contractors, and consultants. The purpose of the assessment was to provide the Secretary of Energy, Admiral James D. Watkins, Ret., the status of environment, safety and health (ES&H) programs at the Laboratory.

The BNL is a multiprogram laboratory operated by the Associated Universities, Inc., (AUI) for DOE. The missions of BNL include research in high-energy physics, nuclear physics, life sciences, nuclear medicine, materials sciences, and chemical sciences. Management of the Laboratory operations is assigned to the Brookhaven Area Office (BHO) under the Chicago Operations Office (CH). The three responsible Headquarters (DOE-HQ) offices include Energy Research (ER), Nuclear Energy (NE), and Environmental Restoration and Waste Management (EM). The BNL is the thirteenth DOE facility to be reviewed by a Tiger Team. It is the first nondefense facility to be visited by a Tiger Team.

The scope of the assessment included a review of management systems and operating procedures and records; observations of facility operations; and interviews at DOE-HQ, CH, and BNL. Subteams in four areas performed the review: ES&H, Occupational Safety and Health, and Management and Organization.

The following four activities at the Laboratory were directly affected by this assessment:

AQUIFER RESTORATION PROJECT - The New York State Department of Environmental Conservation sent a letter to BHO on February 26, 1990. The letter required the Laboratory to terminate the surface discharge of untreated contaminated groundwater from the Aquifer Restoration Project because of inadequate demonstration of hydraulic containment of the plume. However, the discharge was still occurring during the Tiger Team Assessment. The State reaffirmed their position during an interview with Tiger Team members and the discharge was subsequently halted.

MONITORING WELL INSTALLATION PROGRAM - The continuation of the Laboratory site monitoring well installation program was halted primarily because of a potentially inadequate program design.

BROOKHAVEN MEDICAL RESEARCH REACTOR - The Environmental Subteam's evaluation of the hydrogeologic conditions and the associated groundwater contamination called attention to the use of contaminated well water to cool the Medical Research Reactor and raised a question as to whether the cooling water

discharge met State standards. The Reactor, which had been administratively shut down for other reasons, will not be restarted until an acceptable alternative is determined.

ENVIRONMENTAL MEDIA SAMPLING - The environmental media sampling was discontinued because the Laboratory had not identified Occupational Safety and Health Administration/Act (OSHA) requirements for protection of hazardous waste workers, including training requirements.

The BNL is in the process of improving its ES&H programs. Commitment has been clearly stated by senior management. Progress has been made as the Laboratory prepared for this assessment. However, progress is limited by an insufficient number of staff and a lack of needed expertise and rigor. Laboratory management has acknowledged the need for ES&H expertise, both in terms of technical knowledge and regulatory requirements, and is moving ahead to obtain the needed expertise in some of the disciplines.

The Laboratory has clearly demonstrated a long-standing disciplined and technically inquisitive approach to scientific programs, including a system of checks and balances. This approach needs to be applied to the ES&H programs and facility maintenance. This will greatly improve the Laboratory's ability to conduct critical self-assessment, which is a major step in developing a sound ES&H program. Knowledge and discipline together with the availability of clear checks and balances in the Laboratory organizational structure will go a long way toward fulfilling the Department and Laboratory management's common goal of safe and environmentally sound operations while achieving scientific objectives.

The CH has taken actions to increase staffing at BHO in an effort to fulfill its line management responsibilities. However, oversight of BNL operations by BHO, CH, and ER is not adequate. This inadequacy is due to a lack of resources and the fractionated assignment of line-management responsibilities for ES&H versus scientific activities. Lessons can be learned from the oversight concept and process being developed with NE for reactor operations. Also, both short-term and long-term resource requirements to address ES&H and facility maintenance have to be clearly identified and prioritized so that funding decisions can be made at the appropriate Department management level with an understanding of the resultant benefits.

The findings, concerns, and probable root causes identified by the Team are summarized in the following sections and reflect a snapshot in time. It is our expectation that BNL, BHO, CH and ER will use these findings, concerns, and probable root causes as they identify root causes for resolution as part of the Action Plan.

Environment

Strengths noted by the Environmental Subteam were that the Laboratory, for the most part, has the professional capability of conducting a comprehensive environmental program and that it is committed to complying with environmental regulations and DOE Orders. The Subteam concluded that reporting required by Secretary of Energy Notice No. 7 (SEN 7) was generally adequate for the Laboratory, although the Subteam noted several deficiencies that the Laboratory had not previously identified. In addition, several findings identified deficiencies that had been noted as early as the 1987 Environmental Survey but had not yet been corrected.

The Environmental Subteam identified 37 findings dealing with lack of conformance to Federal and State laws and regulations, County codes, DOE Orders, and 27 findings in which best management practices were not attained. Key concerns relate to inadequate hydrogeologic, surface water, air, and soil characterization, and the inadequate control of activated materials.

The causal factors for these and other environmental findings include the lack of standard operating procedures for many Laboratory environmental programs, the lack of audits and reviews, the perception of low risk resulting in limited commitment of financial and personnel resources, and inadequate training of personnel charged with the tasks of environmental control.

Two noteworthy practices were identified by the Environmental Subteam. The first involved exceptional procedures used for the disposition of chemicals under the control of personnel terminating work or experimental activities at BNL, and the second concerned a Legionella bacteria prevention program for cooling towers.

Safety and Health

The Safety and Health (S&H) Subteam noted strengths in both the Medical Services discipline, where one Noteworthy Practice was identified, and in the Plant Engineering Division's sitewide maintenance program. Several improvements have taken place in many areas since the September 1989 comprehensive Technical Safety Appraisal of the Laboratory, including the following: the packaging and transporting of hazardous materials, an increased emphasis on occupational safety, a decline in occupational accident rates, greater attention to the construction safety program, and a marked improvement in the safety training program.

One Category II concern was identified addressing significant risks or substantial noncompliance with DOE Orders (but not involving a situation where a clear and present danger exists to workers or members of the public). That concern addressed a substantial noncompliance with OSHA requirements regarding hazard communication training. In addition, one concern was cited as a Hazard Level 1, having the potential for causing a severe occupational injury or fatality. The

concerns were primarily identified in the areas of fire protection, formality of operations, quality verification, organization and administration, technical support, and radiation protection.

In general, Laboratory-wide policies, controls, and management communication have not been designed to ensure a uniform and consistent safety program. Management followup activities are lacking resulting in noncompliance with safety and health requirements; and since each department is autonomous in its safety responsibility, many aspects of the safety program are fragmented and inconsistent, and not in compliance with safety and health requirements.

Occupational Safety and Health Administration/Act (OSHA) Compliance

Approximately 200 apparent violations of OSHA and DOE workplace safety and health standards and regulations were detected during the OSHA review. Although none of the violations can be classified as an "imminent danger," about half were classified as "serious."

The findings can be categorized in the following three areas: (1) electrical hazards, (2) hazard communication, and (3) portable fire extinguishers. Most construction findings were in the area of asbestos control, and were caused by application of incorrect asbestos requirements.

The deficiencies identified were attributable largely to the lack of uniform management controls in verifying sitewide compliance with OSHA requirements, a weakness in training, a lack of formality in safety-related operations, and a lack of close management oversight.

Management and Organization

The Management Subteam found that both the Department and Laboratory staffs generally accept the DOE goal of full compliance with ES&H requirements. However, the following key management findings were supported by the Environmental and S&H Subteams assessments. Communication of Laboratory ES&H policies and directives to the working level is not adequate. Laboratory internal oversight has been insufficient and has not been adequately independent of line organizational responsibilities. The Laboratory lacks a safety and health plan to identify and prioritize ES&H deficiencies and concerns. Both staffing and funding resources need to be increased to meet Departmental expectations within the time schedule. Operations and Program Office oversight of the Laboratory ES&H programs have been insufficient.

Probable Root Causes

The Team identified four root causes for the findings and concerns identified during the assessment. First, Department and Laboratory management have not uniformly accepted the need for high-level attention to the new ES&H expectations. Second, Department and Laboratory management appear to underestimate the difficulty of meeting ES&H requirements. Third, Laboratory management lacks sufficient control of the ES&H program. Finally, an adequate system of checks and balances in the overall ES&H program is lacking.

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SANDIA NATIONAL LABORATORIES -- LIVERMORE

This report provides the results of the Tiger Team Assessment of the Sandia National Laboratories (SNL) in Livermore, California, conducted from April 30 to May 18, 1990. The purpose of the assessment was to provide the Secretary of Energy with the status of environment, safety and health (ES&H) activities at SNL, Livermore. SNL, Livermore is a U.S. Department of Energy (DOE), government-owned, contractor-operated facility under the management of the DOE Albuquerque Operations Office (AL), SNL Area Office. The SNL Area Office is part of AL's Management Support Division (MSD).

The primary mission of SNL, Livermore is research, development, design, and evaluation of new and existing nuclear weapon systems. There are also significant activities in other areas, such as energy research and technology.

The assessment was conducted by a team consisting of three subteams of Federal and private sector technical specialists in the disciplines of environment, safety and health (including compliance with regulations promulgated under the Occupational Safety and Health Act of 1970), and management.

On-site activities for the assessment included document reviews, observation of site operations, and discussions and interviews with DOE personnel, site contractor personnel, and regulators. Using these sources of information and data, the Tiger Team identified a significant number of findings and concerns having to do with the environment, safety and health, and management, as well as concerns regarding noncompliance with Occupational Safety and Health Administration (OSHA) standards. Although the Tiger Team concluded that none of the findings or concerns necessitated immediate cessation of any operations at SNL, Livermore, it does believe that a sizable number of them require prompt management attention.

A special area of concern identified for the near-term health and safety of on-site personnel pertained to the on-site Trudell Auto Repair Shop site. Several significant OSHA concerns and environmental findings relating to this site prompted the Tiger Team Leader to immediately advise SNL, Livermore and AL Management of this situation. A case study was prepared by the Team, because the root causes of the problems associated with this site were believed to reflect the overall root causes for the areas of ES&H noncompliance at SNL, Livermore (see Appendix F for the case study of the Trudell Auto Repair Shop issue).

The Tiger Team also evaluated the quality of SNL, Livermore's efforts to implement a self-assessment program to identify, understand, and correct ES&H deficiencies. SNL, Livermore had conducted an ES&H self-assessment, which was extensive in terms of the effort and resources dedicated to it, and comprehensive, in that it covered the majority of the site's activities. A number of the ES&H problems found by the Tiger Team Assessment had previously been identified by the SNL,

Livermore self-assessment. However, for those deficiencies identified by both SNL, Livermore and the Tiger Team, the level of detail discovered and reported by SNL, Livermore was often substantially less than that reported by the Team. The Tiger Team concluded that the lack of depth and detail provided by SNL, Livermore in its descriptions of these deficiencies potentially indicated an insufficient understanding of the ES&H requirements.

Furthermore, the Team found that SNL, Livermore had not yet developed a comprehensive, prioritized program for correcting its recently identified deficiencies. The limitations of the self-assessment appeared to be due in large part to the following: 1) ES&H self-assessments and major functional appraisals had not previously been a part of the operations at SNL, Livermore, and 2) a comprehensive, independent self-assessment program has not yet been formalized at SNL, Livermore.

The SNL Area Office also performed a self-assessment in which it recognized and identified a number of the ES&H management oversight issues and problems found by the Tiger Team, including a lack of staff and ES&H training. The Area Office has stated its commitment to improving the level and quality of its ES&H management oversight. The recent Memorandum of Agreement with the San Francisco Operations Office (see Appendix J) to assist the Area Office in carrying out on-site oversight responsibilities is intended to help facilitate ES&H improvements.

Key Findings and Noteworthy Practices

A brief summary of the environment, safety and health, OSHA, and management key findings, noteworthy practices, and root causes follows. More details on these and other findings are included in Section 2.0.

Environment

The Environmental subteam identified a total of 41 findings. Three findings were considered key, and each of them is comprised of several findings/issues. None of the findings were of a nature that warranted curtailment or cessation of operation at SNL, Livermore. The Environmental Subteam found that environmental and waste management programs at SNL, Livermore are generally in compliance with regulatory requirements, however, there are fundamental weaknesses in the programs. The key findings for the environmental assessment are as follows:

- There are no formalized environmental policies, quality assurance (QA) programs to implement environmental protection programs, or procedures to ensure that the environmental compliance program at SNL, Livermore is being carried out effectively and in compliance with all requirements.

- In the area of National Environmental Policy Act (NEPA) compliance, SNL, Livermore's program is considered inadequate.
- SNL, Livermore is not in conformance with DOE Order 5400.4, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements, and the San Francisco Bay Region of the California Regional Water Quality Control Board (RWQCB) Site Cleanup Order NO. 89-184 for certain remedial response activities associated with inactive waste sites and releases at SNL, Livermore.

Safety and Health

The Safety and Health Program at SNL, Livermore has begun a transition from an informal system relying primarily on professional judgement to one focused on compliance. Despite the compliance initiative, numerous failures to comply with DOE Orders and prescribed standards were noted in both the Safety and Health and the OSHA Compliance Assessments. The Safety and Health Subteam identified 119 concerns; the following is a summary of the key concerns identified:

- There is a lack of specific sitewide policies issued by management that define and integrate the ES&H effort throughout the site.
- Management has not provided a clear definition of ES&H responsibilities and authorities.
- Management does not have a system to track or trend important safety data, and does not provide regular management assessments of ES&H on-site activities and progress.

Of the 119 concerns, 5 were identified as Category II (addresses a significant risk or substantial noncompliance with DOE Orders, but not a clear and present danger to workers or the public). These Category II concerns were in the areas of organization and administration, personnel protection, and operations. However, none of these Category II concerns involve situations where there is a clear and present danger to workers or to members of the public.

Occupational Safety and Health

The OSHA Compliance portion of the Safety and Health Subteam identified a total of 112 items of noncompliance with OSHA standards. Twenty-six were considered serious, of which 2 were identified as "imminent danger." The imminent danger situations concerned 1) excavation safety at a hazardous waste remediation site and 2) an unattended forklift, loaded and in a raised position. SNL, Livermore and AL took immediate corrective action.

Management and Organization

The Management Subteam identified 14 findings in 6 major categories with respect to AL and SNL, Livermore management of ES&H activities. Most of these were identified to some degree by the SNL, Livermore and AL self-assessments. The following are the key Management Assessment findings:

- Roles, responsibilities, authorities, and interrelationships are not clearly understood, fully documented, or systematically implemented throughout SNL, Livermore.
- Management does not exhibit an understanding of what constitutes an effective ES&H program or how to implement it.
- Communication of the ES&H message from SNL, Livermore management has been, and continues to be, ambiguous.
- No comprehensive resource plan has yet been developed to permit the SNL, Livermore ES&H mission to be accomplished.
- SNL, Livermore does not have an effective, comprehensive, internal ES&H review and appraisal system.
- Oversight and followup of SNL, Livermore ES&H activities are lacking.

Probable Root Causes

A root cause is the most basic reason for a problem, which, if corrected, will prevent the problem from recurring. It is one of the most important aspects of the analysis of an event or the correction of appraisal findings. The Management Subteam analyzed the results of all three subteams' findings and concerns, and found six root causes that meet the definition given above. These root causes are stated below, followed by conclusions derived from analysis.

- SNL, Livermore has not developed a management framework and process by which ES&H functions and requirements will be implemented in a consistent and sustainable manner.
- SNL, Livermore's planning and implementation of the ES&H program is hampered by the lack of effective leadership.
- SNL, Livermore has not developed an implementation strategy incorporating goals, priorities, and feedback mechanisms.
- SNL, Livermore's management does not obtain enough information reflecting actual ES&H performance and status to determine all the actions necessary to meet commitments and expectations.

- The SNL, Livermore quality assurance (QA) organization is not effective in fulfilling its independent oversight function.
- SNL, Livermore and AL are not providing sufficient training to their personnel in ES&H technical disciplines, specific expectations, supervisory management skills, and management policies, programs, and procedures.

The Tiger Team found that operations at the SNL, Livermore Tritium Research Laboratory (TRL) reflect a significant degree of ES&H excellence, including their QA and training programs. Many of the ES&H deficiencies identified in other SNL, Livermore operations were not found in the TRL. In fact, a significant portion of the TRL operations were considered exemplary. It is believed that the operations practices of the TRL could be used as a guide by SNL, Livermore management during the process of correcting the root causes and deficiencies identified by the Tiger Team.

Noteworthy Practices

Three Noteworthy Practices were identified at SNL, Livermore. In the management area, SNL, Livermore is initiating a program to train custodial personnel and security escorts to identify and report potential ES&H concerns observed while performing their routine duties. The other two Noteworthy Practices are in safety and health. SNL, Livermore conducts medical surveillance of employees exposed to organometallic substances. It also has in effect a Continuous Operation and Energy Permit System, which requires documentation and approval for all equipment required to be energized while it is unattended. The permits list each specific piece of equipment and indicate who is to be called in case of emergency.

Post-assessment Activities

The Draft Tiger Team Assessment Report was submitted to the Office of Defense Programs, AL, SNL Area Office, SNL, and the participating regulatory agencies for review of technical and factual accuracy. The review comments, where appropriate, were incorporated into this Final Report on the Tiger Team Assessment of the Sandia National Laboratories in Livermore, California.

The Office of the Assistant Secretary for Defense Programs will prepare a draft Action Plan that addresses corrective actions for the findings, concerns, and root causes identified during the Tiger Team Assessment. The draft Action Plan will be submitted to the Tiger Team Leader and the Assistant Secretary for Environment, Safety and Health for review and comment. After final coordination, the Assistant Secretary for Defense Programs will submit the Final Action Plan to the Secretary. If the Secretary accepts the plan, he will approve the Final Action Plan and direct that it be implemented.

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HANFORD SITE

Background

Over 100 Tiger Team specialists conducted an Environmental, Safety, and Health (ES&H) Assessment of the Hanford Site, beginning on May 21, 1990, and ending on July 18, 1990. The purpose of this detailed assessment was to provide to the Secretary of Energy the current status of the ES&H Program for this multicontractor Site.

It is important to understand the dynamics of the Hanford Site at the time of the assessment. The Site is operated by four prime contractors instead of one; the facilities are old; the Site activities are under intense U.S. Department of Energy (DOE) and external scrutiny; the mission is changing, and the business environment is changing.

The DOE-Richland Operations Office (RL) administers four prime contracts: two industrial contractors, Westinghouse Hanford Company (WHC) (9,000 employees) and Kaiser Engineering Hanford Company (KEH) (1,046 employees); one multiprogram research contractor, Pacific Northwest Laboratory (PNL) (3,314 employees); and one medical services contractor, the Hanford Environmental Health Foundation (HEHF) (150 employees). This approach puts a much larger demand on DOE-RL's contract management and administration resources than is typical of most other DOE operations offices.

The Hanford Site was established in 1943 for the production of nuclear materials. With few exceptions, the buildings are 30 to 45 years old. The material condition of the buildings is generally not good.

The Hanford Site has experienced mission uncertainty and accompanying anxieties over jobs; contractor consolidation; numerous recent intensive environmental and safety reviews; negative public and political comments; the evolution to a new, very different mission (environmental cleanup); and a recent, continuing implementation of a comprehensive set of new ES&H requirements. The most recent change is in response to the requirement by Secretary of Energy James D. Watkins, U.S. Navy (Retired), to make ES&H a dominant priority, to obtain a disciplined approach to conduct of operations, and to achieve excellence beyond compliance with Federal, State, and local requirements.

Management of these simultaneous changes has been a substantial challenge for the Hanford Site leadership -- DOE, contractors, unions, and regulators. Adding to management's challenge is an increasingly demoralized work force. This morale problem exists even though Hanford Site's overall budget is increasing.

The Tiger Team Assessment was conducted in this setting.

Assessment Overview

The overall assessment is that the Hanford Site is on a positive improvement slope, but far from achieving expectations or excellence. Improvements are being made, but slowly. For example, DOE-RL had initiated several improvements prior to the issuance of new requirements by DOE-Headquarters (HQ); these include an Employee Concerns Program, self-assessment, a policy promoting safety dominance, Cost Plus Award Fee with ES&H dominance, implementation of Institute of Nuclear Power Operations Good Practices, and a Tri-Party Agreement with the State of Washington and the U.S. Environmental Protection Agency (EPA). Also, WHC, in line with good conduct of operations, is transferring management personnel from the Fast Flux Test Facility (FFTF) and N-Reactor to the waste and processing areas.

The major conclusions of the Assessment for each of the four prime contractors are identified and discussed below.

Major Conclusions

Hanford Site has a number of significant environmental problems that are mostly a legacy of past practices. Fortunately, Hanford Site is well on the way to a good environmental compliance program, with excellent technical talent, a proper attitude, and a formal Tri-Party Agreement (TPA). Although the TPA provides a framework for introducing and resolving issues, an increasing scope and complexity will make future compliance and control more difficult.

None of the findings and concerns identified by the Tiger Team warranted a curtailment or cessation of activities for any facility or program. A voluntary cessation of hoisting and rigging operations was initiated by PNL in response to findings from the Tiger Team and additional findings identified by PNL's followup assessment. All deficiencies were corrected by PNL within 24 hours. The Environmental Subteam identified 84 findings; 48 represent a failure to meet requirements and 36 represent where best management practices (BMPs) are not used. Four Special Issues (one Compliance Finding and three Discussions) and five Noteworthy Practices were also identified.

The Safety and Health review resulted in 266 concerns, including 9 Category II Concerns that need immediate attention. Four Noteworthy Practices were identified. All safety disciplines and facilities have deficiencies, with FFTF representing the best operation at the Hanford Site. Most other facilities, especially in the waste and processing areas, fall far short of expected plant performance.

The Management and Organization (M&O) Subteam identified 21 findings, including 6 findings in the Conduct of Operations. No Noteworthy Practices were identified. Management has not yet accomplished the culture change required for crisp performance in most of their nuclear and industrial activities. Planning and

prioritization of resources toward monitoring, assessment, analysis, and correction of systemic problems is less than adequate to accelerate the culture change. While improvement is a goal of top management, middle- and lower-level management are not effecting this desired change.

The lack of prioritization and planning, noted above, promotes the lack of a baselined scope and schedule. Without a baseline, scope changes resulting from new DOE orders or new regulatory requirements cannot be controlled, and real performance cannot be measured. A prioritized baseline is the field's responsibility, but DOE-HQ must be cognizant of the impacts that new orders and regulations have on programs that have been properly baselined. DOE-HQ needs to assist the field in prioritizing new requirements and establishing a new baseline.

The Tiger Team firmly believes that this Assessment, and many other reviews, have comprehensively identified the major specific and root cause problems at the Hanford Site. Rather than solely identifying further deficiencies, efforts should also be spent supporting root-cause solutions. Given an opportunity to rectify root causes, Hanford Site can ultimately make symptomatic problems go away. The major emphasis by DOE-RL, with DOE-HQ support, should be to identify a get-well program and implement it with controls on scope, cost, and schedule.

WHC received most of the attention of the Assessment Subteams because of their inherently moderate- to high-risk programs and operations. The Assessment also covered HEHF, KEH, and PNL. A brief summary, specific for each contractor, is provided below.

WHC is the largest organization onsite and has responsibility for conducting most of the site programs and operations. WHC top-level documentation is well organized and provides very good formal structure. Lower-tier documentation, including Safety Analysis Reports (SARs), as-built drawings, facility operating procedures, etc., are in the process of being upgraded. Management oversight and supervision in the work place need to be upgraded. Other areas of deficiency were noted in the areas of Conduct of Operation, self-assessment, and use of resources.

The HEHF centralized and independent medical services are excellent concepts. HEHF lacks structure and formality, even for a small company. Deficiencies include poor documentation for duties, authorities, practices, and procedures. There are no programs on Quality Assurance (QA), As Low As Reasonably Achievable (ALARA), Unusual Occurrence Reports (UORs), or substance abuse. HEHF had initiated some programs for improvement prior to the Tiger Team Assessment, but a more aggressive approach is needed. Past history suggests that HEHF has been passive in relation to contractor needs, and has waited to be asked to perform services.

PNL, as expected, has promoted a collegial, free-thinking framework that is desirable in a research organization. This, however, conflicts with the need for disciplined operations in risk areas. The organization responsible for QA and ES&H

oversight has also assigned to it a line responsibility for waste management and environmental compliance. The ES&H oversight organization also provides technical support to line organizations. Policies and procedures are general and out of date. The organization, functions, mission, and safety objectives are reasonably well defined. Although job descriptions are weak, performance evaluations are performed. Their UOR and supporting systems are strong. Lifting and hoisting deficiencies were systemic. As-built drawings and SARs are generally out of date; PNL is taking corrective action. Three Category II Concerns were assessed against PNL, mainly in industrial safety areas.

KEH is an organization with evolving discipline and control in their organization and work practices. Two Category II Concerns were assessed regarding procedure compliance and hoisting and rigging. The KEH QA Plan is quite good overall, but the company has deficiencies in receiving inspections, procurement, and calibrations. They perform well in the control of special processes, inspections, and the use of Project Control Packages.

Environmental Subteam

The Environmental Subteam identified three basic weaknesses in the Hanford Site environmental program:

- a lack of formal program structure and operations in many areas;
- spotty quality assurance; and
- insufficient management presence in the field.

The Environmental Subteam also identified two basic strengths that are considered basic characteristics of a proper culture:

- a dedicated and excellent technical staff in both DOE-RL and its contractors, and
- a strong top management commitment to environmental compliance.

The Environmental Subteam identified 84 findings in its assessment of the Hanford Site. None of the findings reflected situations that warrant immediate cessation of activities. Of these, 48 findings reflect problems that do not meet the requirements of Federal, State of Washington, Washington regional, county environmental regulations, or DOE orders. The other 36 findings represent conditions where best management practices were not employed. Five Noteworthy Practices and four Special Issues (one Compliance Finding and three Discussions) were also identified by the Environmental Subteam.

The environmental and waste management programs at Hanford Site are in compliance with major issues mainly through the TPA and other formal compliance agreements. Without these agreements, numerous noncompliances would exist. Currently, all milestones are being met. The Tiger Team is concerned that today's loose program management practices will not suffice in the near future when the scope is greatly expanded and budget constraints become a reality. Several minor noncompliances are not covered by any formal agreement.

Hanford Site's need for monitoring and controlling their environmental program in the future will be essential. The existing Self-Assessment program can serve as the vehicle for this need, providing that improvements are made to that system. The Team found that only 20 percent of the 84 findings were in the Hanford Self-Assessment, but that 67 percent of the Key Findings were there. Improvements in identifying noncompliances and knowing what to report are needed. As part of the assessment, the Team followed up on actions being taken to correct the problems identified in the 1986 Environmental Survey. The current tracking system shows that 23 of the 53 Environmental Survey Findings (1987) have been completed. DOE-HQ and line management do not periodically follow up on the Environmental Survey Findings, a systemic problem.

The most significant Key Findings are:

- Long-term storage of radioactive and mixed wastes at the Tank Farms and Low Level Burial Grounds potentially threaten the environment. The tanks currently used to store wastes experience conditions for which they were not designed. The transuranic waste containers at the Burial Grounds have been placed in retrievable storage, but very little design lifetime remains for some containers. Experience at other sites would indicate that container integrity could now be questionable.
- Clear accountability has not been established for program management and QA for actions under the TPA. The complexity and scope of this program may not be manageable with current systems. Further, no independent verification mechanism is in place for verifying the TPA cost projection model, and an insufficient QA approach has been implemented for this program to date.
- Current and past waste (primarily liquid effluent) disposal practices have contaminated and continue to contaminate the groundwater. A related concern is that currently the Site does not sufficiently understand the overall site hydrogeology to guide remedial actions.
- WHC and PNL sitewide radiological monitoring programs lack formality of contractor communications. Site systems for monitoring radioactive air emissions from stacks may not produce representative information.

- Radioactively contaminated soil is spreading faster onsite than it is being cleaned up, despite substantial efforts to contain/reduce this surface area.
- Formal quality assurance programs for some activities are deficient to the point that the defensibility of data is questionable.

In addition to the six Key Findings above, four "Special Issues" were identified:

- Lack of Formal Environmental Guidance and Oversight for Entities With Easement Rights, Permits Licenses and Leasing Agreements. The Site does not provide sufficient guidance and oversight to assure environmental compliance for leased or permitted land and for easements.
- Applicability of State of Washington Regulations for Liquid Waste Discharges. This issue includes a legal determination required for the Federal Clean Water Act and whether State law applies to effluent discharges to soil columns. This waste water ultimately would, by current estimates, flow to the Columbia River. DOE-RL requested DOE-HQ guidance on March 30, 1990.
- Well Placement at the Single-Shell Tank Farms. The State of Oregon has raised a concern regarding the integrity of well seals for monitoring wells required by the Tri-Party Agreement. Washington State has halted the well drilling to resolve this issue, although Washington State requirements are being met. This could affect Milestone M-24-03 in the Tri-Party Agreement.
- Undetermined Waste Status of Residual Special Nuclear Materials (SNMs). Scrap materials containing SNM are being accumulated at the Plutonium Finishing Plant (PFP). A large amount of this material, if determined to be waste, would be classified as Dangerous Waste and would be considered to be hazardous according to the State regulations. Currently, DOE-RL is working on this issue with DOE-HQ. If the material is determined to be waste, a compliance issue would then be negotiated into the Tri-Party Agreement.

Hanford Site's relationship with the regulators is guarded. While the Tri-Party Agreement demonstrates regulator confidence in Hanford Site, legacies and practices of the past must still be overcome. Further improvement can be made in providing timely information to the Federal and State regulators. While this is improving slowly, the regulators seek an active information exchange such as occurs in the system established for the Basalt Waste Isolation Project.

Five Noteworthy Practices were identified:

- **SEN-7 reporting is excellent.**
- **An effective rationale has been developed for designing monitoring well networks.**
- **The system for awareness of change in polychlorinated biphenyl (PCB) regulations is excellent.**
- **The Cultural Resources Management Programs, started in 1987, is an excellent model for other sites to use in starting their programs.**
- **The Hanford Fire Department has a computerized system on their response vehicles that provides health and safety and response-related information for immediate use on the scene.**

Safety and Health Subteam

The Safety and Health Subteam assessed the Hanford Site directly and with the aid of recent Technical Safety Appraisals. Virtually all moderate to high risk operations were covered. The Subteam identified 266 Concerns, 9 are Category II, and require immediate short-term corrective action. The Subteam found concerns in all appraisal areas, with 111 concerns identified in the four areas of Industrial Hygiene, Radiation Protection, Organization and Administration, and Training and Certification. Maintenance has 12 concerns, 5 are Category II.

Eighteen Key Concerns, including deficient management aggressiveness, self-assessment, SARs and as-built drawings, morale, training, onsite shipping, calibration, industrial hygiene program, and Conduct of Operations, have been identified. Several initiatives are in progress to improve safety, health, and QA. The results are encouraging. To further support such improvement initiatives, eight root causes underlying the Key Concerns are provided.

- **The DOE-RL does not have a strategic management plan that ensures the contractors and their employees act as a team to operate the Site in a safe and healthful manner and produce quality products on time.**
- **Hanford Site contractors have not conducted regular, critical, self-appraisals of activities that can impact public and worker health and safety and that can generate lessons learned that can lead to correction of the causes of the problems.**
- **Line personnel, including the DOE-RL staff, have not taken personal responsibility for public and worker health and safety, and quality products.**

- Both discipline of operations to ensure adherence to procedures and the ability to recognize and respond appropriately to off-normal conditions need improvement.
- Line personnel are not adequately trained to discharge their safety and health responsibilities.
- The contractors and DOE-RL are still catching up from years of neglecting safety and health issues. They are reactive rather than proactive in addressing issues.
- Involvement of workers and their immediate supervisors in establishing safe and effective procedures is not used as a universal approach to effective management by all contractors.
- Insufficient resources are devoted to identifying and solving health, safety, and quality issues by all contractors and in ensuring adequate workplace performance by DOE-RL.
- There needs to be routine prevention or limitation of workplace safety and health hazards.

Four Noteworthy Practices were identified:

- WHC developed an excellent action and tracking system for resolving deficiencies in their Emergency Planning Program.
- WHC, at DOE-RL's direction, conducted a feasibility study for a training center to provide comprehensive and hands-on training for hazardous materials and emergency response.
- The operators at the Plutonium Finishing Plant (PFP) were given the primary responsibility to revise the PFP operating procedures, and as a consequence, they now "own" the procedures. The procedures are now markedly improved, and many secondary effects such as improved morale and self-reporting are occurring. In addition, the operators have developed their own creed regarding their performance, the "Professional Code of Nuclear Operators."
- The Scope of DOE 5480.16, Firearms Safety, has been expanded by PNL to apply to groups other than security forces, specifically to wildlife sampling.

Other areas showing improvement are criticality safety, firearms safety, fire protection, some training and procedures development, a sitewide Job Control System (JCS), aspects of radiation protection at some facilities, and the overall

quality of technical and operating personnel. Some Hanford Site workers have shown that old facilities can be clean and safe facilities. Training is also moving slowly in the right direction.

The positive accomplishments are encouraging and show progress. The list of deficiencies shows much more needs to be done. Management needs to focus on generic problem identification and solution, more than fixing individual symptoms. Fixing the former will prevent the latter.

Worker Safety

The review of compliance with OSHA standards produced 1,271 noncompliances, 218 of which were serious, in 14 categories. Cessation of work is not necessary for these serious OSHA noncompliances, but they need to receive priority resolution. Deficiencies in 5 categories accounted for 1,070 of the noncompliances (electrical, means of egress, walking surfaces in working areas, toxic and hazardous substances, and fire protection). The electrical category alone accounted for 690 noncompliances. The company performing the above OSHA inspection noted these findings are normal for eight inspectors working for 2 weeks.

Seven areas of major deficiencies were identified:

- Hoisting and Rigging,
- Industrial Hygiene -- lack of priority effort,
- Maintaining and Characterizing Exposure to Toxic Chemicals and Physical Agents,
- Electrical Safety,
- Lack of Supervisory Ownership of H&S Problems and Programs to Control these Hazards,
- Hearing Conservation, and
- Machine Guarding.

Recognizing the recent emphasis given to OSHA standards compliance, the inspectors concluded:

- A lack of expertise/specialized knowledge/expert support exists among supervision expected to recognize problems.
- A lack of a well-defined program exists among the contractors.

- A weakness exists in DOE-RL oversight.

Prior to the Tiger Team Assessment, Hanford Site performed its own review and found over 5,000 deficiencies. Approximately 70 percent of these have been corrected. About 300 people have been trained to recognize the 100 most common deficiencies. The major long-term need is to establish OSHA in the line and ES&H infrastructure so that a safe and healthy work place is assured and that any violations that are identified can be tracked.

Management and Organization Subteam

The Management and Organization (M&O) Subteam conducted a management assessment of DOE-RL's ES&H program and its implementation by the four major contractors at the Hanford Site. The assessment covered seven areas: organization and management; ES&H policies; communications of ES&H objectives; resources, including budgets; ES&H self-assessment; DOE oversight; and the conduct of operations.

The seven ES&H areas were covered by reviewing 16 topics: The Hanford Self-Assessment; the Site Employee Concerns Program; audits, surveillances, and trending programs; the DOE directive system; Cost Plus Award Fee effort; the Unusual Occurrence Report (UOR) System; resources; quality assurance; training; corporate oversight; ES&H policies and procedures; independent oversight organizations; performance appraisal systems; ES&H goals and objectives; program/project management; and conduct of operations.

The Conduct of Operations assessment was focused on Westinghouse Hanford Company (WHC) because of their responsibilities for reactor, waste management, and environmental restoration activities. The evaluation consisted of observing day-to-day conduct of operations at eight facilities: the FFTF, N-Reactor, 340 Complex, PFP, PUREX, Uranium Oxide Facility, B-Plant, and the Tank Farms.

The M&O Subteam identified 21 Management Findings, some applicable to more than one organization. Based on these findings, the M&O Subteam drew general conclusions that provide the essence of the following five Key Findings from a sitewide perspective.

- The degree of formality and rigor of ES&H activities at the Hanford Site is not at an acceptable level when compared to the commercial nuclear industry.

While management is in various stages of implementing the Institute of Nuclear Power Operations conduct of operations philosophy, the workers have a poor understanding of these concepts, with a few exceptions, e.g., FFTF. Procedure adherence is poor; many procedures are outdated or incomplete.

- The desired ES&H culture change is not being achieved at all levels as quickly as necessary. This is especially true for line management.

One of the primary reasons for the lack of ES&H culture change at the working level is the direct result of poor management understanding and supervisory oversight of the work force. Deficiencies include unclear communication of goals and requirements, as well as inadequate feedback that the correct message is being received and understood by the workers. These deficiencies affect not only productivity and performance, but also the accomplishment of the ES&H culture change being sought. Even when employees understand the organizational goals, the lack of management visibility at the worksite to reinforce those goals adds to the employees' perception that these goals are not really important.

- The use of resources is inefficient.

While additional resources will undoubtedly be needed for the Hanford Site to accomplish its mission, considerable doubt exists that currently available resources are being used most effectively. The lack of adequate work force supervision with the attendant work force productivity implications, combined with inadequate root cause analyses, results in wasteful use of resources being used to correct repeated deficiencies. When coupled with a corrective action plan process that uses a prioritization methodology that does not include cost/benefit aspects, effective use of current resources is not assured, and the credibility of the assessment of future resource needs is reduced.

- The internal ES&H review process, including independent oversight, self-evaluation, and corrective action, is inadequate.

An integral part of a sustaining and effective ES&H program is the ability of the organization to identify and evaluate its own problems, and the technical self-sufficiency to correct these in an effective, timely manner. The M&O Subteam found the need to improve nearly all aspects of this evolving self-assessment process at the Hanford Site, from the independent safety review system to the corrective action process.

- The integration and prioritization of ES&H activities are inadequate.

A sitewide ES&H prioritization and implementation plan would provide order when considering the magnitude of the Hanford Site mission and the need to integrate the interrelated activities of the five organizations involved. To effectively correct the ES&H program

deficiencies noted in the previous Key Findings, this planning process must also extend downward to provide detailed action plans to ensure comprehensive and timely resolution of ES&H issues by line management.

Root Causes

The M&O Subteam reviewed all concerns and findings and the probable root causes provided by all Subteams, and determined the key management system root causes for the most significant and generic issues identified by the Tiger Team.

The M&O Subteam identified the following three major root causes:

- Management has not accomplished the necessary safety culture change. It is not apparent that management fully accepts the magnitude, the scope, and the necessary level of detail required to deal with the process called the "ES&H culture change." This was evident in the observations related to the conduct of operations and many concerns and findings of the Safety and Health and Environmental Subteams.
- ES&H planning at the Hanford Site is inadequate. The Hanford Site does not have an effective assessment process to determine the current status of the ES&H program. Deficiencies were identified in the self-assessment process; the ES&H oversight programs; and tracking, trending, and closure of outstanding commitments.
- Management's ability to achieve ES&H goals is inhibited by inadequate monitoring, assessment, and corrective action implementation. Management's presence in the field is inadequate to fully understand field conditions and problems. Management has conducted self-assessments, but the assessments have not been self-critical and have not lead to the correction of many of the Site's problems. Insufficient followup and corrective actions have allowed many known and documented Site deficiencies to continue to exist.

Summary

The Tiger Team found many deficiencies that need management's attention; attention not only to correct the noted deficiencies, but to identify why the deficiencies exist and to correct the root cause.

PADUCAH GASEOUS DIFFUSION PLANT

This report documents the results of the Tiger Team Assessment of the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, conducted from June 18 to July 20, 1990. The purpose of the assessment was to provide the Secretary of Energy with the status of Environment, Safety and Health (ES&H) Programs at the Plant. The Plant, operated by Martin Marietta Energy Systems, Inc. (MMES) for the Department of Energy (DOE), provides up to 2 percent uranium enrichment services for government purposes and for commercial nuclear reactors in the U.S. and abroad.

The assessment was conducted by a team of professionals from DOE, contractors and consultants.

The Assessment Team concluded that curtailment or cessation of any operations at PGDP is not warranted. Compliance issues identified by the Assessment Team are known to Federal and state permitting agencies. Nevertheless, there are a significant number of ES&H findings and concerns identified in the report that require prompt management attention.

PGDP management and staff are committed to full implementation of the Secretary's ES&H initiatives and acknowledge the imperative for action. However, compliance with DOE Orders and mandatory standards is deficient in a wide variety of activities. Furthermore, inadequate ES&H support and guidance to PGDP by MMES provides barriers to ES&H excellence at PGDP.

MMES and PGDP management have expended significant effort to improve their existing management systems. Nevertheless, deficiencies were noted in management control systems such as Quality Assurance (QA), compliance management, human resource management, and operating practices and procedures. Furthermore, there is no integrated site-wide corrective action tracking system for tracking identified deficiencies.

PGDP staffing levels and skill mixes are inadequate throughout the Plant, although some progress is being made in filling staff needs. Training deficiencies have been identified as being significant, contributing factors to environmental compliance findings.

The DOE Site Office is responsible for day-to-day oversight, but it is not adequately staffed to perform this critical function. In addition, the roles and responsibilities of the other involved DOE parties, NE, EM, and OR, are not well defined, documented, or communicated throughout DOE and the contractor organizations. Furthermore, DOE is not providing timely and clear ES&H guidance to MMES and PGDP.

The Plant enjoys a sound and credible relationship with the surrounding community and conducts programs of outreach in which the general public and potentially interested parties are encouraged to become involved in ES&H concerns and issues related to site activities.

Recent assessments, including the PGDP Self-Assessment, identified areas in which improvements are needed to meet the Secretary's ES&H initiatives. PGDP personnel demonstrated a positive attitude and willingness to discuss deficiencies with the Assessment Team and are eager to rectify existing problems. The high morale, "can-do" attitude, and dedication of site personnel, coupled with plant management's obvious commitment to cultural change, provide a sound foundation for success in meeting those initiatives.

Summary of Key Findings, Root Causes and Noteworthy Practices

Environmental

The Environmental Subteam identified findings of noncompliance with Federal and state regulations and DOE Orders, and nonattainment of acceptable best management practices. However, none of these deficiencies present an immediate threat to public health or the environment.

Environmental findings, associated root causes, and observations of PGDP operations illustrate a workforce that is generally committed to the Secretary's ES&H initiatives; however, a lack of technical expertise and experience in the environmental field at PGDP is hampering the development and implementation of a comprehensive environmental protection program. The key areas of concern are: environmental monitoring and evaluation programs are not being effectively implemented because of a lack of key programmatic elements; formal procedures have not been developed for the effective implementation of environmental protection activities; and quality assurance programs have not been developed or implemented for many environmental activities.

In characterizing potential root causes, the Environmental Subteam constructed a three-tier system to define the relationship between the findings and root causes. The programmatic nature of many of the findings is such that the findings themselves are often root causes of other more specific findings. Although PGDP management shows evidence of commitment to environmental protection as a top priority, environmental concerns have yet to become an integral part of PGDP operations.

Safety and Health

The PGDP organization is in transition to bring the site into compliance with the new safety and health requirements of DOE. Strengths were noted in the supportive attitude of plant management toward making the changes necessary to meet these requirements, in the recent performance of a self-assessment by Energy Systems, and in the Uranium Enrichment Performance Improvement Program.

Safety concerns were expressed in all technical areas examined. The appraisal revealed deficiencies in compliance with DOE Orders, and mandatory standards in the safety program requirements for document reviews, inspections, emergency planning, fire protection engineering, radiological protection, and quality assurance. The system of preparing and revising, reviewing, and approving administrative control documents is inadequate. Training and certification programs and practices do not satisfy site needs. There is no overall plan for safe, long-term storage of depleted uranium. No integrated sitewide management system to track and correct identified deficiencies has been developed.

An inspection of about 85 percent of the work area revealed 237 noncompliances with OSHA standards, 90 percent of which would be classified as "serious" by OSHA. The noncompliances generally related to electrical hazards, fire protection, machine guarding, and hazard communication.

The principal concerns in Fire Protection, Worker Safety, and Medical Services are direct results of insufficient management commitment to full compliance with safety requirements, and inadequate resources for timely implementation. Other concerns are related to the lack of an integrated approach to development and implementation of site-wide management initiatives, such as procedures, document control, training, quality assurance, and corrective action tracking. Deficiencies in site operations were related to lack of rigor, formality, and discipline in the areas of concern.

Management

Key management findings are supported by the Environmental and Safety and Health Assessments, especially with respect to PGDP policies and procedures, formality in operations, management control systems, employee performance evaluation, self-assessment, and DOE oversight. Inadequate staffing and training was encountered at all levels of the plant. MMES does not have a corporate-wide strategic plan, and subordinate implementation plans, to define and accomplish ES&H objectives on a prioritized basis. DOE oversight roles and responsibilities have not been well defined, documented or communicated. Interfaces among the involved DOE offices have not been established and there is little guidance provided to MMES and PGDP by DOE.

The Management Subteam identified two root causes for the findings and concerns identified in the Assessment. First, DOE is precluded from effectively performing its oversight responsibilities due to rapidly growing ES&H requirements, inadequate staffing and institutional inertia within DOE. Furthermore, the low profile of PGDP has hindered resolution of this problem. Second, MMES does not have sufficient incentives to ensure full support of ES&H excellence at PGDP due to the necessity of PGDP to compete with other MMES sites for scarce ES&H resources.

Appendix B
Key Findings
First Sixteen Tiger Team Reports

Rocky Flats Plant

ROCKY FLATS PLANT - AUGUST 1989

The Tiger Team report for the Rocky Flats Plant, the first of the Tiger Team assessments, does not identify or include a summary of the "Key Findings," however, the "Observations" are the key findings in this report. Since this report contains only an environmental section, the following key findings are all environmental key findings.

Environment Assessment

Implementation of the environmental programs lacks coordination and is hindered by poor communication. The lines of authority and responsibility are fragmented and not clearly defined. A strategy that integrates the existing management and information systems needs to be developed and implemented.

Environmental monitoring programs require improvements to more accurately characterize and monitor plant-related emissions, discharges, and ambient conditions.

Effective implementation of the site remediation program has been adversely impacted by poor communications, coordination, planning and scheduling.

Implementation of an effective waste management program has been severely hindered by site waste storage constraints, conservative waste classification practices, and a lack of options for treatment and final disposition of waste.

The quality and reliability of sample collection, laboratory analysis, and other information generated in support of the environmental monitoring and restoration programs are not adequate to achieve program goals.

Management and maintenance of the sewage treatment plant (STP) has received low priority resulting in inefficient operation which could create problems in meeting future permit requirements.

The 1987 Waste Stream Characterization Study, which is used to support waste management activities (e.g., permits and waste classification), does not reflect current waste processes at the plant. The study has never been fully reviewed. Consequently, internal inconsistencies exist. The scope of the study was not broad enough to serve as an effective waste management tool.

A comprehensive strategy needs to be developed and implemented for performing activities required by the National Environmental Policy Act.

Rocky Flats Plant

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West Valley Demonstration Program

WEST VALLEY DEMONSTRATION PROGRAM - AUGUST 1989

The Tiger Team assessment report for the West Valley Demonstration Program did not identify any of the findings listed in Chapter III (Key Findings) specifically as "Key Findings." Those findings in Chapter III identified within sections marked by bullets or called "significant findings" or "other findings" were used for this summary analysis and are listed below as key findings for the West Valley Demonstration Program.

Environment Assessment

The facility lacks acceptable permanent disposal alternatives for low-level, TRU, and mixed radioactive wastes stored onsite.

Mixed waste at the facility are not treated and stored does not without ensuring that the hazardous component is managed in accordance with applicable hazardous waste regulations.

The facility lacks of a fully implemented hazardous waste management program.

Reviews by facility operations contractor and DOE project office have not always resulted in proper NEPA documentation.

Some NEPA determinations have not been made by the appropriate authority.

Safety and Health Assessment

Possible consequences of criticality and chemical releases have not been evaluated for emergency planning purposes.

DOE/ID has not fulfilled its responsibility in defining site specific emergency planning zones as required by DOE 5500.3.

The requirements of DOE 5480.5 with respect to annual retraining on emergency/abnormal procedures are not being met.

The industrial hygiene program does not meet the intent or requirements of DOE 5480.10 in the areas of hazard assessment, surveillance, and recordkeeping.

West Valley Demonstration Program

The hazard communication program does not meet the intent of DOE Orders and prescribed standards for the identification and labelling of chemicals in the workplace.

An adequate surveillance and reporting program for occupational chemical, physical, and biological stress does not yet exist.

The scheduled program for inspection and testing of fire suppression equipment and systems is not in conformance with NFPA requirements and recommended practices.

The WVDP site is not in full conformance with the NFPA Life Safety Code nor does it qualify as an improved risk facility.

The schedule for implementing newly issued DOE 5480.11 (Occupational Radiation Protection) at WVDP is not being met.

The internal radiation protection audit program lacks the expertise and independence required by DOE 5480.11 and DOE 5482.1B.

The nuclear accident dosimetry program does not comply with DOE 5480.1A, Chapter II, with respect to calibration.

No indication of fissile content was included on labels on 30 stored drums of fissile material as required by DOE 5480.5. However, these drums were all properly stored.

Formal analyses have not been performed, as required by DOE 5480.16, to determine what weapons can be used safely at the facility.

Management and Organization Assessment

Hazardous Waste Management had lower priority.

Insufficient staff devoted to carry out ES&H line and oversight responsibilities has delayed identification and correction of ES&H noncompliance.

Management conveys ES&H objectives through two principal mechanisms. Neither mechanism has been accurately conveying the goals and priorities of DOE in ES&H at the facility.

The DOE project office and contractor self-assessment programs are not sufficiently rigorous or proactive in nature to routinely identify ES&H deficiencies for management response.

West Valley Demonstration Program

The non-nuclear safety disciplines, particularly fire protection and industrial hygiene, do not have comparable formality and discipline attendant to the facility operations contractor's nuclear safety programs.

Potential civil and/or criminal sanctions arising out of environmental noncompliance determinations by DOE staff are impeding effective communications and ES&H resource utilization within DOE field organizations.

West Valley Demonstration Program

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West Valley Demonstration Program

FEED MATERIALS PRODUCTION CENTER - SEPTEMBER 1989

The key findings from the Safety and Health section of the FMPC Report are taken from the August, 1989 FMPC Secretarial Briefing Package. The Environment and Management & Organization key findings are taken from the "Key Findings" section of the FMPC Report.

Environmental Assessment

The FMPC does not have a fully developed RCRA program.

The FMPC has not completely characterized all wastes and past process, treatment, storage, and disposal facilities for RCRA applicability.

Storage of hazardous waste is not in accordance with land disposal restrictions prohibiting storage of certain waste.

The FMPC is not in accordance with certain portions of the FFCA relating to CERCLA as a result of inadequate implementation of the Remedial Investigation/Feasibility Study (RI/FS) Work Plan.

The FMPC has not acquired approval for the operation of all air emission sources. (The Compliance Assessment Team was informed that sources will not operate until properly permitted.)

The characterization and monitoring of air emission sources are incomplete.

The FMPC has not met the wastewater/ stormwater requirements specified in the Consent Decrees between the State of Ohio and DOE.

The use of nonstandard NEPA procedures for renovation activities based on approval from EH-1 (October 1987) is inconsistent with the Council on Environmental Quality (CEQ) regulations and DOE policy.

A portion of the FMPC NEPA documentation is incomplete and/or inadequate.

Safety and Health Assessment

FSARS or approved Safety Assessments (SAs) have not been prepared as required by current DOE regulations.

OSRs based on FSARs or SAs are not available.

West Valley Demonstration Program

Facility operations have not been assessed against current design criteria.

Management and Organization Assessment

MISSION -- The mission of the FMPC is unclear, but it is the overriding requirement to unify all elements of an organization. The situation at the FMPC is one where perceived differences in mission are prevalent; therefore, all FMPC organizations have difficulty in focusing and coordinating their efforts.

RESOURCES -- Personnel, facilities, equipment, and funds at FMPC are inadequate for the current and projected ES&H requirements. The DOE is the owner of the FMPC and is ultimately responsible for the performance of the site against ES&H requirements.

CONTROLS -- Management controls to ensure that requirements are met are inadequate. There are at least two key areas where documentation is not complete at the top level -- training and environmental guidance. Additionally, there are examples of documentation that are less than adequate at the lower levels of WMCO. The total documentation process at FMPC is less than that required to achieve ES&H compliance; however, a good start has been made at the top level.

IMPLEMENTATION -- The planning efforts and management structure are not tightly focused for ES&H compliance. Within the current resource constraints, the planning at FMPC is almost completely reactive.

Oak Ridge Y-12 Plant

OAK RIDGE Y-12 PLANT - FEBRUARY 1990

Environmental Assessment

(The following two findings were listed as "most significant" compliance findings in Chapter 2 (Key Findings and Noteworthy Practices) in the Tiger Team assessment report for the Oak Ridge Y-12 Plant.)

The site needs to continue its efforts to reduce the amount of mixed waste in storage through waste minimization, solvent substitution, and pursuing off-site treatment options.

The site needs to continue its efforts to identify, eliminate, divert, or collect and treat all of its wastewater discharges and obtain a National Pollutant Discharge Elimination System (NPDES) permit for the remaining discharges.

Safety and Health Assessment

Up-to-date, officially approved operating procedures were not prepared and available to operating personnel in many operating areas.

No documented independent safety and health review was routinely obtained for the plant's operating procedures, either when initially issued or when revised.

Not all workers at the Y-12 Plant were given comprehensive technical and on-the-job training and that a rigorous system for documentation of training was not in place in all areas.

The configuration of the Plant is not fully reflected in the drawings.

The safety analysis baseline for the plant is not clear.

The Health Physics staff at the Y-12 Plant does not survey all significant radiological areas and operations.

Safety Work Permits and maintenance/operating procedures do not adequately document and control the radiological conditions at the Y-12 Plant.

Occupational Safety and Health Assessment

Written safety and health procedures are generally adequate, but a number of traditional safety hazards are not covered by any written programs and some written programs have deficiencies.

Oak Ridge Y-12 Plant

Insufficient resources are available for implementation and enforcement of the plant's safety and health programs.

The numbers and types of OSHA violations discovered during the course of the assessment are significant in that they point to the areas where the Y-12 plant's written safety and health programs contain deficiencies.

Effective oversight of safety and health on construction worksites at the Y-12 Plant cannot be achieved as long as confusion exists over which of the three prime contractors is to exert overall responsibility in this area.

The numbers and types of construction violations discovered by the assessment team reflect the lack of safety and health oversight on construction worksites at Y-12.

Management and Organization Assessment

There is a lack of sufficient internal management controls and systems that would ensure that management's commitments would be carried through to the line organizations.

Pantex Plant

PANTEX PLANT - FEBRUARY 1990

Environmental Assessment

The Pantex Plant has not sought a determination from the Environmental Protection Agency under 40 CFR 122 concerning the applicability of a National Pollutant Discharge Elimination System (NPDES) permit.

The National Environmental Policy Act (NEPA) determination and review process by the DOE field operations office does not include the full range of NEPA review categories listed in the DOE NEPA Guidelines as specified in the DOE Order 5440.1C.

The DOE field operations office does not provide sufficient documentation to support its determinations that actions are "clearly insignificant" or "substantially the same as other actions..." as required by the DOE NEPA Guidelines and DOE NEPA Order.

The Pantex Plant ground-water monitoring is insufficient to assess the site's impact on the underlying aquifer(s).

The Pantex Plant does not yet have in place an Environmental Monitoring Plan to formally direct and update its ongoing Environmental Monitoring Program.

The Pantex Plant sampling protocols for surface water, groundwater, air, soil, and biota do not meet current industry standards.

Safety and Health Assessment

The more significant findings involve imbalances between safety and health requirements and appropriate staff to fulfill those requirements. As stated in the Executive Summary of the Tiger Team assessment report for the Pantex Plant, the contractor was evaluated as having a serious lack of experienced technical capability in the area of health physics and radiation technician support for routine operations and, particularly for potential radiation contamination.

Examination of two specific topics (reviews of operating experience and awareness of the status of facilities) led to team to conclude that "best management practices" were not being followed in all cases.

Pantex Plant

Management and Organization Assessment

The finding concerning the shortcomings of DOE ES&H Management/Policy Directives describes how the DOE ES&H directives system contributes to an ineffective system of policy direction.

The finding describing the lack of an integrated planning system that ties to the budget process notes the absence of an integrated ES&H program planning process in DOE.

The finding related to reactive management practices points out that the professional staffs at the DOE area office and site operating contractor are spending as much as 80-90% of their time reacting to a variety of reports and review findings from a myriad of both internal and external audits and reviews.

The ES&H culture has not fully permeated the organizations of the DOE area office and site operating contractor.

The finding concerning cost plus award fee initiatives and milestones (evaluation standards) describes how the Performance Evaluation Plan used to evaluate the performance of the site operating contractor is too subjective and does not provide sufficient specificity to assign a rating to determine the proper fee to the contractor.

The finding regarding technical qualifications of the ES&H division professional staff of the site operating contractor notes the inadequacy of directly relevant technical expertise in the ES&H oversight organization of the site operating contractor.

Mound Plant

MOUND PLANT - DECEMBER 1989

It should be noted that the Key Findings in Chapter 2.0 (Key Findings and Noteworthy Practices) of the Tiger Team assessment report for the Mound Plant were separated into the three ES&H assessment areas.

Environmental Assessment

The Mound Plant lacks an integrated, comprehensive plan to fully characterize and remediate areas of on- and off-site soil and groundwater contamination.

Safety and Health Assessment

The schedule for completion of Safety Analysis Reports (SARs) for the plant facilities extends to calendar year (CY) 1997, which is too long given the importance of these documents to safe operation.

There is an immediate need to address certain widespread fundamental safety training deficiencies observed at the Mound Plant.

The DOE and the plant operations contractor have not been effective in implementing a program to achieve and maintain compliance with Occupational Safety and Health Administration (OSHA) standards.

Management and Organization Assessment

The plant operations contractor has not yet fully established a strong safety culture for its activities.

Mound Plant

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Portsmouth Gaseous Diffusion Plant

PORTSMOUTH GASEOUS DIFFUSION PLANT - APRIL 1990

Environmental Assessment

Leaking PCB gaskets exist in the process buildings at the facility.

There is protracted storage of restricted land-banned mixed wastes.

There is a lack of integration of the National Environmental Policy Act (NEPA) and Resource Conservation and Recovery Act (RCRA) at the facility.

Projects have been approved and initiated before completing required NEPA documentation.

A number of unpermitted air sources are allowed to exist.

Internal oversight and self-appraisal of environmental compliance is inadequate.

Documentation of laboratory standard operating procedures and practices is inadequate.

Radiological measurement QA/QC practices are inadequate.

Safety and Health Assessment

The safety analysis report (SAR) for the Portsmouth Gaseous Diffusion Plant has been recognized as being inadequate, and is being revised. Derivative operational safety requirements (OSRs) are not clearly prescribed in a number of cases; written guidelines or procedures to define acceptable conduct of operations against OSRs and DOE requirements are incomplete and not enforced consistently in the workplace.

Containment of radiological contamination has not been accomplished effectively according to DOE Order 5480.11 which recommends restricting contamination to its source.

Basic OSHA and DOE requirements and procedures were not being implemented or enforced by management in the buildings visited, although many of these basic requirements and procedures are prescribed in the Safety Manual for the Portsmouth Gaseous Diffusion Plant. Specific deficiencies of note include:

Portsmouth Gaseous Diffusion Plant

1) work permit systems are being rigorously followed to ensure the use of proper safety procedures; and 2) numerous violations of National Electrical Code (NEC) standards, the DOE Hoisting and Rigging Manual, and the equipment guarding provisions of 29 CFR 1910 were observed.

The operating philosophy and training methods lead operators to commit procedures to memory rather than gaining an understanding of what they are doing. There are no documented criteria for remediation or removal from duties of job incumbents who fail requalification exams. Plant personnel do not have adequate working knowledge of criticality safety, emergency response, and radiation protection. Radiation protection technicians are inadequately trained and only periodically retrained.

Management and Organization Assessment

DOE ES&H program responsibilities need clarification.

The formal conduct of operations needs direction.

Management of human resources has been a program constraint.

A program for management of cultural change is needed.

Nevada Test Site

NEVADA TEST SITE - JANUARY 1990

Environmental Assessment

A key finding involved several deficiencies relating to oversight of site users. These deficiencies included no characterization of inactive sumps and cellars, quality assurance of laboratories, incomplete PCB transformer inventory, and inadequate spill reporting procedures.

A key finding involved incomplete waste characterization at the Site.

A key finding involved incomplete implementation of NVO-325 and Waste Certification programs at Area 3 and 5 Radioactive Waste Management Sites. Wastes are accepted at the NTS Radioactive Waste Management Site from generators that are not approved under NVO-325 guidelines.

Safety and Health Assessment

Emergency preparedness at the Site is not integrated into a coherent and effective system that assures DOE emergency management objectives are met.

Radiation protection of the contractors and users has not been effectively internally appraised and audited, nor have DOE radiation protection policies been enforced by the DOE field operations office.

Personnel protection concerns indicated deficiencies in industrial hygiene, electrical safety, lock and tagout practices during maintenance of equipment and electrical systems, and hazard communications.

Training, including site-wide requirements to ensure all radiation workers were provided with training appropriate to the radiation hazards expected at the Site, is not reviewed or approved by the DOE field operations office.

A Category III concern, addressing a significant risk or substantial noncompliance with DOE orders, involves the lack of personnel accountability within the tunnel complexes and shafts.

Nevada Test Site

Management and Organization Assessment

Full implementation of independent responsibilities and accountabilities for ES&H operations and ES&H oversight is lacking.

Oversight by the DOE field operations office of user operations in test areas, tunnels, and assembly facilities needs enhancement and clarification.

Kansas City Plant

KANSAS CITY PLANT - MAY 1990

The key findings listed below were identified as "most significant.. findings" or "key concerns" in Chapter 1.0 (Executive Summary) of the Tiger Team assessment report for the Kansas City Plant. The report for this DOE facility did not include a separate chapter dedicated to a discussion of key findings and root causes.

Environmental Assessment

Situations were identified where land-disposal-restricted hazardous waste were improperly stored and inadequately characterized.

Resource Conservation and Recovery Act (RCRA) storage facilities were located in a 100-year floodplain. NEPA analysis has not been performed addressing location of a "critical action" in a 500-year floodplain.

RCRA hazardous waste sludge from the Industrial Wastewater Pretreatment Facility (IWPF) and the closure of the South Lagoon have not been adequately characterized or manifested.

Over 500 sewer connections have been identified which could allow wastewater flows prohibited by the KCP-NPDES Permit to enter the storm sewer system.

Safety and Health Assessment

Strict compliance with the DOE Occupational Safety Standards has not been consistently implemented at the Plant. Problems were identified relating to reporting, inspections/oversight, equipment guarding, use of flexible electric cords, hazards communication, analysis if illness/injury statistics, and maintenance requests.

The Industrial Hygiene Program at the Plant has been effective in controlling employee exposure to hazardous materials at the plant. Improvements in the program are on-going. Problems were identified with the work place monitoring programs, ventilation system assessments/upgrades, and asbestos abatement procedures.

The electrical distribution system received a favorable assessment; however, there was concern about the Plant's noncompliance with the national Electrical Code and best management practices in the area of work-related practices, procedures, and training.

Kansas City Plant

The Fire Protection category received a favorable assessment; however, there are deficiencies that prevent the Plant from fully complying with the Life Safety Code and providing sufficient assurance that installed fire protection is reliable. In addition problems were identified in the areas of fire risk assessment, evacuation adequacy, and evacuation accounting.

The Plant's Emergency Response Program is in need of management attention to meet the requirements of DOE Orders. Problems also were identified in the areas of evacuation routing, personnel accountability, accident/risk assessment, and training.

The radiation protection assessment supported the results of previous assessments which revealed that a true health physics program has not been put in place. The procedures used to survey "returned parts" for radioactivity require improvement.

The Safety-Security Interface is good but needs to be improved in construction project design to ensure that sufficient emergency egress routes are available, and in identification of hazards associated with activities involving the use of weapons in the vicinity of hazardous materials and equipment.

Findings of the July 1989 Medical Services appraisal revealed that these services were being well run by a competent and professional staff; however, problems were identified in the areas of lack of medical staff visits to the workplaces and illness classification and reporting.

Management and Organization Assessment

Deficiencies were identified in the communication and implementation of DOE ES&H Orders and requirements.

Deficiencies were identified in the performance of ES&H oversight and quality assurance activities.

Deficiencies were identified in the assessment and evaluation of ES&H risks.

Deficiencies were identified in the use of systems to track issues, develop trends, and identify priorities.

The gap between management's commitment to a strong ES&H program and implementation at lower levels must be closed in the Plant to realize the full potential of a well-planned and executed ES&H program.

Pinellas Plant

PINELLAS PLANT - MAY 1990

Environmental Assessment

The waste generators in Building 300 are mixing radioactive waste with classified, non-radioactive solid (nonhazardous) waste to effect disposal of its classified non-radioactive waste.

The documentation for methodologies and the actual dose-assessment calculations at the site is incomplete.

The characterization of the inactive waste site, "the 4.5-Acre Site", is inadequate. Studies have been done which incompletely define the nature and extent of the contamination.

The site-wide environmental monitoring program has several deficiencies. There has been a lack of progress by the Site toward complying with requirements of DOE 5400.1.

Groundwater onsite and offsite (the 4.5-Acre Site) is chemically contaminated above State standards.

The Pinellas Plant has failed for several years to submit applications for its air emissions sources.

Safety and Health Assessment

A site-wide safety assessment does not exist to identify hazards of a type and magnitude not normally encountered and accepted by the public.

The quality control system does not ensure that used electrical control devices will function as intended or that salvage parts used in critical systems are functional.

Packaging and transportation operations do not fully meet the requirements of DOE orders.

The Occupational Safety Program has not implemented an effective program for identifying, evaluating, and resolving potential safety and health concerns.

The Fire Protection program has not implemented an effective program to ensure compliance with NFPA 101, "Life Safety Code," requirements.

Pinellas Plant

The emergency preparedness program has not: 1) incorporated credible hazards or consequence assessments into the emergency plans; 2) developed emergency plans for specific buildings; 3) implemented procedures for emergency actions; or 4) provided adequate levels of training for spills of hazardous materials.

Training is not supported by the plant operation contractor policy and standards or established uniformly across the Plant.

The safety review functions required by DOE 5482.1B are not being performed by plant operation contractor or the DOE area office.

Management and Organization Assessment

The direction to and oversight of the operating contractor by the DOE area office is insufficient with respect to the Pinellas Plant.

The resources for the DOE area office and the plant operations contractor are inadequate to carry out planned ES&G activities.

The management systems for monitoring and controlling ES&H activities are inadequate.

The formal assessment for management decisions with respect to environment, safety, and health are inadequate.

Savannah River Site

SAVANNAH RIVER SITE - JUNE 1990

The key findings listed below under Safety and Health Assessment were identified as "the most important generic concerns" in Chapter 2 (Key Findings, Noteworthy Practices, and Causal Factors) of the Tiger Team assessment report for the Savannah River Site. Those key findings listed below under Management and Organization Assessment were identified as "summary conclusions" in the same chapter of the Tiger Team assessment report. The report did not list any specific findings or concerns as "key findings" in the assessment area of management and organization.

Environmental Assessment

Deficiencies exist in the waste management program at the site. This finding involved deficiencies and/or issues associated with RCRA training, inspections, labeling and handling of hazardous waste; disposal of hazardous wastes; and storage of materials potentially subject to land disposal restrictions.

There is a failure at the site to meet State water pollution control requirements. The Site has not conducted a comprehensive assessment for all thermal discharges as required by the South Carolina Department of Health and Environmental Control, has not completely resolved the fish kill issue, and has deficiencies involving protection for and inspection of drinking water systems in the 100-Areas.

The monitoring of radiological releases is inadequate at the site. The specific deficiencies include the lack of technical specifications for effluent monitoring at K-, L-, and P-Reactors; lack of tritium monitoring on liquid effluents prior to their release; and inadequate documentation to support Tritium Facility airborne emissions data.

Deficiencies within the SRS quality assurance activities. The specific deficiencies include the lack of documented quality assurance plans for environmental monitoring and surveillance programs, the lack of timely environmental protection functional appraisal reporting, and deficiencies in oversight of environmental data.

Safety and Health Assessment

The site is not in compliance with many DOE orders and standards.

Key management initiatives defining duties, responsibilities, and accountabilities for sitewide compliance have not been fully integrated into a management system that can be used to assess and communicate the ability of the operating contractor to meet commitments to the DOE.

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Savannah River Site

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LAWRENCE LIVERMORE NATIONAL LABORATORY - JUNE 1990

Environmental Assessment

Quality assurance programs have not been developed or implemented for many environmental activities to assure that they are being conducted in accordance with applicable environmental regulations and DOE orders.

Environmental programs are not effectively implemented, due to a lack of key programmatic elements such as sitewide consistent guidance, formal procedures, and a sitewide quality assurance program.

Adequate systems are not in place to properly characterize and manage wastes.

Air monitoring programs and systems do not include all of the elements necessary to accurately characterize and monitor emissions and ambient air conditions.

Safety and Health Assessment

The matrix management system used at the Laboratory has resulted in diffusion of safety responsibility and authority.

The training program is inconsistent sitewide in its formality, documentation, and methodology, and deficient in implementation.

Application of formal management controls is lacking.

Maintenance of safety systems is deficient in a number of areas. Current "as-built" drawings are often not available; the state of repair of older equipment and facilities is detrimental to safety. The Whiz Tag System is one of several means allowing circumvention of safety, fire protection, and security review of maintenance and modification activities.

Widespread noncompliance exists relative to DOE Orders, Federal regulations, and the Laboratory's procedures with respect to packing and transportation, OSHA, quality verification, and fire protection systems.

The Whiz Tag System does not contain guidance, criteria, and controls to ensure safe conduct of maintenance of plant systems and facilities nor control of safety system design features.

Lawrence Livermore National Laboratory

The Laboratory does not have a system for handling, identifying, and transporting packages of hazardous materials, in compliance with DOE orders and Federal and State regulations.

Shipping manifests do not consistently meet DOT and U.S. Environmental Protection Agency (EPA) regulations in that they do not provide the required information in the specified format.

Plant engineering and program controls over construction activities are not effective in ensuring that construction work conforms to OSHA requirements in 29 CFR 1926.

The sitewide fire alarm system is deficient in meeting requirements (NFPA-720) for the use of listed or approved fire alarm components and does not provide for automatic notification to building occupants.

Occupational Safety and Health Assessment

Approximately 40 percent of all findings related to electrical hazards. Included were a significant number of nonfunctioning ground fault circuit interrupters, cut or frayed power cords, and temporary wiring used for more than 90 days.

The effectiveness of the Hazard Communication Program, which accounted for 10 percent of all findings, appeared to vary according to first-line supervisor enthusiasm for the program.

With respect to walking/working surfaces (which accounted for 13 percent of the general industry-related concerns), the outdoor storage of portable wooden ladders was the chief concern. The ladders were deteriorating, had splinters and sharp edges, and had missing or damaged non-skid safety feet.

A few instances of noncompliance with OSHA standards for compressed gas storage were observed; in particular, the chains or belts used to secure these cylinders were sometimes loose.

Observations specific to construction were related chiefly to fire hazards. Flammable materials were found to be improperly stored repeatedly; and fire extinguishers either were not available or were not available in sufficient numbers at the sites inspected.

Management and Organization Assessment

The ES&H roles, responsibilities, and expectations of the DOE operations office and the Laboratory are not clearly defined, communicated, or well-understood throughout their organizations.

Lawrence Livermore National Laboratory

The Laboratory does not have a sitewide strategic plan with subordinate implementation plans to define and accomplish its ES&H objectives.

The Laboratory's management systems lack the control, discipline and formality necessary to consistently accomplish ES&H objectives.

The Laboratory does not have an adequate sitewide system to assess its accomplishment of ES&H objectives.

DOE oversight of the Laboratory's ES&H activities is hindered by unclear guidance from DOE Headquarters, incomplete planning, and insufficient onsite resources at the DOE operations office.

Lawrence Livermore National Laboratory

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BROOKHAVEN NATIONAL LABORATORY - JUNE 1990

Environmental Assessment

The hydrogeologic regime at the Laboratory has not been adequately characterized to define the vertical and horizontal extent of contamination; the relationship and interactions between the upper glacial aquifer and the lower Magothy Aquifer; the extent of the Gardiners Clay, the critical aquitard separating the two aquifers; and the local groundwater flow paths and velocities at specific areas of known contamination.

The management of activated material at the Laboratory is inadequate. The radiation survey equipment, procedures, and recordkeeping; employee radiation survey training; storage methods for activated materials; and procedures for unrestricted release of materials are not adequate to ensure that a member of the public does not receive an effective dose equivalent that exceeds the DOE 5400.5 dose limit.

The Laboratory has not adequately identified and characterized its radiological and chemical emissions to the air, liquid effluent discharges to the surface water and groundwater, and contaminated site soils.

Safety and Health Assessment

Disconnects in the lines of communication are a major cause of the deficiencies in the safety performance of the laboratory.

High standards of safety are held by some individuals, but are not universally required nor exhibited, nor widely appreciated and practiced among all facility personnel.

Competence exists in the staff of essential safety organizations, but these resources are stretched thin, especially in fire protection, where staff and funding constraints appear to account for the majority of fire protection deficiencies identified.

There is little evidence of systematic development of safety policy and procedures, and a lack of formality in the management of safety policy in the line organizations and its administration through orderly systems of procedures, controls, and documentation.

Brookhaven National Laboratory

Implementation of DOE Orders is inconsistent and sluggish, with major deficiencies noted in OSHA hazard communication requirements (a Category II Concern), OSHA compliance in general industry and construction standards, and fire protection standards and codes.

Planning for safe activities is sporadic and perfunctory and suffers from the lack of adequate procedures and disciplined approach to safety problem.

Controls are not applied by either the Laboratory or the area office of the DOE to verify compliance with safety procedures and requirements.

Technological excellence exists in the research arena but is not equaled in the safety program where there is need for improvement in knowledge of OSHA and sitewide staff appreciation of the relationship between housekeeping and fire hazards.

Overall performance and documentation of technical support activities at the Laboratory are performed in a thorough manner only at the reactor areas.

The Laboratory has not adequately addressed the release of nonradioactive toxic materials and specific emergency scenarios in their respective facility SARs and emergency preparedness, nor has equipment required to respond to such events been identified, dedicated, or made easily retrievable in the event of emergency.

One Category II concern addressed a substantial noncompliance with OSHA requirements regarding hazard communication training.

Occupational Safety and Health Assessment

There are serious deficiencies in the Laboratory's electrical safety program. Evidence for this is the many apparent serious violations of the OSHA electrical regulations.

The Hazard Communications Program at the Laboratory has not been implemented in the spirit or letter of the OSHA regulations.

Several apparent serious violations of the OSHA machine guarding regulations indicate that there are major deficiencies in the Laboratory's regular machine guarding inspections.

Little construction was in progress at the time of the inspection. However, apparent serious violations of OSHA construction regulations were observed. One was that the required procedures were not being followed during asbestos removal. Another is the lack of roll-over protection for construction equipment.

Brookhaven National Laboratory

Management and Organization Assessment

Communication of the Laboratory's ES&H policies and directives to the working level in the form of consistent, standardized procedures is not adequate.

The Laboratory's internal oversight needed to ensure that the ES&H program meets DOE and other regulatory requirements has been insufficient. The Laboratory's internal oversight has also not been sufficiently independent of line organizational responsibilities.

The Laboratory does not have an integrated safety and health plan that identifies and prioritizes ES&H deficiencies and concerns. Both staffing and the rate of funding for ES&H improvements need to increase to meet DOE expectations on an acceptable time schedule.

The Office of Energy Research (ER) at DOE-HQ, the DOE field operations office, and DOE area office have not had sufficient, qualified staff to ensure the adequacy of the Laboratory's ES&H programs.

There has been inadequate oversight of the Laboratory's ES&H programs by the DOE's Office of Energy Research (ER), the DOE field operations office, and DOE area office.

The DOE's Office of Energy Research (ER), the DOE field operations office, and DOE area office have not had sufficient, qualified staff to ensure the adequacy of the Laboratory's ES&H programs.

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SANDIA NATIONAL LABORATORIES, LIVERMORE - AUGUST 1990

Environmental Assessment

There are no formalized environmental policies, quality assurance (QA) programs to implement environmental protection programs, or procedures to ensure that the environmental compliance program is being carried out effectively and in compliance with all requirements.

The National Environmental Policy Act (NEPA) compliance program is considered inadequate.

The Laboratory is not in conformance with DOE Order 5400.4, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements, and the San Francisco Bay Region of the California Regional Water Quality Control Board (RWQCB) Site Cleanup Order No. 89-184 for certain remedial response activities associated with inactive waste sites and releases at the Laboratory.

Safety and Health Assessment

Specific sitewide management policies, which define and integrate the environment, safety and health (ES&H) effort throughout the site, have not been developed and issued.

Management has not provided a clear definition of ES&H responsibilities and authorities.

Management does not have a system to track or trend important safety data, and does not provide a regular management assessments of ES&H on-site activities and progress.

The Laboratory has not established a system to ensure ES&H review, approval, and control of safety-related activities. In addition, an occupational safety and industrial hygiene program has not been defined and implemented.

An occupational safety and industrial hygiene program has not been defined and implemented as required by DOE Order 5483.1A. Formal programs have not been developed and implemented to address occupational safety and health requirements in hearing conservation, carcinogen policy, laser safety, and respiratory protection.

Sandia National Laboratories at Livermore

Periodic monitoring of chemical, physical, or biological stresses in the workplace is not being conducted. Respirators are being issued and used without adequate monitoring to ensure that the selection of respiratory protection equipment is appropriate.

The Laboratory has not developed and implemented a confined space entry program in accordance with the requirements of ANSI Z117.1-1977, a mandatory standard under DOE Order 3480.4.

The facilities has not implemented a lockout/tagout system in accordance with 29 CFR 1910.147 and has not formalized other tagging methods.

Occupational Safety and Health Act Compliance Assessment

Approximately 30 percent of the serious findings related to the respiratory protection program.

Electrical issues were the most frequently cited items overall and constituted the second highest percent of serious findings.

Management and Organization Assessment

Roles, responsibilities, authorities, and interrelationships are not clearly understood, fully documented, or systematically implemented throughout the Laboratory.

Management does not exhibit an understanding of what constitutes an effective ES&H program or how to implement it.

Communication of the ES&H message from the Laboratory's management has been, and continues to be, ambiguous.

No comprehensive resource plan has been developed to permit the Laboratory's ES&H mission to be accomplished.

The Laboratory does not have an effective, comprehensive, internal ES&H review and appraisal system.

Oversight and followup of the Laboratory's ES&H activities are lacking.

Hanford Site

HANFORD SITE - JULY 1990

Environmental Assessment

Long-term storage of radioactive and mixed wastes at the Hanford Tank Farms and Low Level Burial Grounds (LLBG) presents a potential for a release to the environment.

There is a lack of clear definition of roles and responsibilities for management and quality assurance (QA) of activities under the Tri-Party Agreement (TPA), and lack of independent verification of TPA Past Practice Cost Projection Model.

Current and past waste disposal practices at the Site have contaminated the groundwater onsite and potentially offsite. The Site has not adequately defined the vertical and horizontal groundwater flow regimes.

There are deficiencies in the Westinghouse Hanford Company (WHC) and Pacific Northwest Laboratory (PNL) radiological monitoring programs sitewide and deficiencies in radioactive air emissions stack monitoring sitewide.

Radioactively-contaminated surface soil areas are expanding at a rate greater than the stabilization and cleanup rates.

The environmental quality assurance (QA) and quality control (QC) programs are inadequate.

Safety and Health Assessment

The DOE field operations office is not aggressive enough in directing the contractors to identify and resolve the more important safety and health issues on a high priority. This includes older safety and health issues identified by other than the DOE field operations office and the Hanford Site contractors (e.g., Technical Safety Appraisals and National Research Council Reports).

The management of PNL and HEHF have not clearly identified their safety and health goals; WHC and KEH have not focused their goals on the changing mission of the Hanford Site from production with an historical lack of emphasis on health and safety to safe cleanup.

Effective critical self-appraisals of activities related to safety and health are lacking for all contractors.

Hanford Site

Morale is low for widespread segments of the Hanford Site work force, which contributes to poor performance.

Training is not adequate for many Site activities which influence worker and public health and safety.

Not all contaminated areas onsite have been identified and posted; this is a particular concern along public access roads.

Rigorous implementation of procedures is not universal.

Implementation of lock and tag processes for ongoing work is deficient.

Hoisting and rigging procedures implementation is deficient, particularly for PNL and KEH.

The process for helping to ensure facility safety through up-to-date SARs, OSRs, and as-built drawings is not adequate to demonstrate safe activities.

Industrial hygiene programs for all contractors do not demonstrate the protection of the health of workers.

The occupational safety programs for the routine identification and control of hazards in construction, operation, and maintenance are not adequate to demonstrate worker safety.

The WHC backlog of maintenance work, particularly in the Tank Farms, is large and growing. The new WHC job control system for handling maintenance work has all the attributes of good management, but is not fully effective.

Radioactive material shipments over public access roads do not comply with Federal regulations.

Long-term storage of spent fuel in the K East and K West Basins is a significant safety concern.

Emergency response personnel that must cope with hazardous materials are not assured adequate personal protection during any potential emergencies.

Practices for the calibration of instruments for all contractors are not effective, and do not meet quality assurance requirements.

Contractor aircraft and operating personnel are not adequately reviewed to ensure safety.

Hanford Site

At the Westinghouse Hanford Company B-Plant Storage Pool, the administrative procedures and equipment do not provide adequate protection for the movement of radiation sources in the pool or the protection of the operators.

Existing maintenance procedures are always uniformly complied with at Westinghouse Hanford Company.

Existing maintenance procedures are not always complied with at Pacific Northwest Laboratories.

At Pacific Northwest Laboratory, the requirements of the Hanford Hoisting and Rigging Manual are not uniformly and consistently applied throughout the Site.

Existing maintenance procedures are not always complied with at Kaiser Engineers Hanford Company.

At Kaiser Engineers Hanford Company, the requirements of the Hanford Hoisting and Rigging Manual are not uniformly and consistently applied throughout the Site.

Pacific Northwest Laboratory has established some safety programs, such as the eye protection program, in a manner which has resulted in substandard levels of personnel protection.

At Westinghouse Hanford Company, coal dust in Power House 284E has been allowed to accumulate, creating both potential explosive and nonexplosive safety hazards.

The Westinghouse Hanford Company jet fuel storage and dispensing system is not maintained, checked for water contamination, and operated in accordance with Federal Aviation Administration.

Management and Organization Assessment

The degree of formality and rigor of ES&H activities at the Hanford Site is not at an acceptable level when compared to the commercial nuclear industry.

The desired ES&H culture change is not being achieved at all levels as quickly as necessary.

The use of resources is inefficient.

The internal ES&H review process, including independent oversight, self evaluation, and corrective action, is inadequate.

The integration and prioritization of ES&H activities are inadequate.

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Paducah Gaseous Diffusion Plant

PADUCAH GASEOUS DIFFUSION PLANT - JULY 1990

Environmental Assessment

Environmental monitoring and evaluation programs are not being effectively implemented because of a lack of key programmatic elements, such as appropriate technical direction, formal procedures, and a coordinated quality assurance program.

Formal procedures have not been developed for the effective implementation of environmental protection activities.

Quality assurance programs have not been developed or implemented for many environmental activities to assure that they are being conducted in accordance with applicable environmental regulations and DOE Orders.

Safety and Health Assessment

Compliance with DOE Orders and mandatory standards is deficient in a wide variety of activities (e.g., document reviews, inspections, emergency planning, fire protection engineering, radiological protection, and quality assurance). These include requirements and provisions for a quality assurance plan (ANSI/ASME NQA-1), a Plant's Emergency Plan (DOE 5500.3A), Health and Safety Review Committee (DOE 5480.5), provisions of 29 CFR 1910 and 29 CFR 1926, Fire Protection [NFPA 101 (Life Safety Code) and NFPA 1500], and Radiological Protection (DOE 5480.11).

The system of preparing or revising, reviewing, and approving administrative control documents has serious deficiencies.

Training and certification programs and practices do not fulfill site needs.

Instrument calibration practices in some plant areas do not meet minimum standards.

There is no long-range plan for safe, long-term storage of depleted uranium.

No integrated site-wide management system is available to track and correct identified deficiencies.

One Category II concern, which was corrected immediately, dealt with electrical safety at the serving line in the cafeteria.

Paducah Gaseous Diffusion Plant

One Category II concern, which was corrected immediately, dealt with the lack of calibration of the x-ray equipment in the Medical Department.

The Plant is not in compliance with the National Fire Protection Association Life Safety Code.

The Plant does not have a properly equipped, trained, organized, and managed fire department to ensure prompt termination and mitigation of the effects of fire in a safe and effective manner.

Management and Organization Assessment

DOE is not effectively performing the oversight functions required by the Secretary to ensure that the contractor is fully implementing the Department's ES&H initiatives at the facility.

The corporate contractor has not developed a corporate-wide strategic plan, with subordinate implementation plans, to define, guide, and accomplish DOE's ES&H and program objectives at the facility in concert with the overall contractor's mission.

The corporate and facility management have not adequately developed and implemented the fundamental management control systems necessary to support and facilitate organization and individual achievement of ES&H excellence at the Plant.

Inadequate staffing and training was encountered at all levels of the plant.^(a)

DOE oversight roles and responsibilities have not been well defined, documented or communicated.^(a)

(a) This finding was identified in the Executive Summary, but not in Chapter 2.0 (Key Findings, Root Causes and Noteworthy Practices) of the Tiger Team assessment report for the Paducah Gaseous Diffusion Plant.

Appendix C
Environment Findings Titles
First Sixteen Tiger Team Reports

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	AIR/AF-1	Monitoring of Exhaust Vents for Beryllium
Rocky Flats Plant	AIR/AF-2	Effluent Air Monitoring Program
Rocky Flats Plant	AIR/AF-3	Radioactive Ambient Air Monitoring Program
Rocky Flats Plant	AIR/AF-4	Air Pollutant Emission Notices
Rocky Flats Plant	AIR/AF-5	VOC Losses From OASIS Feed Tanks
Rocky Flats Plant	SW/AF-1	Discharge Monitoring Report Deficiencies
Rocky Flats Plant	SW/AF-2	Need for Certified Operators at Sewage Treatment Plant
Rocky Flats Plant	SW/AF-3	Unpermitted Discharges from East and West Gate Guard Posts
Rocky Flats Plant	SW/AF-4	Quality Assurance - Surface Water Sample Collection, Handling, and Documentation
Rocky Flats Plant	SW/AF-5	Sewage Treatment Plant Deficiencies
Rocky Flats Plant	SW/AF-6	Work Order Lag Time
Rocky Flats Plant	SW/AF-7	Deficiencies at the Spray Irrigation Site
Rocky Flats Plant	GW/AF-1	Uncharacterized Extent of Soil and Groundwater Contamination at Inactive Waste Sites
Rocky Flats Plant	GW/AF-2	Lack of Adequate Upgradient Background Monitoring Wells

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	WM/AF-1	Building 334 Satellite Accumulation Areas
Rocky Flats Plant	WM/AF-2	750 Drum Pad Land Ban Storage
Rocky Flats Plant	WM/AF-3	Container Labeling - 90-Day Areas
Rocky Flats Plant	WM/AF-4	Building 884 Aisle Space
Rocky Flats Plant	WM/AF-5	Mixed Wastes Subject to Land Disposal Restrictions Storage Prohibitions - Buildings 561 and 774
Rocky Flats Plant	WM/AF-6	Residue/Waste Issue Classification
Rocky Flats Plant	WM/AF-7	Hazardous Waste Facility Inspections
Rocky Flats Plant	WM/AF-8	Mixed Low-Level Waste Subject to Land Disposal Restriction - Vacuum Filter Sludge and Pondcrete
Rocky Flats Plant	WM/AF-9	Mixed Low-Level Waste Subject to Land Disposal Restriction - Saltcrete, Cemented Composite Chips, and Roaster Oxide
Rocky Flats Plant	WM/AF-10	Deficiencies in TRU and TRU Mixed Waste Characterization
Rocky Flats Plant	TCM/AF-1	Improper Storage of Herbicides and Pesticides in Building 367
Rocky Flats Plant	TCM/AF-2	Building 865 PCB Transformer
Rocky Flats Plant	TCM/AF-3	Lack of Proper Labels on PCB Waste Transport Vehicles

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	TCM/AF-4	Underground Storage Tanks (USTs) Inadequate Spill and Overflow Control
Rocky Flats Plant	TCM/AF-5	Lack of Storage Dates on PCB Waste Drums
Rocky Flats Plant	TCM/AF-6	Lack of Adequate Secondary Containment at PCB Waste Storage Facility Buildings 884 and 776
Rocky Flats Plant	TCM/AF-7	Inadequately Covered Asbestos in the Active Landfill
Rocky Flats Plant	TCM/AF-8	PCB Spill Cleanup
Rocky Flats Plant	TCM/AF-9	Annual PCB Reports
Rocky Flats Plant	RAD/AF-1	Calculation and Reporting of Radiation Dose Assessments
Rocky Flats Plant	RAD/AF-2	Quality Control Checks, Radwaste Classification/Characterization
Rocky Flats Plant	RAD/AF-3	Quality Assurance/Quality Control Practices for Radiochemistry Analyses (Building 123 HS&E)
Rocky Flats Plant	RAD/AF-4	Quality Assurance Deficiencies in the Chemistry Standards Laboratory - Building 881
Rocky Flats Plant	RAD/AF-5	Quality Assurance/Quality Control Practices for Radiochemistry Analyses - 881 General Laboratory

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	QA/AF-1	Laboratory Quality Assurance Program/Practices Building 881 - General Laboratory
Rocky Flats Plant	QA/AF-2	Laboratory Quality Assurance Program/Practices Building 123 - HS&E Laboratory
Rocky Flats Plant	IWS/AF-1	Lack of a Finalized and Implemented Community Relations Plan for the Rocky Flats Remedial Corrective Action Program
Rocky Flats Plant	IWS/AF-2	Incorrect Entries in SARA, Title III, Section 313 Reports (EPA Form R)
Rocky Flats Plant	IWS/AF-3	Lack of an Administrative Record for the Environmental Restoration Program
Rocky Flats Plant	IWS/AF-4	Inadequate Remedial Investigation/Feasibility Study Work Plan - Low Priority Sites
Rocky Flats Plant	IWS/AF-5	Omission of SWMUs from the Environmental Restoration Program
Rocky Flats Plant	IWS/AF-6	Inadequate Remedial Investigation/Feasibility Study - 881 Hillside
Rocky Flats Plant	NEPA/AF-1	Improper Use of Memos-to-File and Improper Reliance on the Site-Wide Environmental Impact Statement
Rocky Flats Plant	NEPA/AF-2	Absence of NEPA Determination for the Plutonium Recovery Option Verification Exercise

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	NEPA/AF-3	Adequacy of the Rocky Flats Plant Site-Wide Environmental Impact Statement
Rocky Flats Plant	NEPA/AF-4	Inadequate Integration of NEPA/CERCLA Documentation
Rocky Flats Plant	NEPA/AF-5	Inadequate or Inappropriate Use of Section D of DOE's NEPA Guidelines
Rocky Flats Plant	NEPA/AF-6	Improper Forwarding of Memos-To-File to Headquarters
West Valley Demonstration Project	3.2.1	Unpermitted Air Pollution Sources
West Valley Demonstration Project	3.2.2	Emergency Plan and Procedures Manual
West Valley Demonstration Project	5.2.1	Potable Water System Backflow Prevention Devices
West Valley Demonstration Project	5.2.2	State Pollution Discharge Elimination System (SPDES) Discharge Limit
West Valley Demonstration Project	5.2.3	Unpermitted Surface Water Discharge
West Valley Demonstration Project	5.2.4	Spill Prevention Control and Countermeasures Plan (SPCC)

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
West Valley Demonstration Project	5.2.5	Signing of SPDES Discharge Monitoring Reports (DMR)
West Valley Demonstration Project	5.2.6	Incomplete SPDES Discharge Monitoring Reports (DMR)
West Valley Demonstration Project	5.2.7	Dike Drainage Records
West Valley Demonstration Project	6.2.1	Well Abandonment
West Valley Demonstration Project	7.2.1	Mixed Waste Management Program
West Valley Demonstration Project	7.2.2	Hazardous Waste Management Program
West Valley Demonstration Project	9.2.1	Dose Assessment Program Deficiencies
West Valley Demonstration Project	10.2.1	Protocol for Modifying the Environmental Monitoring Program
West Valley Demonstration Project	10.2.2	Expired Calibration standards
West Valley Demonstration Project	12.2.1	West Valley Nuclear Services Policy and Procedure for the Environmental Review Program (WV-986)

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
West Valley Demonstration Project	12.2.2	Use of Environmental Checklists
West Valley Demonstration Project	12.2.3	Use of Environmental Evaluations
West Valley Demonstration Project	12.2.4	Adequacy of NEPA Documentation for Planned Activities
Feed Materials Production Center	E-16	Deficient Air Environmental Program
Feed Materials Production Center	E-17	Violation of Consent Decree Wastewater/Runoff Requirements
Feed Materials Production Center	E-03	Noncompliance with Land Disposal Restrictions
Feed Materials Production Center	E-05	Incomplete RCRA Program
Feed Materials Production Center	E-07	Speculative Accumulation of Hazardous Waste
Feed Materials Production Center	E-08	Hazardous Waste Storage not in Compliance with RCRA
Feed Materials Production Center	E-18	Improper Management of TSCA/FIFRA Chemicals

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Feed Materials Production Center	E-09	Requirements of the FFCA/CERCLA Provisions are not Being Met
Feed Materials Production Center	E-10	Inadequate Planning, Management, and Administration of CERCLA Activities
Feed Materials Production Center	E-02	Integration of NEPA into Programmatic Decision Making
Oak Ridge Y-12 Plant	3.5.1.2.1	Vehicular Fuel Dispensing Requirements
Oak Ridge Y-12 Plant	3.5.3.2.1	Retention of Analytical Results
Oak Ridge Y-12 Plant	3.5.3.2.2	Discharge Monitoring Report Preparation
Oak Ridge Y-12 Plant	3.5.3.2.3	NPDES Excursions
Oak Ridge Y-12 Plant	3.5.3.2.4	Some Discharges into EFPC Not Specifically Listed on the NPDES Permit
Oak Ridge Y-12 Plant	3.5.4.2.1	Access to Wells
Oak Ridge Y-12 Plant	3.5.5.2.1	Indefinite Storage of Land Disposal Restricted Wastes
Oak Ridge Y-12 Plant	3.5.5.2.2	Inadequate Storage of Low-Level Waste
Oak Ridge Y-12 Plant	3.5.5.2.3	Questionable Structural Integrity of Diking at the 9409-5 Tank Storage

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Oak Ridge Y-12 Plant	3.5.5.2.4	Inadequate Interim Drum Yard Aisle Space
Oak Ridge Y-12 Plant	3.5.5.2.5	Sanitary Landfill Deficiencies
Oak Ridge Y-12 Plant	3.5.5.2.6	Nonconformance with Regulated Substance Underground Storage Tanks (USTs)
Oak Ridge Y-12 Plant	3.5.6.2.1	Radioactively Contaminated PCB Wastes Stored Longer Than One Year
Oak Ridge Y-12 Plant	3.5.6.2.2	Lack of an Updated Large Capacitor Inventory
Oak Ridge Y-12 Plant	3.5.6.2.3	Deficiencies in Pesticide Storage Practices
Oak Ridge Y-12 Plant	3.5.10.2.1	NEPA Process Not Appropriately Applied to EAs and EISs
Oak Ridge Y-12 Plant	3.5.10.2.2	EA for CAPCA Deficient in Technical and Procedural Areas
Oak Ridge Y-12 Plant	3.5.10.2.3	Use of MTF when Potential for Environmental Impacts Is Uncertain
Oak Ridge Y-12 Plant	3.5.10.2.4	NEPA Compliance Policies and Procedures
Oak Ridge Y-12 Plant	3.5.10.2.5	Compliance with Floodplain/Wetland Environmental Review Requirements
Pantex Plant	AIR/CF-1	Inadequate Fluoride Forage Monitoring
Pantex Plant	AIR/CF-2	Inadequate Monitoring of Atmospheric Fluoride Releases

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Pantex Plant	SW/CF-1	Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Permit Determination
Pantex Plant	SW/CF-2	Inadequate Containment of Aboveground Storage Tanks and Drums
Pantex Plant	SW/CF-3	Untimely Reporting of Texas Water Commission (TWC) Wastewater Discharge Permit Exceedances
Pantex Plant	WM/CF-1	Storage of Hazardous Waste in Non-Interim Status Facilities for Longer than 90 Days
Pantex Plant	WM/CF-2	Inadequate Labeling of Hazardous and Mixed Waste Containers
Pantex Plant	WM/CF-3	Extended Storage of Land-Disposal-Restricted Hazardous Waste
Pantex Plant	WM/CF-4	Inadequate Secondary Containment for Resource Conservation and Recovery Act (RCRA) Treatment Facility Hazardous Waste Tanks
Pantex Plant	WM/CF-5	Lack of Waste Characterization
Pantex Plant	WM/CF-6	Inadequate Operating Records at RCRA Treatment and Storage Facilities
Pantex Plant	WM/CF-7	Inadequate Identification of RCRA Hazardous Waste 90-Day Accumulation Areas

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Pantex Plant	WM/CF-8	Inadequate Identification of RCRA Hazardous Waste 90-Day Accumulation Areas
Pantex Plant	WM/CF-9	Minor Inaccuracies in RCRA Documents
Pantex Plant	WM/CF-10	Open Hazardous Waste Containers
Pantex Plant	WM/CF-11	Inadequate Aisle Space at Interim Status Hazardous Waste Storage Facility
Pantex Plant	WM/CF-12	Inspection of Evaporation Pans Not Performed Daily
Pantex Plant	WM/CF-13	Inadequate Sign Posting at RCRA Treatment Facilities
Pantex Plant	TS/CF-1	Nonconformance with Chemical Storage Area Inspection Requirements
Pantex Plant	TS/CF-2	Chemical Storage in Defective Containers
Pantex Plant	QA/CF-1	Lack of Quality Assurance Project Plans
Pantex Plant	RAD/CF-1	Inadequate Staffing Levels for the Position of Atmospheric Release Advisory Capability (ARAC) Operator
Pantex Plant	IWS/CF-1	Underreporting of Chemical Releases and Inventories
Pantex Plant	IWS/CF-2	Inadequate Toxic Chemical Release Documentation
Pantex Plant	IWS/CF-3	Lack of Hazardous Chemical List Update

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**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Mound Plant	C/CF-3	Site-wide Remedial Investigation/Feasibility Study
Mound Plant	NEPA/CF-1	NEPA Documentation
Mound Plant	NEPA/CF-2	NEPA Review Procedures
Portsmouth Gaseous Diffusion Plant	A/CF-1	Unpermitted Air Sources
Portsmouth Gaseous Diffusion Plant	A/CF-2	Asbestos Items in Scrap Yard
Portsmouth Gaseous Diffusion Plant	A/CF-3	Incomplete SARA 313 Air Release Report
Portsmouth Gaseous Diffusion Plant	A/CF-4	Lack of Proper Gasoline Pump Labels
Portsmouth Gaseous Diffusion Plant	A/CF-5	Steam Plant Non-Compliance
Portsmouth Gaseous Diffusion Plant	SW/CF-1	Unapproved Analytical Test Procedures Used for NPDES Reporting
Portsmouth Gaseous Diffusion Plant	SW/CF-2	Unpermitted Surface Water Discharge
Portsmouth Gaseous Diffusion Plant	SW/CF-3	NPDES Permit Exceedances

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	SW/CF-4	Failure to Comply with Reporting Requirements Under NPDES
Portsmouth Gaseous Diffusion Plant	SW/CF-5	Deficient Transformer Oil Spill Control at X-530 and X-533 Switchyards
Portsmouth Gaseous Diffusion Plant	GW/CF-1	Incomplete Determination of the Rate and Extent of Migration of Hazardous Waste Constituents
Portsmouth Gaseous Diffusion Plant	AWM/CF-1	Restricted Land-Banned Waste Stored Beyond One Year
Portsmouth Gaseous Diffusion Plant	AWM/CF-2	Deficiencies in RCRA Storage Facility
Portsmouth Gaseous Diffusion Plant	AWM/CF-3	Deficiency in X-744G High-Bay RCRA Storage Facility Containment
Portsmouth Gaseous Diffusion Plant	AWM/CF-4	Hazardous Waste Drums Located Outside of Designated RCRA Storage Areas
Portsmouth Gaseous Diffusion Plant	AWM/CF-5	Inadequate Storage of Low-Level Waste
Portsmouth Gaseous Diffusion Plant	THMM/CF-1	Deficiencies in Response and Reporting PCB Transformer Leaks
Portsmouth Gaseous Diffusion Plant	THMM/CF-2	Combustible Material Found Near PCB Transformers

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	THMM/CF-3	Improper or Insufficient PCB Markings
Portsmouth Gaseous Diffusion Plant	THMM/CF-4	Deficiencies in Dating and Inspection of PCB Waste Storage Drums
Portsmouth Gaseous Diffusion Plant	THMM/CF-5	Inadequately Constructed Waste Storage Area
Portsmouth Gaseous Diffusion Plant	THMM/CF-6	PCB Wastes Stored Longer Than One Year
Portsmouth Gaseous Diffusion Plant	THMM/CF-7	Leaking PCB Gaskets and Oil Lubrication Systems
Portsmouth Gaseous Diffusion Plant	RAD/CF-1	Deficiencies in Dose Assessment Methods
Portsmouth Gaseous Diffusion Plant	RAD/CF-2	X-344 Toll Transfer Autoclave and Cylinder Vent Not Monitored
Portsmouth Gaseous Diffusion Plant	RAD/CF-3	Inappropriate External Radiation Monitor Mounting Positions
Portsmouth Gaseous Diffusion Plant	NEPA/CF-1	Projects Have Been Approved and Initiated Prior to Completion of NEPA Review
Portsmouth Gaseous Diffusion Plant	NEPA/CF-2	MMES Environmental Control Procedure is Not Consistent with Federal Regulatory Procedures

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	NEPA/CF-3	Inappropriate Use of Memoranda-to-File
Portsmouth Gaseous Diffusion Plant	NEPA/CF-4	Failure to Incorporate NEPA Into Decision Making at the Earliest Stage
Portsmouth Gaseous Diffusion Plant	NEPA/CF-5	Inappropriate Tiering From Old Environmental Impact Statements
Portsmouth Gaseous Diffusion Plant	NEPA/CF-6	Lack of NEPA/RCRA Integration
Portsmouth Gaseous Diffusion Plant	EMS/CF-1	Deficiencies in Annual Monitoring Report
Portsmouth Gaseous Diffusion Plant	EMS/CF-2	Inadequate Oversight of Environmental Sample Scheduling and Sampling Procedures
Nevada Test Site	SW/CF-1	Improper Submission of Discharge Monitoring Reports (DMRs)
Nevada Test Site	SW/CF-2	Backflow Preventer Inspection and Maintenance Program
Nevada Test Site	SW/CF-3	Abandoned Septic Tanks
Nevada Test Site	SW/CF-4	Pumping and Hauling Septage Without a Permit
Nevada Test Site	SW/CF-5	Improperly Located Septic Tank Systems
Nevada Test Site	SW/CF-6	Discharges Not Identified on Current Permits

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Nevada Test Site	SW/CF-7	Radionuclides in Potable Water Systems
Nevada Test Site	SW/CF-8	Discharge Permit Reporting Requirements
Nevada Test Site	SW/CF-9	Public Notification of Failure to Comply with a Drinking Water Standard
Nevada Test Site	WM/CF-1	Incomplete Waste Characterization
Nevada Test Site	WM/CF-2	Waste Management Units Operating Without RCRA Permits and Closure Plans, and Not Meeting RCRA Standards
Nevada Test Site	WM/CF-3	Improper Disposal of Classified Transuranic Waste at the Area 5 Radioactive Waste Management Sites
Nevada Test Site	WM/CF-4	Implementation of DOE Order 5820.2A at the Area 3 and Area 5 Radioactive Waste Management Sites
Nevada Test Site	WM/CF-5	Recording of REEC Co Area 5 and Area 3 RWMS Non-Compliances
Nevada Test Site	WM/CF-6	Improper Disposal of Low-Level Radioactive Waste at Area 12
Nevada Test Site	WM/CF-7	Implementation of NVO-325 and Waste Certification Programs at the Area 3 and Area 5 Radioactive Waste Management Sites
Nevada Test Site	WM/CF-8	Improper Storage of Hazardous and Radioactive Wastes

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Nevada Test Site	WM/CF-9	Improper Management of Non-Hazardous and Non-Radioactive Solid Waste
Nevada Test Site	WM/CF-10	Sanitary and Construction Landfills Not Fenced, and Site Access Not Sufficiently Controlled
Nevada Test Site	TCM/CF-1	PCB Annual Inventory Incomplete
Nevada Test Site	TCM/CF-2	Leaking PCB Transformers at Area 15 Shaft
Nevada Test Site	QA/CF-1	Lack of a QA Plan for the Offsite Radiological Monitoring Program
Nevada Test Site	RAD/CF-1	Annual Site Environmental Report
Nevada Test Site	RAD/CF-2	Offsite Dose Assessment
Nevada Test Site	IWS/CF-1	Inactive Post-Event Sumps and Cellars Have Not Been Completely Evaluated
Nevada Test Site	IWS/CF-2	Two Inactive Waste Sites Did Not Have Preliminary Assessments (PAs) Prepared by Statutory Deadline
Nevada Test Site	IWS/CF-3	Groundwater Characterization Capabilities and Investigation Plans Not Adequate for Remedial Investigations/Feasibility Studies (RI/FSs)
Nevada Test Site	IWS/CF-4	Actions Taken Under Atmospheric Debris Disposal Program (ADDP) May Be Considered Removal Actions

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Nevada Test Site	IWS/CF-5	Implementation of Procedures to Report Releases are Not Adequate
Nevada Test Site	NEPA/CF-1	Inconsistency with DOE NEPA Guidance and Procedures
Nevada Test Site	NEPA/CF-2	Deficiencies in Environmental Assessments (EAs)
Nevada Test Site	NEPA/CF-3	Inadequacy of the Site-Wide EIS
Kansas City Plant	1	Operating on an Expired Air Permit
Kansas City Plant	5	Inadequate Protection of Waste Management and Chemical Storage Facilities Against Floods
Kansas City Plant	6	Noncompliant Flows from Connections to Storm Sewers
Kansas City Plant	7	Discharges of Chlorinated Solvents and Total Toxic Organics to the City POTW
Kansas City Plant	8	Spill Containment at Hazardous Waste Loading and Unloading Areas
Kansas City Plant	9	Bulk Oil Tank Spill Control
Kansas City Plant	13	Undefined Horizontal and Vertical Extent of Groundwater Contamination
Kansas City Plant	14	No Documentation Recording the Proper Abandonment of Wells

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Kansas City Plant	18	Improper Storage of Classified Land-Disposal-Restricted Hazardous Waste
Kansas City Plant	19	Inadequate LDR Determination of Classified Hazardous Waste
Kansas City Plant	20	Inadequate Waste Characterization and Identification
Kansas City Plant	21	Inadequate Securing of Drums During Transportation
Kansas City Plant	22	Inadequate Storage Area Configuration
Kansas City Plant	23	Inadequate Training of Waste Generators
Kansas City Plant	24	Inadequate Waste Segregation
Kansas City Plant	30	TSCA Storage of PCBs for Disposal and Use Requirements
Kansas City Plant	31	Deficient TSCA PCB Container Marking
Kansas City Plant	35	Inadequate Spill Control Plan and Reporting
Kansas City Plant	41	Deficient Oversight of the Environmental Monitoring Program Laboratories
Kansas City Plant	43	Floodplain/Wetlands Environmental Review Requirements
Kansas City Plant	44	Outdated and Improperly Updated Albuquerque Operations Office Order 5440.1B

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Kansas City Plant	45	De Facto NEPA Determinations
Kansas City Plant	46	Inappropriate NEPA Determinations
Kansas City Plant	47	Outdated Site-Wide NEPA Document
Kansas City Plant	48	Plant Facilities Lack NEPA Determinations
Kansas City Plant	49	Failure of DOE and Line Management to Systematically Follow-up and Track Environmental Survey Findings
Pinellas Plant	A/CF-1	Absence of Air Permits
Pinellas Plant	A/CF-2	Tritium Stack Releases - Procedure Deviations and Sampling Deficiencies
Pinellas Plant	A/CF-3	Compliance with County and State Air Quality Regulations
Pinellas Plant	A/CF-4	Absence of a Meteorological Program
Pinellas Plant	A/CF-5	Kanne Chamber Calibration Inadequacies
Pinellas Plant	A/CF-6	Plutonium Stack Sampling Deficiencies
Pinellas Plant	A/CF-7	Vapor Degreasers Management Deficiencies
Pinellas Plant	A/CF-8	Lack of Proper Notification Concerning Fire Training Activities

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Pinellas Plant	SW/CF-1	Failure to Comply with Reporting Requirements Under Pretreatment Regulations
Pinellas Plant	SW/CF-2	Industrial Discharge Permit Exceedances and Design Deficiencies at the Waste Water Neutralization Unit (WWNU)
Pinellas Plant	SW/CF-3	Inadequate QA/QC of Wastewater Sampling and Sampling Procedures
Pinellas Plant	SW/CF-4	Potential Discharge of Radionuclides to Chemical Drain Systems
Pinellas Plant	SW/CF-5	Inconsistent Environmental Monitoring Procedures for Tritium in Surface Water
Pinellas Plant	SW/CF-6	Deficiencies in SPCC Plan
Pinellas Plant	GW/CF-1	Groundwater Contamination
Pinellas Plant	GW/CF-2	Inadequate Characterization of the Hydrogeologic Regime
Pinellas Plant	GW/CF-3	Inadequate Abandonment of Groundwater Wells
Pinellas Plant	GW/CF-4	Inadequate Groundwater Monitoring Well
Pinellas Plant	WM/CF-1	Combining Mixture of Classified Wastes with Radioactive Wastes for the Purpose of Disposal
Pinellas Plant	WM/CF-2	Disposal of Characteristic Wastes (Extraction Procedure Toxic-Lead) in Nonhazardous Waste

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Pinellas Plant	WM/CF-3	No GEND Requirement or Operating Procedure Requiring Drums of Hazardous Waste be Secured During Transportation Onsite
Pinellas Plant	TSCA/CF-1	Unavailability of Annual PCB Reports
Pinellas Plant	TSCA/CF-2	Underground Storage Tanks (UST) RCRA Closure Requirements
Pinellas Plant	TSCA/CF-3	Inadequate Spill Containment of Hazardous Chemicals
Pinellas Plant	TSCA/CF-4	Incompatible Material Storage
Pinellas Plant	QA/CF-1	Audits of the Environmental Monitoring Program Are Not Performed on a Scheduled Basis
Pinellas Plant	QA/CF-2	Chain-of-Custody Procedure Not Being Followed Completely
Pinellas Plant	R/CF-1	Deficiencies in Dose Assessment Methodologies
Pinellas Plant	R/CF-2	Lack of Complete Documentation of Radiochemistry Laboratory-Developed Computer Programs
Pinellas Plant	IWS/CF-1	Lack of Adequate Information to Implement a Complete Remedial Action
Pinellas Plant	IWS/CF-2	Lack of a Developed and Implemented Community Relations Plan
Pinellas Plant	IWS/CF-3	Failure to Submit Correct EPCRA 311 Information

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Pinellas Plant	IWS/CF-4	Failure to Submit a Complete EPA Form R
Pinellas Plant	NEPA/CF-1	Lack of NEPA Compliance Strategy
Pinellas Plant	NEPA/CF-2	Inadequate Tracking and Record Keeping for NEPA Documentation
Pinellas Plant	NEPA/CF-3	Deficiencies in the 1983 Site-Wide Environmental Assessment
Pinellas Plant	NEPA/CF-4	Inappropriate NEPA Review Process by the Albuquerque Operations Office
Pinellas Plant	NEPA/CF-5	Inappropriate NEPA Determinations and Inadequate Documentation
Pinellas Plant	EMS/CF-1	Anticipated Noncompliance with DOE 5400.1
Pinellas Plant	EMS/CF-2	Deficiencies in the Annual Environmental Reports
Pinellas Plant	EMS/CF-3	Inadequate Oversight, Compliance, and Consistency with Respect to Environmental Monitoring and Surveillance Procedures
Savannah River Site	A/CF-1	Absence of Gasoline Misfueling Notices on Gasoline Pump Stands
Savannah River Site	SW/CF-1	Substandard Drinking Water Systems
Savannah River Site	SW/CF-2	Improper Abandonment of Drinking Water Wells

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	SW/CF-3	Breach of Containment Diking and Inadequate Procedures
Savannah River Site	SW/CF-4	Delays in Updating Spill Prevention Control and Countermeasure Plan
Savannah River Site	SW/CF-5	Failure to Meet the CWA Section 401 Certification Special Conditions Prior to Expiration
Savannah River Site	SW/CF-6	Lack of Final Evaluation of Impacts of Minor Thermal Discharges
Savannah River Site	SW/CF-7	Incomplete Resolution of the Fish Kill Issue
Savannah River Site	SW/CF-8	Fill of Wetlands Due to Uncontrolled Erosion
Savannah River Site	SW/CF-9	Improper Disposal of Excess Chemical Reagent and Sample Solution
Savannah River Site	WM/CF-1	RCRA Training Program Deficiencies
Savannah River Site	WM/CF-2	Deficiencies in Hazardous Waste Management Program at Wackenhut
Savannah River Site	WM/CF-3	Unpermitted Disposal of Hazardous Waste
Savannah River Site	WM/CF-4	Technical Violations of Inventory Procedures for Tank 722-4A
Savannah River Site	WM/CF-5	Lack of Permit for Storage of Mixed Waste

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	WM/CF-6	Instances of Inadequate Inspection fo Containers and Tanks
Savannah River Site	WM/CF-7	Unapproved Storage of Waste Subject to the Land Disposal Restrictions
Savannah River Site	WM/CF-8	Inadequate Secondary Containment and Assessment of Tank Integrity
Savannah River Site	WM/CF-9	Deficiencies in Management of Waste Drums
Savannah River Site	WM/CF-10	Unavailable Contingency Plan
Savannah River Site	TCM/CF-1	Failure to Meet Storage Time Limit Criteria for Mixed PCB Waste
Savannah River Site	TCM/CF-2	Inadequate Identification of PCB Concentrations in Oil-Filled Equipment
Savannah River Site	TCM/CF-3	Inadequate Secondary Containment and/or Separation for Chemical Storage
Savannah River Site	QA/CF-1	Exceedance of Maximum Sample Holding Times
Savannah River Site	QA/CF-2	Deficiencies Within the Environmental Protection Functional Appraisal Program
Savannah River Site	QA/CF-3	Lack of Documented Quality Assurance Plans for Environmental Protection Programs

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	QA/CF-4	Deficiencies in Oversight of Sampling, Analysis, and Technical Data for SRS Environmental Protection Programs
Savannah River Site	R/CF-1	Lack of Technical Specifications Which Address Radiological Effluent Monitoring Requirements
Savannah River Site	R/CF-2	Inadequate ALARA Process for Tritium Sources and Releases
Savannah River Site	R/CF-3	Radiological Guidelines for Unrestricted Release are not Consistent with DOE Requirements
Savannah River Site	R/CF-4	Inadequate Records for Tritium Facility Stack Release Determination
Savannah River Site	IWS/CF-1	Failure to Address Inactive Hazardous Substance Sites in a Prompt Manner
Savannah River Site	NEPA/CF-1	Outdated DOE-SR NEPA Implementation Plan
Savannah River Site	NEPA/CF-2	Deficiencies in Memoranda-to-File
Savannah River Site	NEPA/CF-3	Insufficient Level of NEPA Documentation for the Naval Fuels Material Facility (FMF)
Lawrence Livermore National Laboratory	A/CF-1	Monitoring of Radionuclide Emissions to the Atmosphere
Lawrence Livermore National Laboratory	A/CF-2	Ambient Air Monitoring Program for Particulate Radionuclides

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	A/CF-3	Reporting of Airborne Beryllium Concentrations in Annual Environmental Report
Lawrence Livermore National Laboratory	A/CF-4	Solvent Use Records at Solvent Cleaning Stations
Lawrence Livermore National Laboratory	A/CF-5	Report on Cooling Towers
Lawrence Livermore National Laboratory	A/CF-6	Gasoline Dispensing Facilities at Main Site and Site 300
Lawrence Livermore National Laboratory	A/CF-7	Burning at Site 300
Lawrence Livermore National Laboratory	A/CF-8	Cold Cleaners at Site 300 Paint Shop
Lawrence Livermore National Laboratory	SW/CF-1	Sanitary Sewage Collection System
Lawrence Livermore National Laboratory	SW/CF-2	SPCC Plan
Lawrence Livermore National Laboratory	SW/CF-3	Discharge of Filter Backwash from Bldg. 318
Lawrence Livermore National Laboratory	SW/CF-4	Surface Water Discharge at Site 300

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	SW/CF-5	Site 300 Sewage Treatment Pond
Lawrence Livermore National Laboratory	WM/CF-1	Operations and Quality Assurance Program of the Hazardous Waste Management Division
Lawrence Livermore National Laboratory	WM/CF-2	LLNL Waste Management Plan for 1990
Lawrence Livermore National Laboratory	WM/CF-3	Characterization of Radioactive Materials in Low-Level Waste
Lawrence Livermore National Laboratory	WM/CF-4	Waste Characterization
Lawrence Livermore National Laboratory	WM/CF-5	Handling of Hazardous Wastes
Lawrence Livermore National Laboratory	WM/CF-6	Radioactive Waste Reduction Program
Lawrence Livermore National Laboratory	WM/CF-7	Training of Hazardous Waste Generators and Handlers
Lawrence Livermore National Laboratory	WM/CF-8	Monitoring of Regulated Underground Storage Tanks
Lawrence Livermore National Laboratory	WM/CF-9	Hazardous Waste Inspection Forms and Records

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	WM/CF-10	Storage of Mixed Wastes Subject to Land Disposal Restrictions
Lawrence Livermore National Laboratory	WM/CF-11	Hazardous Waste Characterization Program
Lawrence Livermore National Laboratory	WM/CF-12	Radioactive Waste Certification
Lawrence Livermore National Laboratory	TCM/CF-1	PCB Spill Cleanup
Lawrence Livermore National Laboratory	TCM/CF-2	Aboveground Storage Tanks
Lawrence Livermore National Laboratory	TCM/CF-3	Aboveground Storage Tanks
Lawrence Livermore National Laboratory	QA/CF-1	Environmental Quality Assurance Programs at LLNL
Lawrence Livermore National Laboratory	QA/CF-2	Implementation of Environmental Guidance Documents
Lawrence Livermore National Laboratory	QA/CF-3	Radiological Environmental Monitoring Program
Lawrence Livermore National Laboratory	QA/CF-4	Radiological Quality Assurance Practices: Environmental Analytical Sciences Laboratory

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	QA/CF-5	General Quality Assurance Practices in LLNL Environmental Laboratories
Lawrence Livermore National Laboratory	QA/CF-6	Radiological Quality Assurance Practices in the Safety Services Division Laboratories
Lawrence Livermore National Laboratory	QA/CF-7	Quality Assurance Plan and Operations Procedures in the Wastewater and Tank Systems Group
Lawrence Livermore National Laboratory	QA/CF-8	Software Control
Lawrence Livermore National Laboratory	QA/CF-9	Radiological Quality Assurance Practices: Nuclear Chemistry Division
Lawrence Livermore National Laboratory	RAD/CF-1	Safety Analysis and the Evaluation of Offsite Impacts
Lawrence Livermore National Laboratory	RAD/CF-2	Radiological Stack Effluent Monitoring Program
Lawrence Livermore National Laboratory	RAD/CF-3	Assessment of Airborne Effluents
Lawrence Livermore National Laboratory	RAD/CF-4	Assessment of Impact to the Public and the Environment in Emergency Situations
Lawrence Livermore National Laboratory	RAD/CF-5	LLNL Environmental Report

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	RAD/CF-6	Decontamination and Decommissioning Activities at LLNL
Lawrence Livermore National Laboratory	IWS/CF-1	Administrative Record for Remedial Investigation Activities at the Main Site
Lawrence Livermore National Laboratory	NEPA/CF-1	Inconsistent NEPA Guidance
Lawrence Livermore National Laboratory	NEPA/CF-2	Inadequate NEPA Review
Lawrence Livermore National Laboratory	NEPA/CF-3	Outdated Sitewide Environmental Impact Statement
Lawrence Livermore National Laboratory	NEPA/CF-4	Deficiencies in Environmental Assessments
Lawrence Livermore National Laboratory	NEPA/CF-5	Inappropriate NEPA Determinations
Brookhaven National Laboratory	A/CF-1	Lack of Air Certificates to Operate
Brookhaven National Laboratory	A/CF-2	Improper Operation of Digester Flare
Brookhaven National Laboratory	A/CF-3	Effluent Tritium Sampling Deficiencies

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	A/CF-4	Improper Asbestos Disposal
Brookhaven National Laboratory	A/CF-5	Lack of Required Gasoline Pump Labels
Brookhaven National Laboratory	SW/CF-1	Discharges Not Specified in the Brookhaven National Laboratory State Pollutant Discharge Elimination System Permit
Brookhaven National Laboratory	SW/CF-2	State Pollutant Discharge Elimination System Permit Exceptions
Brookhaven National Laboratory	SW/CF-3	Inadequate Wastewater Sampling
Brookhaven National Laboratory	SW/CF-4	Late Submittal of Discharge Monitoring Reports
Brookhaven National Laboratory	GW/CF-1	Inadequate Characterization of the Hydrogeologic Regime
Brookhaven National Laboratory	GW/CF-2	Groundwater Contamination
Brookhaven National Laboratory	GW/CF-3	Improper Screen Placement in Monitoring Wells at the Current Landfill
Brookhaven National Laboratory	GW/CF-4	Improper Abandonment of Monitoring Wells at the Current Landfill

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	WM/CF-1	Discharge of Untreated Hazardous Waste Groundwater from the Aquifer Restoration Project
Brookhaven National Laboratory	WM/CF-2	Lack of Fire Protection at the Hazardous Waste Management Facility
Brookhaven National Laboratory	WM/CF-3	Inadequate Container Management and Hazardous Waste Determination at the Hazardous Waste Management Facility
Brookhaven National Laboratory	WM/CF-4	Lack of Required Monitoring Wells at the Active Solid Waste Landfill
Brookhaven National Laboratory	WM/CF-5	Inadequate Inspections, Recordkeeping, and Reporting at the Active Solid Waste Landfill
Brookhaven National Laboratory	WM/CF-6	Inadequate Management of Hazardous Waste in Accumulation Areas
Brookhaven National Laboratory	WM/CF-7	Improper Disposal of Hazardous Solvent-Contaminated Wastes
Brookhaven National Laboratory	WM/CF-8	Inadequate Contingency Plan Distribution and Arrangements with Local Authorities
Brookhaven National Laboratory	WM/CF-9	Lack of Recordkeeping and Reporting of Medical Waste Incineration
Brookhaven National Laboratory	WM/CF-10	Lack of a Valid Landfill Operating Permit

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	TS/CF-1	Inaccurate and Inadequate Information in the Annual Polychlorinated Biphenyls Reports
Brookhaven National Laboratory	TS/CF-2	Inadequate Secondary Containment for Polychlorinated Biphenyl Items and Containers
Brookhaven National Laboratory	TS/CF-3	Inadequate Labeling of Polychlorinated Biphenyl Items and Transport Vehicles
Brookhaven National Laboratory	TS/CF-4	Inadequate Toxic and Hazardous Material Storage and Handling Controls
Brookhaven National Laboratory	QA/CF-1	Inadequate Detailing of Purchase Requests for Analytical Support of Environmental Monitoring
Brookhaven National Laboratory	QA/CF-2	Inadequate Control of Document Revisions
Brookhaven National Laboratory	RAD/CF-1	Inadequate Management of Activated Material
Brookhaven National Laboratory	RAD/CF-2	Inadequate Radiological Environmental Monitoring Documentation
Brookhaven National Laboratory	IWS/CF-1	Inadequate Implementation of the National Contingency Plan
Brookhaven National Laboratory	IWS/CF-2	Inadequate Program for Emergency Planning and Community Right-to-Know Act

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	IWS/CF-3	Lack of a Developed and Implemented Community Relations Plan
Brookhaven National Laboratory	IWS/CF-4	Lack of an Administrative Record
Brookhaven National Laboratory	IWS/CF-5	Inadequate Search for Inactive Waste Sites
Brookhaven National Laboratory	NEPA/CF-1	Inappropriate National Environmental Policy Act Determination
Sandia National Laboratories, Livermore	A/CF-1	Inadequate Evaluation of Air Permit Requirements and Regulations for Numerous Air Contaminant Sources
Sandia National Laboratories, Livermore	A/CF-2	Inadequate Radionuclide Air Effluent Measurements
Sandia National Laboratories, Livermore	SW/CF-1	Incomplete Reporting to Demonstrate Compliance with Pretreatment Standards
Sandia National Laboratories, Livermore	SW/CF-2	Lack of Spill Control at the Bulk Fuel Oil Storage Tank Loading/Unloading Facility
Sandia National Laboratories, Livermore	SW/CF-3	Lack of NPDES Permit for Blowdown from a Cooling Tower

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Sandia National Laboratories, Livermore	GW/CF-1	Nonconformance with the Reporting Provisions and Site Characterization Specifications of California RWQCB Site Cleanup Order No. 89-184
Sandia National Laboratories, Livermore	GW/CF-2	Lack of Completed Groundwater Protection Management Program Plan and Groundwater Monitoring Plan
Sandia National Laboratories, Livermore	WM/CF-1	Lack of a Waste Minimization Plan
Sandia National Laboratories, Livermore	WM/CF-2	Incomplete Characterization of Classified Radioactive Mixed Wastes That May be Contaminated with California Hazardous Wastes
Sandia National Laboratories, Livermore	WM/CF-3	Out-of-Compliance Storage of Radioactive Mixed Wastes
Sandia National Laboratories, Livermore	WM/CF-4	Storage Facility Not in Compliance with Permit Conditions
Sandia National Laboratories, Livermore	WM/CF-5	Improper Management of Contaminated Soils from Trudell Auto Repair Shop Site
Sandia National Laboratories, Livermore	TCM/CF-1	Deficiencies in PCB Recordkeeping and Reporting
Sandia National Laboratories, Livermore	QA/CF-1	Lack of Environmental Quality Assurance Programs

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Sandia National Laboratories, Livermore	QA/CF-2	Lack of QA Procedure for the Procurement of Environmental Monitoring Services
Sandia National Laboratories, Livermore	RAD/CF-1	Deficiencies in Radiological Dose Assessment Methodology
Sandia National Laboratories, Livermore	IWS/CF-1	Nonconformance with DOE Order 5400.4, CERCLA Requirements, Regarding Data Validation and the Administrative Record
Sandia National Laboratories, Livermore	IWS/CF-2	Failure to Meet the Compliance Schedule Requirement in the TWQCB Site Cleanup Order No. 89-184 for Submittal of the Trudell Site Feasibility Study
Sandia National Laboratories, Livermore	IWS/CF-3	Lack of a Developed and Implemented Community Relations Plan
Sandia National Laboratories, Livermore	IWS/CF-4	Inadequate SARA Title III Section 312 Reporting
Sandia National Laboratories, Livermore	NEPA/CF-1	Inconsistent NEPA Guidance
Sandia National Laboratories, Livermore	NEPA/CF-2	Lack of NEPA Review
Sandia National Laboratories, Livermore	NEPA/CF-3	Inappropriate NEPA Determinations

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Sandia National Laboratories, Livermore	NEPA/CF-4	Inadequate Sitewide EIS
Sandia National Laboratories, Livermore	EM/CF-1	Inadequate Environmental Monitoring Program Documentation
Hanford Site	A/CF-1	Effluent Stack Sampling Deficiencies
Hanford Site	A/CF-2	Inadequate Asbestos Management
Hanford Site	A/CF-3	Fugitive Dust Emissions From Ash Storage Areas
Hanford Site	A/CF-4	Lack of Proper Notification Concerning Portable Sources and Closure of Radionuclide Sources
Hanford Site	A/CF-5	Air Emissions From U Plant
Hanford Site	A/CF-6	Registration of Airborne Sources
Hanford Site	SSB/CF-1	Radioactively Contaminated Soil Control Program Deficiencies
Hanford Site	SW/CF-1	Inadequate Water Treatment Plant Operator Certification Program
Hanford Site	SW/CF-2	Incomplete Information on NPDES Permit Application
Hanford Site	SW/CF-3	Potable Water Analyses Reporting
Hanford Site	SW/CF-4	Discharge of Sewage to the Ground

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Hanford Site	SW/CF-5	Cross Connection Control Program Deficiencies
Hanford Site	SW/CF-6	NPDES Permit Limit Exceedances at Outfall 009
Hanford Site	SW/CF-7	Incomplete Sampling Protocols
Hanford Site	SW/CF-8	Failure to Register All Potable Water Systems with the State of Washington
Hanford Site	GW/CF-1	Hanford Liquid Effluent Disposal Practices Have Contaminated Groundwater
Hanford Site	GW/CF-2	Inadequate Characterization of the Hydrogeologic Regime
Hanford Site	GW/CF-3	Deficiencies in Geographical Surveys of Monitoring Wells
Hanford Site	WM/CF-1	Extremely Hazardous Wastes Certification Plans for Naval Reactor Generated Wastes
Hanford Site	WM/CF-2	Lack of Generator Waste Certification Plans for Naval Reactor Generated Wastes
Hanford Site	WM/CF-3	Lack of Integrity Assessments and Compliant Secondary Containment for Hazardous Waste Storage Tanks
Hanford Site	WM/CF-4	Continuing Potential For Environmental Hazards Resulting From Storage of Radioactive Waste at the Hanford Site Tank Farms
Hanford Site	WM/CF-5	Lack of Permit for Solid Water Disposal Sites

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Hanford Site	WM/CF-6	Noncompliance With DOE 5820.2A, Radioactive Low-Level Waste Management
Hanford Site	WM/CF-7	Lack of Clear Allocation of Oversight Responsibilities
Hanford Site	WM/CF-8	Storage of Mixed Wastes in Containers of Questionable Integrity
Hanford Site	TSCA/CF-1	PCB Wastes Stored Longer Than One Year
Hanford Site	TSCA/CF-2	Combustible Material Stored Near PCB Transformer
Hanford Site	TSCA/CF-3	Lack of PCB Markings
Hanford Site	TSCA/CF-4	Outdated Fire Department PCB Transformer Run Books
Hanford Site	TSCA/CF-5	Inadequacies in MSDS Distribution and Chemical Container Labeling
Hanford Site	QA/CF-1	Chain-of-Custody Procedure Not Being Followed Completely
Hanford Site	QA/CF-2	Deficiencies in the WHC Surface Water Sample Collection Program
Hanford Site	QA/CF-3	The HEHF Environmental Health Sciences Laboratory (EHSL) Does Not Have an Approved Quality Assurance Manual
Hanford Site	QA/CF-4	Deficiencies in the PNL Oversight of the U.S. Testing Contract

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Hanford Site	QA/CF-5	Lack of Quality Assurance/Quality Control Guidance, Planning, and Implementation of the Liquid Effluent Study (LES) and the Waste Stream Characterization Study
Hanford Site	QA/CF-6	Lack of Comprehensive Program-Specific Quality Assurance Plan
Hanford Site	RAD/CF-1	Deficiencies in the WHC and PNL Radiological Monitoring Programs
Hanford Site	RAD/CF-2	Decontamination and Decommissioning Program Deficiencies
Hanford Site	RAD/CF-3	Inadequate procedures to Prevent the Potential for Burial of Radioactive Material in the Central Landfill
Hanford Site	RAD/CF-4	Hanford Dose Assessments Are Not Based on Current Land Use Census
Hanford Site	RAD/CF-5	Environmental "As Low As Reasonably Achievable" (ALARA) Program Deficiencies
Hanford Site	RAD/CF-6	Unapproved Procedures for Unconditional Release of Potentially Activated Material
Hanford Site	RAD/CF-7	Technical Training of Operating Personnel Inadequate
Hanford Site	IWS/CF-1	Incomplete Characterization and Tracking of Inactive Waste Sites

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Hanford Site	NEPA/CF-1	Technical and Procedural Shortcomings of Site EISs and EAs
Hanford Site	NEPA/CF-2	Inappropriate or Inadequate MTF Determinations
Hanford Site	SI/CF-1	Lack of Formal ES&H Guidance and Oversight for Entities With Easement Rights, Permits, Licenses and Leasing Agreements
Paducah Gaseous Diffusion Plant	A/CF-1	Airborne Effluent Control Systems
Paducah Gaseous Diffusion Plant	A/CF-2	Radiological Air Effluent Monitoring Program
Paducah Gaseous Diffusion Plant	A/CF-3	Ambient Air Quality Surveillance Network
Paducah Gaseous Diffusion Plant	A/CF-4	Monitoring of Alumina and Sodium Fluoride Traps
Paducah Gaseous Diffusion Plant	A/CF-5	Reporting of Airborne Fluoride Concentrations
Paducah Gaseous Diffusion Plant	A/CF-6	Permits-to-Operate for Air Emission Sources
Paducah Gaseous Diffusion Plant	A/CF-7	Storage of Asbestos-Containing Waste

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Paducah Gaseous Diffusion Plant	SW/CF-1	Sampling for Free Chlorine Residuals in the Potable Water Distribution System
Paducah Gaseous Diffusion Plant	SW/CF-2	Measurement of Flow Rates at Kentucky Pollutant Discharge Elimination System (KPDES) Outfalls
Paducah Gaseous Diffusion Plant	SW/CF-3	Analytical Method for PCBs
Paducah Gaseous Diffusion Plant	SW/CF-4	Cross-Connection Control Program
Paducah Gaseous Diffusion Plant	SW/CF-5	Change in Signatory Authorization
Paducah Gaseous Diffusion Plant	GW/CF-1	Integrity of Well 58
Paducah Gaseous Diffusion Plant	WM/CF-1	Hazardous Waste Management
Paducah Gaseous Diffusion Plant	WM/CF-2	Waste Characterization Program
Paducah Gaseous Diffusion Plant	WM/CF-3	Hazardous Waste Training
Paducah Gaseous Diffusion Plant	WM/CF-4	Scrapyard Operation

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Paducah Gaseous Diffusion Plant	WM/CF-5	Outside Storage of Low-Level Radioactive Waste
Paducah Gaseous Diffusion Plant	WM/CF-6	Radioactive Waste Volume Reduction
Paducah Gaseous Diffusion Plant	WM/CF-7	Radioactive Waste Volume Reduction
Paducah Gaseous Diffusion Plant	WM/CF-8	Operation of Landfills
Paducah Gaseous Diffusion Plant	WM/CF-9	Storage of Land Disposal Restricted Hazardous and Mixed Waste
Paducah Gaseous Diffusion Plant	WM/CF-10	Quality Assurance Practices for Low-Level Radioactive Waste Management
Paducah Gaseous Diffusion Plant	WM/CF-11	PGDP Waste Management Plan for 1990
Paducah Gaseous Diffusion Plant	WM/CF-12	RCRA Contingency Plan Distribution
Paducah Gaseous Diffusion Plant	TCM/CF-1	PCBs in the Ventilation Duct Gaskets
Paducah Gaseous Diffusion Plant	TCM/CF-2	PCB Spill Reporting

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Paducah Gaseous Diffusion Plant	TCM/CF-2	PCB Spill Reporting
Paducah Gaseous Diffusion Plant	TCM/CF-3	Storage of PCB Waste
Paducah Gaseous Diffusion Plant	QA/CF-1	Quality Assurance Program
Paducah Gaseous Diffusion Plant	QA/CF-2	Generation and Administration of Standard Procedures
Paducah Gaseous Diffusion Plant	QA/CF-3	Corrective Action Program
Paducah Gaseous Diffusion Plant	QA/CF-4	Quality Assurance Practices in the Radiochemistry Laboratory
Paducah Gaseous Diffusion Plant	QA/CF-5	Laboratory Procedures and Practices
Paducah Gaseous Diffusion Plant	RAD/CF-1	Offsite Environmental Surveillance Program at PGDP
Paducah Gaseous Diffusion Plant	RAD/CF-2	Onsite Radiological Environmental Surveillance Program
Paducah Gaseous Diffusion Plant	RAD/CF-3	Calculation of Dose to Members of the Public

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Paducah Gaseous Diffusion Plant	RAD/CF-4	Direct Environmental Radiation Monitoring at PGDP
Paducah Gaseous Diffusion Plant	RAD/CF-5	Liquid Radiological Effluent Monitoring and Control
Paducah Gaseous Diffusion Plant	RAD/CF-6	Liquid Effluent Releases
Paducah Gaseous Diffusion Plant	RAD/CF-7	Design Criteria for Radiological Facilities
Paducah Gaseous Diffusion Plant	RAD/CF-8	Annual Radiological Environmental Monitoring Report
Paducah Gaseous Diffusion Plant	IWS/CF-1	Administrative Record for Site Investigation Activities
Paducah Gaseous Diffusion Plant	IWS/CF-2	Quality Assurance Project Plan for the Phase I Site Investigation
Paducah Gaseous Diffusion Plant	IWS/CF-3	Spill Reporting
Paducah Gaseous Diffusion Plant	NEPA/CF-1	PGDP Procedures Compared with Federal Regulatory Requirements
Paducah Gaseous Diffusion Plant	NEPA/CF-2	Appropriate Application of Memoranda-To-File

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL COMPLIANCE FINDINGS**

Site Name	Finding #	Finding Title
Paducah Gaseous Diffusion Plant	NEPA/CF-3	NEPA Approval Prior to Start of Work
Paducah Gaseous Diffusion Plant	NEPA/CF-4	DOE Supervision of the NEPA Process
Paducah Gaseous Diffusion Plant	NEPA/CF-5	NEPA/RCRA/CERCLA Integration
Paducah Gaseous Diffusion Plant	NEPA/CF-6	Adequacy of NEPA Documentation
Paducah Gaseous Diffusion Plant	NEPA/CF-7	Overall NEPA Strategy and Long-Term Planning

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	AIR/BMP-1	Minimization of Solvent Use
Rocky Flats Plant	SW/BMP-1	Deficiencies in Draft Best Management Practice Spill Prevention Containment and Control (BMP/SPCC) Plan
Rocky Flats Plant	SW/BMP-2	Lack of Flow Measurement at C-1 Pond
Rocky Flats Plant	SW/BMP-3	Inadequate Protocols for Timely Identification of Pollutant Releases to Sewage Treatment Plant
Rocky Flats Plant	SW/BMP-4	Cooling Tower Blowdown at Building 774
Rocky Flats Plant	SW/BMP-5	Dam Inspection Reports
Rocky Flats Plant	SW/BMP-6	Laundry Operations
Rocky Flats Plant	GW/BMP-1	Use of Groundwater Monitoring Wells of Unknown Construction
Rocky Flats Plant	GW/BMP-2	Lack of Comprehensive Organized Groundwater Data Database
Rocky Flats Plant	GW/BMP-3	Deficiencies in Groundwater Sampling Procedures
Rocky Flats Plant	GW/BMP-4	Lack of Adequate Quality Assurance/Quality Control of Work Products
Rocky Flats Plant	GW/BMP-5	Deficiencies in Well Filter Construction
Rocky Flats Plant	WM/BMP-1	Management Approach to Environmental Programs

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	WM/BMP-2	Waste Minimization Program
Rocky Flats Plant	WM/BMP-3	Deficiencies in Waste Stream Characterization Study (WSC)
Rocky Flats Plant	WM/BMP-4	Pondcrete and Saltcrete Solidification/Storage Deficiencies
Rocky Flats Plant	WM/BMP-5	RCRA Storage Area and Cargo Container Storage Deficiencies - 750 and 561
Rocky Flats Plant	WM/BMP-6	Deficiencies at the 561 Container Storage Pad Staging Area
Rocky Flats Plant	WM/BMP-7	RCRA Part B Distribution
Rocky Flats Plant	WM/BMP-8	Regulated Material Procurement Control
Rocky Flats Plant	WM/BMP-9	Hazardous Waste Tank Overfill Controls & Alarms
Rocky Flats Plant	WM/BMP-10	Management Assessments for Long Range Planning
Rocky Flats Plant	WM/BMP-11	Management of Residue
Rocky Flats Plant	WM/BMP-12	Landfill Capacity Constraints
Rocky Flats Plant	WM/BMP-13	Standing Water in Building 664
Rocky Flats Plant	TCM/BMP-1	Secondary Containment for Portable Aboveground Storage Tanks
Rocky Flats Plant	TCM/BMP-2	PCB Handling and Spill Remediation

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	TCM/BMP-3	Lack of Proper Labeling of ASTs at Building 991
Rocky Flats Plant	TCM/BMP-4	Lack of Secondary Containment for Building 551 Chemical Storage Area
Rocky Flats Plant	TCM/BMP-5	Lack of Secondary Containment for Permanent AST at Building 774
Rocky Flats Plant	TCM/BMP-6	Improper Storage of Chemical Materials in Building 331
Rocky Flats Plant	RAD/BMP-1	Control of 903 Pad Area
Rocky Flats Plant	RAD/BMP-2	Characterization of Soil Contamination
Rocky Flats Plant	RAD/BMP-3	Staging Areas for the Shipment of Radioactive Waste
Rocky Flats Plant	QA/BMP-1	Data Management System for Environmental Monitoring QA/QC Data
Rocky Flats Plant	QA/BMP-2	Provisions for Transmission of Updated Laboratory Procedures
Rocky Flats Plant	IWS/BMP-1	Lack of a Unified Spill Reporting and Notification Procedure
Rocky Flats Plant	IWS/BMP-2	Inadequate Time for Preparation and Review Cycle for Environmental Restoration Documents
Rocky Flats Plant	IWS/BMP-3	Determination of Threshold Amounts for SARA Title III, Section 313 Reporting

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	IWS/BMP-4	Reprioritization of the Original Landfill
Rocky Flats Plant	NEPA/BMP-1	Lack of Coordinated Site-Wide Strategy to Ensure Compliance with the National Environmental Policy Act
Rocky Flats Plant	NEPA/BMP-2	Lack of NEPA/CERCLA Integration for the 881 Hillside Remedial Action
Rocky Flats Plant	NEPA/BMP-3	Need to Expedite NEPA Determinations for the 903 Pad, Mound, and East Trenches Hazardous Wastes Burial Sites Remedial Actions and Priority Remedial Actions
West Valley Demonstration Project	3.3.1	Siting of Ambient Air Samplers
West Valley Demonstration Project	3.3.2	Absence of an Overall Air Monitoring Program Plan
West Valley Demonstration Project	3.3.3	Monitoring and Sampling System Representativeness
West Valley Demonstration Project	3.3.4	Sample Filter on Stack Effluent Monitor
West Valley Demonstration Project	3.3.5	Meteorological Data Used for Annual Dose Modeling
West Valley Demonstration Project	3.3.6	Cement Silo Baghouse Checkout Procedures

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
West Valley Demonstration Project	3.3.7	Siting of Meteorological Tower
West Valley Demonstration Project	4.3.1	Environmental Surveillance of Soils
West Valley Demonstration Project	4.3.2	Soil Characterization at the Waste Storage Areas
West Valley Demonstration Project	5.3.1	Incomplete Information in SPCC Plan
West Valley Demonstration Project	6.3.1	Underground Fuel Storage Tanks Monitoring Well Conditions
West Valley Demonstration Project	6.3.2	Groundwater Sampling Protocols
West Valley Demonstration Project	6.3.3	Monitoring Well Conditions
West Valley Demonstration Project	7.3.1	Acceptable Permanent Disposal of Low-Level, TRU, and Mixed Radioactive Waste
West Valley Demonstration Project	7.3.2	Laboratory Practices
West Valley Demonstration Project	7.3.3	Solid Waste Management

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
West Valley Demonstration Project	7.3.4	Empty (Non-Radioactive) Drum Management
West Valley Demonstration Project	8.3.1	Incompatible Material Storage
West Valley Demonstration Project	8.3.2	Secondary Containment or Spill Cleanup Materials for Aboveground Fuel Oil Storage Tanks
West Valley Demonstration Project	8.3.3	Secondary Containment for Chemical Dispensing
West Valley Demonstration Project	8.3.4	Inspection of Chemical Storage Cabinets/Lockers
West Valley Demonstration Project	9.3.1	Deficiencies in the On-Site Environmental Monitoring Program
West Valley Demonstration Project	9.3.2	Operating Procedures do not Reference the Operational Safety Requirements (OSR)
West Valley Demonstration Project	9.3.3	Tagging DOP Tested HEPA Filtration Systems
West Valley Demonstration Project	9.3.4	DOP Testing Frequency for HEPA Filtration Systems
West Valley Demonstration Project	11.3.1	SARA Title III Section 313 Reporting

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
West Valley Demonstration Project	12.3.1	Training and Information Available to WVNS and WVPO Staff
West Valley Demonstration Project	12.3.2	Management of NEPA Functions by DOE's Nuclear Energy Programs and Idaho Operations Office
Feed Materials Production Center	E-14	Unplanned Releases, Fugitive Emissions, and Radon Emissions
Feed Materials Production Center	E-15	Deficient Stack and Ambient Air Monitoring
Feed Materials Production Center	E-04	Storage and Disposal of Low-Level Waste without Adequate Control
Feed Materials Production Center	E-06	Incomplete Characterization of Wastes
Feed Materials Production Center	E-22	No Independent QA Program for On-Site Laboratories
Feed Materials Production Center	E-11	K-65 Silos Potential Risk to Public Health and Environment
Feed Materials Production Center	E-12	Natural Resource Trustee Responsibilities may not have been Met
Feed Materials Production Center	E-13	Inadequate Quantification of Releases of Hazardous Substances

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Feed Materials Production Center	E-19	Environmental Monitoring Program has Minor Deficiencies
Feed Materials Production Center	E-20	Environmental Monitoring Data Management Needs Improvement
Feed Materials Production Center	E-21	Sample Locations, Methods, Collection, and Analyses Need Modification
Feed Materials Production Center	E-01	Inadequate NEPA Training and Guidance
Oak Ridge Y-12 Plant	3.5.1.3.1	Lack of Verifying Documentation to Demonstrate Compliance with Air Permit Conditions/Emission Standards
Oak Ridge Y-12 Plant	3.5.1.3.2	Fugitive Emissions from Paper Shredder
Oak Ridge Y-12 Plant	3.5.1.3.3	Air Monitoring Program
Oak Ridge Y-12 Plant	3.5.1.3.4	High Efficiency Particulate Air Filters
Oak Ridge Y-12 Plant	3.5.1.3.5	Steam Plant Sulfur Dioxide Impact on Elevated Terrain
Oak Ridge Y-12 Plant	3.5.1.3.6	Smoke from Open Burning
Oak Ridge Y-12 Plant	3.5.1.3.7	Beryllium Stack Monitoring
Oak Ridge Y-12 Plant	3.5.1.3.8	Absence of Control Equipment Maintenance Documentation and Logs

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Oak Ridge Y-12 Plant	3.5.1.3.9	Perchloroethylene Degreasers
Oak Ridge Y-12 Plant	3.5.1.3.10	Scrubbers to Reduce Hydrogen Fluoride Emissions Are Not Operational
Oak Ridge Y-12 Plant	3.5.1.3.11	Air Permitting Procedures
Oak Ridge Y-12 Plant	3.5.1.3.12	Industrial Hygiene Asbestos Audit Responsibilities
Oak Ridge Y-12 Plant	3.5.1.3.13	Cold Cleaning Facilities and Degreasers
Oak Ridge Y-12 Plant	3.5.1.3.14	Siting of Meteorological Towers
Oak Ridge Y-12 Plant	3.5.1.3.15	Coal Dust Emissions
Oak Ridge Y-12 Plant	3.5.3.3.1	Potential for Accidental Discharges to East Fork Poplar Creek and/or the Publicly Owned Treatment Works
Oak Ridge Y-12 Plant	3.5.4.3.1	Monitoring Well Conditions
Oak Ridge Y-12 Plant	3.5.4.3.2	Groundwater Level Measurement Procedures
Oak Ridge Y-12 Plant	3.5.4.3.3	Alternate Concentration Limits Program
Oak Ridge Y-12 Plant	3.5.5.3.1	Undiked Organic Acid Treatment and Storage Areas
Oak Ridge Y-12 Plant	3.5.5.3.2	Lack of a Centralized Waste Tracking System
Oak Ridge Y-12 Plant	3.5.5.3.3	Untimely Analytical Data Reporting Time

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Oak Ridge Y-12 Plant	3.5.5.3.4	Lack of Facility- and Task-Specific Training
Oak Ridge Y-12 Plant	3.5.5.3.5	Undetermined RCRA Status of Enriched Uranium Recovery Operations
Oak Ridge Y-12 Plant	3.5.5.3.6	Trash Monitoring Station Deficiencies
Oak Ridge Y-12 Plant	3.5.5.3.7	Secondary Containment Deficiencies at Interim Drum Yard
Oak Ridge Y-12 Plant	3.5.6.3.1	No Documented Training of Transformer Maintenance Personnel
Oak Ridge Y-12 Plant	3.5.6.3.2	Transformers Not Consistently Marked
Oak Ridge Y-12 Plant	3.5.6.3.4	No Secondary Containment for Some of the Drum Hazardous Materials Storage Areas
Oak Ridge Y-12 Plant	3.5.6.3.5	Incompatible Material Storage
Oak Ridge Y-12 Plant	3.5.7.3.1	No Written Environmental Monitoring Plan
Oak Ridge Y-12 Plant	3.5.7.3.2	Deficiencies in the Y-12 Plant Environmental Laboratory Practices
Oak Ridge Y-12 Plant	3.5.7.3.3	Data Anomaly Treatment in the Environmental Report
Oak Ridge Y-12 Plant	3.5.8.3.1	Protocol for Modifying the Environmental Monitoring Program
Oak Ridge Y-12 Plant	3.5.8.3.2	Maintenance and Operating Procedures

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Oak Ridge Y-12 Plant	3.5.9.3.1	A CERCLA Program is not Fully Implemented at the Y-12 Plant
Oak Ridge Y-12 Plant	3.5.10.3.1	Training and Information Available to Energy Systems and ORO Y-12 Site Staff
Oak Ridge Y-12 Plant	3.5.10.3.2	Management of NEPA Function by DP-HQ and EH-HQ
Pantex Plant	AIR/BMPF-1	Volatile Organic Compound (VOC) Emissions Minimization
Pantex Plant	AIR/BMPF-2	Air Monitor Siting Requirements
Pantex Plant	SW/BMPF-1	Inadequate Wastewater Treatment in the Pantex Plant Sewage Lagoon
Pantex Plant	SW/BMPF-2	Unnecessary Diesel Fuel Releases at Cement Batch Plant
Pantex Plant	SW/BMPF-3	Deterioration of Sewer Lines
Pantex Plant	SW/BMPF-4	Unrepresentative Wastewater Flow Measurement
Pantex Plant	GW/BMPF-1	Inadequate Groundwater Monitoring
Pantex Plant	GW/BMPF-2	Unknown Integrity of Underground Storage Tanks and Pipes
Pantex Plant	WM/BMPF-1	Inadequate RCRA Inspection Checklists
Pantex Plant	WM/BMPF-2	Lack of Timely Disposition of Potential Hazardous/Mixed Waste from Damaged Joint Test Assemblies

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Pantex Plant	TS/BMPF-1	Polychlorinated Biphenyls (PCB) Item Labeling and Documentation Inconsistencies with Regulatory Definitions
Pantex Plant	QA/BMPF-1	Lack of a Written Environmental Monitoring Plan
Pantex Plant	QA/BMPF-2	Inadequate Sampling Protocols
Pantex Plant	QA/BMPF-3	Inadequate Sampling Techniques
Pantex Plant	RAD/BMPF-1	Inadequate Labeling of Radiological Waste
Pantex Plant	RAD/BMPF-2	Identification of Radioactive Check Sources
Pantex Plant	RAD/BMPF-3	Lack of an Annual Land Use Census
Pantex Plant	RAD/BMPF-4	Inadequate Air Sample Analysis
Pantex Plant	RAD/BMPF-5	Posting of Contaminated Firing Sites
Pantex Plant	RAD/BMPF-6	Pantex Plant Annual Environmental Monitoring Report Inadequacies
Pantex Plant	RAD/BMPF-7	Improper Lining of Radiological Waste Trash Containers
Pantex Plant	IWS/BMPF-1	Lack of AAO Environmental Restoration Oversight
Pantex Plant	IWS/BMPF-2	Lack of Timely DOE HQ and AL Approval of AAO Environmental Restoration (ER) Activities

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Pantex Plant	IWS/BMPF-3	Lack of Input from Regulatory Agencies on ER Activities
Pantex Plant	IWS/BMPF-4	Incomplete Spill Reporting Procedure
Pantex Plant	NEPA/BMPF-1	Outdated Albuquerque Operations Office NEPA Supplemental
Pantex Plant	NEPA/BMPF-2	Inadequate Amarillo Area Office NEPA Records
Mound Plant	A/BMPF-1	Radionuclide Air Samplers
Mound Plant	A/BMPF-2	Radionuclide Air Effluent Measurements
Mound Plant	A/BMPF-3	Meteorological Monitoring Program
Mound Plant	A/BMPF-4	State and Federal Air Permits for Numerous Air Contaminant Sources
Mound Plant	A/BMPF-5	HEPA Filter Test Procedures
Mound Plant	S/BMPF-1	Characterization of Soil Contamination Areas
Mound Plant	SW/BMPF-1	Building 72 Outdoor Staging Area
Mound Plant	SW/BMPF-1	Operator Certification
Mound Plant	GW/BMPF-1	Groundwater Monitoring Wells
Mound Plant	GW/BMPF-2	Groundwater Monitoring Plan

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Mound Plant	WM/BMPF-1	Spill Control and Decontamination Equipment at Building 23
Mound Plant	WM/BMPF-2	Radioactive and Mixed Waste Storage Space in Building 23
Mound Plant	TSCA/BMPF-1	Aboveground Storage Tanks
Mound Plant	TSCA/BMPF-2	Outside Drum Storage/Use Areas
Mound Plant	TSCA/BMPF-3	Pesticide Storage
Mound Plant	QA/BMPF-1	Procurement of Commercial Analytical Laboratories
Mound Plant	QA/BMPF-2	Quality Assurance Coordinator
Mound Plant	R/BMPF-1	Health and Safety Evaluation for Plutonium Contamination of the Miami-Erie Canal
Mound Plant	C/BMPF-1	Community Relations Plan for RI/FS Activities
Mound Plant	C/BMPF-2	CERCLA/SARA Reportable Quantities
Mound Plant	NEPA/BMPF-1	Site-Wide EIS
Mound Plant	NEPA/BMPF-2	NEPA Recordkeeping
Mound Plant	NEPA/BMPF-3	NEPA Guidance
Mound Plant	EMP/BMPF-1	Documentation and Documentation Practices of the Environmental Monitoring Programs

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	A/BMP-1	Air Monitoring Station Deficiencies
Portsmouth Gaseous Diffusion Plant	A/BMP-2	HEPA Filter Systems Testing and Maintenance
Portsmouth Gaseous Diffusion Plant	A/BMP-3	Out-of-Date Vent Survey
Portsmouth Gaseous Diffusion Plant	A/BMP-4	Incomplete Air Emissions Inventories
Portsmouth Gaseous Diffusion Plant	A/BMP-5	Meteorological Tower Limitations-Data
Portsmouth Gaseous Diffusion Plant	SW/BMP-1	No Standard Operating Procedures for Managing Wastewater from Spray Paint Booths
Portsmouth Gaseous Diffusion Plant	SW/BMP-2	Unacceptable Risk of By-Passing Permitted Discharge Point
Portsmouth Gaseous Diffusion Plant	SW/BMP-3	Inadequate Chain-of-Custody for NPDES Samples
Portsmouth Gaseous Diffusion Plant	SW/BMP-4	Signatories for Drinking Water Monitoring Reports Are Not Complete
Portsmouth Gaseous Diffusion Plant	SW/BMP-5	Undocumented NPDES Sampling Procedures

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	SW/BMP-6	Deficiencies in Reported Inventories for Aboveground Storage Tanks
Portsmouth Gaseous Diffusion Plant	SW/BMP-7	Inadequate Containment of Non-Oil Spills
Portsmouth Gaseous Diffusion Plant	SW/BMP-8	Deficient Transformer Oil Spill Control
Portsmouth Gaseous Diffusion Plant	SW/BMP-9	Discharges of Chromated Water from Spills
Portsmouth Gaseous Diffusion Plant	SW/BMP-10	Inadequate Alarm Settings on Continuous pH Monitors
Portsmouth Gaseous Diffusion Plant	SW/BMP-11	Lack of a Water Quality Management Plant
Portsmouth Gaseous Diffusion Plant	GW/BMP-1	Need for a Comprehensive Groundwater Sampling and Analysis Plan
Portsmouth Gaseous Diffusion Plant	AWM/BMP-1	Deficiencies in Waste Minimization
Portsmouth Gaseous Diffusion Plant	AWM/BMP-2	Mixed Waste Drum Labeling Deficiency
Portsmouth Gaseous Diffusion Plant	AWM/BMP-3	Waste Drum Inventory Problems

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	AWM/BMP-4	Noncompliance with PORTS Procedure Requiring the Covering of Radioactive Waste Drums Stored Outside
Portsmouth Gaseous Diffusion Plant	AWM/BMP-5	Incomplete Method of Release Detection Used for Some Underground Storage Tanks
Portsmouth Gaseous Diffusion Plant	THMM/BMP-1	Insufficient Management of PCB Waste Drum Storage Areas
Portsmouth Gaseous Diffusion Plant	THMM/BMP-2	Pesticide Program Deficiencies
Portsmouth Gaseous Diffusion Plant	THMM/BMP-3	Lack of Placarding on Vehicles Engaged in Onsite Hazardous Materials Transport
Portsmouth Gaseous Diffusion Plant	THMM/BMP-4	Deficiencies in Hazardous Material Storage
Portsmouth Gaseous Diffusion Plant	THMM/BMP-5	Lack of Formal Procedures for Gasket Spill PCB Program
Portsmouth Gaseous Diffusion Plant	QA/BMP-1	Inadequate Documentation of Laboratory Standard Operating Procedures and Practices
Portsmouth Gaseous Diffusion Plant	QA/BMP-2	Ineffective External Proficiency Testing Program
Portsmouth Gaseous Diffusion Plant	QA/BMP-3	Deficiencies in Laboratory Sample Custody Practices

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	QA/BMP-4	No Active Audit or Corrective Action Program in the Analytical Laboratories
Portsmouth Gaseous Diffusion Plant	QA/BMP-5	Inadequate Radiological Measurement QA/QC
Portsmouth Gaseous Diffusion Plant	QA/BMP-6	Inadequate Oversight of Contracted Laboratory
Portsmouth Gaseous Diffusion Plant	NEPA/BMP-1	Inadequate Tracking and Record Keeping for NEPA Documentation
Portsmouth Gaseous Diffusion Plant	NEPA/BMP-2	Insufficient Attention to NEPA Compliance at PORTS
Portsmouth Gaseous Diffusion Plant	NEPA/BMP-3	Failure to Follow Environmental Control Procedure (ECP)
Portsmouth Gaseous Diffusion Plant	EMS/BMP-1	Lack of an Environmental Monitoring Plan
Portsmouth Gaseous Diffusion Plant	EMS/BMP-2	Inadequate Internal Oversight and Self-Appraisal of Environmental Compliance
Nevada Test Site	AIR/BMPF-1	Characterization of Airborne Releases from LLNL Post Event Drill Back Operations
Nevada Test Site	SW/BMPF-1	Lack of Organic Analysis of Potable Water System

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Nevada Test Site	TCM/BMPF-1	Secondary Containment of Petroleum Products
Nevada Test Site	TCM/BMPF-2	Improper Storage of Chemical Materials
Nevada Test Site	TCM/BMPF-3	PCB Storage Building Sprinkler System
Nevada Test Site	TCM/BMPF-4	Leaking Oil Drums in Area 6 Fuel and Lube Facility
Nevada Test Site	QA/BMPF-1	Quality Assurance/Quality Control Practices for Radionuclide Analyses (Building 650)
Nevada Test Site	QA/BMPF-2	Quality Assurance/Quality Control Practices for Radionuclide Analyses of Offsite Environmental Samples (EPA-EMSL-LV)
Nevada Test Site	QA/BMPF-3	Quality Assurance/Quality Control Practices for Radionuclide Analyses (Building 701)
Nevada Test Site	RAD/BMPF-1	Discharge of Liquid Radioactive Waste to Aquifers and Soil Columns
Nevada Test Site	IWS/BMPF-1	Program Planning and Initial Funding to Address Inactive Sites is Not Proactive
Nevada Test Site	IWS/BMPF-2	Spill Reporting Procedures are not in Writing for all Site Users
Nevada Test Site	NEPA/BMPF-1	Incomplete Understanding of NEPA Requirements
Kansas City Plant	2	Deficiencies in the Air Monitoring Program

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Kansas City Plant	3	Siting of Meteorological Tower
Kansas City Plant	4	Fugitive Emissions from Paper Shredder Dust Collector
Kansas City Plant	10	Oversight of Environmental Samples
Kansas City Plant	11	Treatment Plant Operator Training Records
Kansas City Plant	12	Expired Groundwater Discharge Permit
Kansas City Plant	15	Incomplete Hydrogeologic Characterization of the Site
Kansas City Plant	16	Deficiencies in the Maintenance and Construction of Monitoring and Remediation Wells
Kansas City Plant	17	Deficiencies in Decontamination Procedure for Non-Dedicated Sampling Equipment
Kansas City Plant	25	RCRA Storage Facilities Within the 100-Year Floodplain
Kansas City Plant	26	Lack of Sump Inventory and Regular Sump Inspections
Kansas City Plant	27	Inactive Leaking UST Without Administrative Controls to Prevent Accidental Filling
Kansas City Plant	28	Inadequately Packaged Medical Sharps Waste
Kansas City Plant	32	Herbicide Sprayer not Labeled

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Kansas City Plant	36	Inadequate Corrective Action Plans
Kansas City Plant	37	Lack of Determination of DOE Responsibility and Proper Reporting and Action Requirements for Waste Sites at the KCP Federal Facilities Complex
Kansas City Plant	38	Inadequate Subcontractor Oversight for the Environmental Restoration Program Activities
Kansas City Plant	39	Inadequate Hazardous Chemical Inventory Tracking Under SARA Title III
Kansas City Plant	40	Failure to Submit EPA CERCLA 103(c) Notification Information on Required Form
Kansas City Plant	42	Environmental Monitoring Data May Not Be Verifiable
Kansas City Plant	50	Lack of Effective Communication Between Headquarters ES&H, AL, and KCAO
Pinellas Plant	A/BMPF-1	Ambient Air Monitoring Deficiencies
Pinellas Plant	A/BMPF-2	High Efficiency Particulate Air Filtration (HEPA) Testing Program
Pinellas Plant	A/BMPF-3	Lack of Instrumentation to Verify Scrubber Operation
Pinellas Plant	A/BMPF-4	Absence of an Air Toxic Emissions Inventory
Pinellas Plant	A/BMPF-5	Lack of Silica Gel Tritium "Breakthrough" Documentation

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Pinellas Plant	A/BMPF-6	Vehicular Fuel Dispensing Requirements
Pinellas Plant	SS/BMPF-1	Lack of Background Plutonium Soil Sampling Location
Pinellas Plant	SW/BMPF-1	Unacceptable Risk of Bypassing Pretreatment
Pinellas Plant	SW/BMPF-2	Inadequate Procedure for Determining Toxic Discharge to the Waste Water Neutralization Unit (WWNU)
Pinellas Plant	SW/BMPF-3	Stormwater Discharge Permits Have Not Been Adequately Addressed
Pinellas Plant	SW/BMPF-4	Incomplete Inventory of Facility Drains
Pinellas Plant	SW/BMPF-5	Unacceptable Risk from a Deactivated High Level Alarm
Pinellas Plant	SW/BMPF-6	Inadequate Training of Wastewater Treatment Plant Operators
Pinellas Plant	GW/BMPF-1	Inadequate Groundwater Monitoring Well Maintenance
Pinellas Plant	WM/BMPF-1	Solid Waste Segregation Practices Are Not Implemented Uniformly
Pinellas Plant	QA/BMPF-1	Deficiencies in Good Laboratory Practices
Pinellas Plant	R/BMPF-1	Environmental "As Low As Reasonably Achievable" (ALARA) Program Deficiencies
Pinellas Plant	IWS/BMPF-1	Incomplete Distribution of EPCRA Reports

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Pinellas Plant	IWS/BMPF-2	Incomplete Spill Reporting Procedure
Pinellas Plant	NEPA/BMPF-1	Inattention to NEPA Compliance at Pinellas Plant
Savannah River Site	A/BMP-1	Discrepancies in Permit Information
Savannah River Site	A/BMP-2	Lack of Updated Procedures for PM-10 Ambient Monitors
Savannah River Site	A/BMP-3	Format Inconsistencies Among Logbooks for Diesel Generators
Savannah River Site	A/BMP-4	Lack of Comprehensive Air Emissions Inventory and Climatological Database
Savannah River Site	A/BMP-5	Lack of Software QA Implementation Plan for Emergency Response and Dosimetry Dispersion Models
Savannah River Site	A/BMP-6	Deficiencies in the Meteorological Data Quality Assurance Program
Savannah River Site	A/BMP-7	QA Deficiencies in the PM-10 Ambient Air Monitoring Program
Savannah River Site	A/BMP-8	Inadequate Transmissometer Calibration Procedure and Implementation
Savannah River Site	A/BMP-9	Unrealistic Input Data for Dosimetry Modeling
Savannah River Site	SSB/BMP-1	Inadequate Biological Study Protocol

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	SSB/BMP-2	Inadequate Assessment of Non-Radiological Contaminants in the Ambient Monitoring Program
Savannah River Site	SSB/BMP-3	Inadequate Maintenance of Contaminated Soil Piles
Savannah River Site	SW/BMP-1	Inadequate Spill Containment
Savannah River Site	SW/BMP-2	Failure of M-Area Liquid Effluent Treatment Facility (LETf) to Maintain Only One Operating Log
Savannah River Site	SW/BMP-3	Inadequate Maintenance Management System
Savannah River Site	SW/BMP-4	Inadequate Labeling and Tagging
Savannah River Site	SW/BMP-5	Inadequate Chain-of-Custody Procedures for NPDES Sample Collection
Savannah River Site	SW/BMP-6	Inadequate Documentation of Comprehensive NPDES Program Plan
Savannah River Site	SW/BMP-7	Insufficient Monitoring of All On-Site Drinking Water
Savannah River Site	SW/BMP-8	Inadequate Documentation of Standard Operating Procedure (SOP) Requirements
Savannah River Site	SW/BMP-9	Nonrepresentative NPDES Sample Collection Sites
Savannah River Site	SW/BMP-10	Lack of Review of the NPDES Discharge Monitoring Report (DMR) by the Operator-In-Charge

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	SW/BMP-11	A Conflict in the Definition of Operator-In-Charge (OIC) and Other Operator Terms Exists in SRS Wastewater Treatment Facilities
Savannah River Site	SW/BMP-12	Inadequate Tracking of 404 Permit for Lost Lake
Savannah River Site	SW/BMP-13	Inadequate Site Use Coordination
Savannah River Site	SW/BMP-14	Lack of Erosion Control During D-Area Package Treatment Plant Construction
Savannah River Site	H/BMP-1	Untimely and Inadequate Submittal of Routine Reports to the Regulatory Agencies
Savannah River Site	H/BMP-2	Inadequate Analyses and Containment of Purge Water From Monitoring Wells
Savannah River Site	H/BMP-3	Inadequate Interim Stabilization of the Seepage Basins at the R-reactor Area
Savannah River Site	H/BMP-4	Failure to Adhere to Established Procedures in Performing Hydrogeologic Investigations
Savannah River Site	H/BMP-5	Lack of Adherence to Defined Responsibility, Coordination, and Authority Between the U.S. Army Corps of Engineers and the Savannah River Site
Savannah River Site	WM/BMP-1	Incomplete Implementation of Waste Minimization Program

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	WM/BMP-2	Delayed Consolidated Incinerator Facility Startup
Savannah River Site	WM/BMP-3	Inconsistent and Incomplete Spill Response Information in Permit Application
Savannah River Site	WM/BMP-4	Incomplete Manifesting of Hazardous Waste Shipments
Savannah River Site	WM/BMP-5	Inadequate Maintenance of Tank Farm Vaults
Savannah River Site	WM/BMP-6	Insufficient Administrative Controls to Preclude Introduction of Listed Waste to Area Tanks
Savannah River Site	WM/BMP-7	Deficient Underground Storage Tank Management Program
Savannah River Site	WM/BMP-8	Application of Waste Management Regulations to Nuclear Materials
Savannah River Site	WM/BMP-9	Deficient Oversight of Protocol Revision
Savannah River Site	WM/BMP-10	Inadequate Policy and Procedures for Mercury Management
Savannah River Site	WM/BMP-11	Inadequate Policy and Procedures
Savannah River Site	WM/BMP-12	Lack of Overall Environmental Compliance Program for Reactor Restart
Savannah River Site	WM/BMP-13	Deficiencies in Satellite Accumulation Area Operations
Savannah River Site	TCM/BMP-1	Inconsistent Identification of Empty Chemical Containers

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	TCM/BMP-2	Lack of Policy and Procedures on Management of Unused Toxic and Chemical Materials
Savannah River Site	TCM/BMP-3	Deficiencies in Type, Placement and Lack of Spill Cleanup Equipment
Savannah River Site	TCM/BMP-4	Inadequate Labeling of Chemical Storage Cabinets
Savannah River Site	TCM/BMP-5	Lack of Comprehensive Site-Wide Asbestos Management Program
Savannah River Site	TCM/BMP-6	Inaccessibility of Material Safety Data Sheets (MSDS)
Savannah River Site	TCM/BMP-7	Lack of Adequate Labeling of Secondary Containers of Chemical Substances
Savannah River Site	QA/BMP-1	Inadequate Maintenance of Quality Assurance Records
Savannah River Site	QA/BMP-2	Incomplete and/or Deficient EMS Procedures
Savannah River Site	R/BMP-1	Lack of Comprehensive Environmental Effluent Monitoring Plans
Savannah River Site	R/BMP-2	Unauthorized Radiological Criteria and Inadequate Quality Assurance Program in Sanitary Landfill
Savannah River Site	R/BMP-3	Deficiencies in Air Emissions Sampling/Monitoring Program
Savannah River Site	R/BMP-4	Inappropriate Radiological Criteria for Hazardous Waste/Mixed Waste Classification

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	IWS/BMP-1	Inadequate Reporting Procedures for Potential Hazardous Substance Sites
Savannah River Site	IWS/BMP-2	Inadequate Criteria and Documentation for the CERCLA Operable Unit List
Savannah River Site	IWS/BMP-3	Lack of a Consolidated Database to Track Site Investigation and Remediation Activities
Savannah River Site	IWS/BMP-4	Significant Issues Relevant to Federal Facilities Agreement (FFA) Negotiations that Impact Future CERCLA Compliance Status
Savannah River Site	NEPA/BMP-1	Inadequacy of Site EISs for Tiering
Savannah River Site	NEPA/BMP-2	Inadequate WSRC NEPA Procedures
Savannah River Site	SI/BMP-1	Inadequate Timely Responses by Department of Energy (DOE) Headquarters (HQ) Organizations to Regulatory Schedules and Environmental Commitments
Savannah River Site	SI/BMP-2	Lack of a Comprehensive Trend Analysis and Corrective Action Program to Reduce System Failures and Environmental Impacts
Lawrence Livermore National Laboratory	A/BMP-1	Guidelines for Use of Magnehelic Pressure-Drop Gauges on HEPA Filters
Lawrence Livermore National Laboratory	SW/BMP-1	Analytical Lag Times - Retention Tanks

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	SW/BMP-2	Site 300 Potable Water System
Lawrence Livermore National Laboratory	GW/BMP-1	Standard Operating Procedures on Disposal of Investigation-Derived Wastes and Purged Groundwater
Lawrence Livermore National Laboratory	GW/BMP-2	Closure of Wells and Boreholes at Site 300
Lawrence Livermore National Laboratory	WM/BMP-1	Implementation of Waste Minimization Plan
Lawrence Livermore National Laboratory	WM/BMP-2	Laboratory Closeout Procedures
Lawrence Livermore National Laboratory	WM/BMP-3	Hazardous, Radioactive, and Mixed Waste Labels
Lawrence Livermore National Laboratory	WM/BMP-4	Containment of Infectious Waste
Lawrence Livermore National Laboratory	TCM/BMP-1	Storage of Hazardous and Toxic Materials
Lawrence Livermore National Laboratory	TCM/BMP-2	Storage of Incompatible Chemicals
Lawrence Livermore National Laboratory	TCM/BMP-3	PCB Labeling

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	TCM/BMP-4	Annual PCB Status Report
Lawrence Livermore National Laboratory	TCM/BMP-5	Secondary Containment
Lawrence Livermore National Laboratory	QA/BMP-1	Procurement of Analytical Services
Lawrence Livermore National Laboratory	RAD/BMP-1	Environmental Protection Implementation Plan
Lawrence Livermore National Laboratory	RAD/BMP-2	Plutonium in Soil at the Livermore Water Reclamation Plant
Lawrence Livermore National Laboratory	IWS/BMP-1	Residual Soil Contamination with Immobile Constituents
Lawrence Livermore National Laboratory	IWS/BMP-2	Chemical Tracking System
Lawrence Livermore National Laboratory	IWS/BMP-3	Spill Reporting Procedures
Lawrence Livermore National Laboratory	NEPA/BMP-1	Inadequate NEPA Records
Brookhaven National Laboratory	A/BMPF-1	Ambient Air Monitoring Deficiencies

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	A/BMPF-2	Lack of High Efficiency Particulate Air Filter Differential-Pressure Testing and Replacement Standard Operating Procedures
Brookhaven National Laboratory	A/BMPF-3	Lack of an Air Emissions Inventory
Brookhaven National Laboratory	A/BMPF-4	Lack of Atmospheric Dispersion Studies for Emergency Response Incidents
Brookhaven National Laboratory	A/BMPF-5	Lack of Consistency in Airborne Tritium Concentrations
Brookhaven National Laboratory	A/BMPF-6	Laboratory Contamination of Tritium-in-Air Samples
Brookhaven National Laboratory	SSB/BMPF-1	Inadequate Characterization of On-site Soils and Sediments
Brookhaven National Laboratory	SW/BMPF-1	Lack of Adequate Characterization and Identification of Liquid Effluents
Brookhaven National Laboratory	SW/BMPF-2	Lack of Antisiphon Devices
Brookhaven National Laboratory	SW/BMPF-3	Deteriorating Sewer Lines
Brookhaven National Laboratory	SW/BMPF-4	Lack of Wastewater Diversion and Water and Wastewater Sampling Procedures

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	SW/BMPF-5	Sewage Treatment Plant Deficiencies
Brookhaven National Laboratory	GW/BMPF-1	Insufficient Well Abandonment/Cross-Contamination Between Aquifers
Brookhaven National Laboratory	GW/BMPF-2	Inadequate Monitoring Well Construction and Maintenance
Brookhaven National Laboratory	GW/BMPF-3	Improper Groundwater Sampling Procedures
Brookhaven National Laboratory	WM/BMPF-1	Storage of Land-Disposal-Restricted Mixed Waste
Brookhaven National Laboratory	WM/BMPF-2	Inadequate Procedures and Personnel Training for Proper Emergency Operation of the Hazardous Waste Management Facility Area
Brookhaven National Laboratory	WM/BMPF-3	Out-of-Service Solvent Degreaser Not Emptied
Brookhaven National Laboratory	TS/BMPF-1	Lack of Standard Operating Procedures for the Management of Toxic and Hazardous Materials
Brookhaven National Laboratory	TS/BMPF-2	Improper Storage of Pesticides

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	TS/BMPF-3	Inadequate Notification of Polychlorinated Biphenyl Equipment
Brookhaven National Laboratory	QA/BMPF-1	Inadequate Chain-of-Custody Procedures
Brookhaven National Laboratory	QA/BMPF-2	Lack of Standard Operating Procedures for Common Analytical Laboratory Protocols
Brookhaven National Laboratory	RAD/BMPF-1	Inadequate Characterization of Effluent Streams for Radiological Constituents
Brookhaven National Laboratory	IWS/BMPF-1	Incomplete Spill Reporting Procedure
Brookhaven National Laboratory	NEPA/BMPF-1	Outdated Sitewide Environmental Impact Statements
Brookhaven National Laboratory	NEPA/BMPF-2	Delays in National Environmental Policy Act Approval and Determination Process
Sandia National Laboratories, Livermore	A/BMPF-1	Lack of HEPA Filter Tests
Sandia National Laboratories, Livermore	A/BMPF-2	Inadequate Radionuclide Air Sampler Exposure
Sandia National Laboratories, Livermore	A/BMPF-3	Inadequate Meteorological Monitoring Program

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Sandia National Laboratories, Livermore	SW/BMPF-1	Inadequate Analysis of Sewer Effluent
Sandia National Laboratories, Livermore	SW/BMPF-2	Lack of Validation of the Effluent Monitoring Analytical Results
Sandia National Laboratories, Livermore	SW/BMPF-3	Lack of a Backflow Prevention Inspection and Maintenance Program
Sandia National Laboratories, Livermore	WM/BMPF-1	Lack of an Integrated, Formal, and Auditable Waste Management Program
Sandia National Laboratories, Livermore	QA/BMPF-1	QA Deficiencies in Laboratory Procedures
Sandia National Laboratories, Livermore	RAD/BMPF-1	Incomplete Radiological Procedures
Sandia National Laboratories, Livermore	IWS/BMPF-1	Inadequate Chemical Inventory for SARA Title III Reporting
Sandia National Laboratories, Livermore	NEPA/BMPF-1	Inadequate NEPA Review Procedures
Sandia National Laboratories, Livermore	NEPA/BMPF-2	Inadequate NEPA Documentation
Sandia National Laboratories, Livermore	EM/BMPF-1	Deficiencies in Tritium Sampling

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Sandia National Laboratories, Livermore	EM/BMPF-2	Lack of Routine Soil, Sediment, and Biota Sampling On-Site or at the Site Boundary
Sandia National Laboratories, Livermore	EM/BMPF-3	Deficiencies in the Annual Site Environmental Report
Hanford Site	A/BMPF-1	Lack of Progress in Reducing Carbon Tetrachloride
Hanford Site	A/BMPF-2	Absence of an Air Emissions Inventory
Hanford Site	A/BMPF-3	Line Losses in Sampling Systems
Hanford Site	A/BMPF-4	Ambient Air Monitoring Deficiencies
Hanford Site	A/BMPF-5	Improperly Controlled Kaiser Engineers Hanford Company Air Pollution Sources
Hanford Site	A/BMPF-6	Sulfur Dioxide Ambient Air Quality Impact of Steam Plants
Hanford Site	A/BMPF-7	High Efficiency Particulate Air Filter Program Deficiencies
Hanford Site	A/BMPF-8	Releases Exceeding Westinghouse Hanford Internal Guidelines
Hanford Site	A/BMPF-9	Lack of Documentation in Reporting Opacity Limits Exceedances at Coal-Fired Boilers
Hanford Site	A/BMPF-10	Lack of Documentation of Mitigating Fugitive Emissions During Construction Activities

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Hanford Site	SW/BMPF-1	Contradictory Records Retention Requirements
Hanford Site	SW/BMPF-2	Inadequate Monitoring of Drinking Water at the Point of Use
Hanford Site	SW/BMPF-3	Inadequate Review of the NPDES Discharge Monitoring Reports
Hanford Site	SW/BMPF-4	Chlorination Facility Deficiencies
Hanford Site	GW/BMPF-1	Deficiencies in the RCRA Groundwater Sampling
Hanford Site	GW/BMPF-2	Ineffective Geophysical Logging Systems and Procedures for Drywell Monitoring at Low-Level Waste Sites
Hanford Site	GW/BMPF-3	Monitoring Well Design That Does Not Account for a Falling Groundwater Table
Hanford Site	GW/BMPF-4	Inadequate Well Abandonment
Hanford Site	GW/BMPF-5	Noncompliant RCRA Monitoring Wells
Hanford Site	WM/BMPF-1	Outdoor Storage of Waste Equipment With Smearable Contamination
Hanford Site	WM/BMPF-2	Lack of Sitewide Waste Tracking System
Hanford Site	WM/BMPF-3	Lack of Sampling and Analysis of Radioactive Waste for Hazardous Constituents

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Hanford Site	WM/BMPF-4	Lack of Formalized Training Plans and Performance-Based Evaluations for On-The-Job Training
Hanford Site	WM/BMPF-5	Deficiencies in Waste Minimization Plans and Implementation
Hanford Site	WM/BMPF-6	Deficiencies in Proper Transportation of Hazardous Waste
Hanford Site	TSCA/BMPF-1	Incompatible Material Storage
Hanford Site	TSCA/BMPF-2	Inadequate Administrative and Engineering Controls for Reducing Potential Liquid Releases
Hanford Site	TSCA/BMPF-3	Pesticide Program Deficiencies
Hanford Site	QA/BMPF-1	Westinghouse Hanford Company Manual WHC-CM-5-4 References Obsolete Rockwell Manuals
Hanford Site	RAD/BMPF-1	KEH Fuel Storage and Encapsulation Issues
Hanford Site	RAD/BMPF-2	Inconsistent Titles and Definitions of Fissile Material Area
Hanford Site	IWS/BMPF-1	Poorly Defined Roles and Responsibilities for Management and Quality Assurance of Past Practice Activities Under the Tri-Party Agreement
Hanford Site	IWS/BMPF-2	Inconsistent DOE-RL Oversight of EPCRA SARA Title III Tier II Reporting
Hanford Site	IWS/BMPF-3	Incomplete Distribution of Annual Environmental Report

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Hanford Site	IWS/BMPF-4	Lack of Verification of RCRA/CERCLA Past Practice Cost Projection Model
Hanford Site	IWS/BMPF-5	Lack of Integration of Washington State Environmental Policy Act With Tri-Party Agreement Requirements
Paducah Gaseous Diffusion Plant	A/BMP-1	Cooling Tower Drift Emissions
Paducah Gaseous Diffusion Plant	A/BMP-2	Atmospheric Releases of Chlorofluorocarbons
Paducah Gaseous Diffusion Plant	SW/BMP-1	Extended Aeration Sewage Treatment for Building C-337A
Paducah Gaseous Diffusion Plant	GW/BMP-1	Groundwater Monitoring Plans and Procedures
Paducah Gaseous Diffusion Plant	GW/BMP-2	Perimeter Monitoring Wells
Paducah Gaseous Diffusion Plant	WM/BMP-1	ES&H Inspector Program
Paducah Gaseous Diffusion Plant	WM/BMP-2	Underground Storage Tank Lockout
Paducah Gaseous Diffusion Plant	TCM/BMP-1	PCB Program Management

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
ENVIRONMENTAL BEST MANAGEMENT PRACTICE FINDINGS**

Site Name	Finding #	Finding Title
Paducah Gaseous Diffusion Plant	TCM/BMP-2	Pesticide Program
Paducah Gaseous Diffusion Plant	TCM/BMP-3	Aboveground Storage Tank (AST) Management
Paducah Gaseous Diffusion Plant	IWS/BMP-1	Remedial Action Program Planning and Procedures

Appendix D
Safety and Health Concerns Titles
First Sixteen Tiger Team Reports

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
West Valley Demonstration Project	OA.1-1	Self appraisal activities are not providing the assurance that non-QA requirements are fully understood and completely addressed by organizations responsible for implementation
West Valley Demonstration Project	OA.1-2	Insufficient staffing is a primary reason for the inability to meet planned objectives or implement DOE requirements in Emergency Planning, Personnel Protection, Fire Protection, and Criticality Safety
West Valley Demonstration Project	OA.2-1	Identified deficiencies have not corrected in a timely manner
West Valley Demonstration Project	OA.5-1	The treatment of safety in job descriptions and performance evaluations is inconsistent with management's stated emphasis on safety
West Valley Demonstration Project	OA.6-1	Radiological Control Procedures are not controlled in accordance with the requirements of DOE 5700.6B
West Valley Demonstration Project	OP.1-1	The wording of OSR/TR-IRTS-3, particularly the discussion of its technical basis, preclude a clear determination of what constitutes a violation
West Valley Demonstration Project	OP.1-2	There is no clearly applicable WVNS emergency procedure for removing low-level water from Tank 8D-1 in the event it becomes necessary to transfer liquid from Tank 8D-2
West Valley Demonstration Project	OP.3-1	Some elements of the lock and tag procedure are being violated

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Site Name	Concern #	Concern Title
West Valley Demonstration Project	OP.7-1	Inconsistency between color coding of valve position lights in the CSS and STS control panels could confuse operators during operations or an emergency
West Valley Demonstration Project	OP.7-2	Some equipment valves and process lines in active service were unlabeled or inadequately labeled. Mistaken identity could adversely affect safety
West Valley Demonstration Project	MA.3-1	The Maintenance Department staff does not consistently follow WVNS procedures
West Valley Demonstration Project	MA.5-1	The policy regarding wearing of eye protection in the maintenance shop did not cover all personnel at risk of injury
West Valley Demonstration Project	MA.7-1	The Maintenance Department has no defined responsibility to review or approve designs which would require maintainability after the facility is put into service
West Valley Demonstration Project	TC.1-1	Training policies and procedures do not address written examination development, control, and administration; instructor training and qualification; training program evaluation; or methods to identify the required content of training and qualification programs
West Valley Demonstration Project	TC.3-1	The requirements of DOE 5480.5 with respect to annual retraining on emergency/abnormal procedures are not being met

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Site Name	Concern #	Concern Title
West Valley Demonstration Project	TC.3-2	Training policies and procedures provide less control of trainees in the plant by qualified operators and supervisors than nuclear industry practice
West Valley Demonstration Project	TC.4-1	Lifting and handling training is inconsistent with both the WVNS Lifting and Handling Manual and Training and Communications Department Policies and Procedures
West Valley Demonstration Project	AX.1-1	Inadequate equipment design and procedural control in loading drums that receive sludge from the centrifuge in the Low Level Waste Treatment Facility could compromise package integrity
West Valley Demonstration Project	AX.2-1	A well-documented utilization plan and operating procedures do not exist for the Kerosene Building
West Valley Demonstration Project	AX.3-1	No indication of fissile content was included on labels on 30 stored drums of fissile material as required by DOE 5480.5
West Valley Demonstration Project	AX.4-1	Decisions to retain radioactive components of existing ventilation systems have not been reevaluated in light of the recent significant increase in probable project duration
West Valley Demonstration Project	ER.1-1	<u>The Emergency Plan and Implementing Procedures</u> has not been reviewed and revised as required by WVNS
West Valley Demonstration Project	ER.2-1	Credible accidents involving chemicals have not been defined and appropriate emergency response planned

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Site Name	Concern #	Concern Title
West Valley Demonstration Project	ER.2-2	Statements in the Emergency Plan regarding the credibility of accidental criticality are inconsistent. Planning for nuclear criticality accidents is incomplete
West Valley Demonstration Project	ER.2-3	DOE/ID has not fulfilled its responsibility in defining site specific emergency planning zones as required by DOE 5500.3
West Valley Demonstration Project	ER.2-4	Radiological air sampling and dose assessment methods for emergency use are not covered in current procedures
West Valley Demonstration Project	ER.3-1	There is no assurance that personnel have adequate emergency response training and current information before they are assigned emergency response duties
West Valley Demonstration Project	ER.4-1	Deficiencies in the emergency preparedness program are not being identified and corrected
West Valley Demonstration Project	ER.6-1	Use of the chlorine cylinder repair kit without additional training and appropriate protect clothing could lead to personnel injury
West Valley Demonstration Project	ER.6-2	Planning and preparation for a tornado does not provide specific guidance for the protection of personnel
West Valley Demonstration Project	TS.3-1	The Radiation and Safety Department does not have internal procedures and documentation to ensure that all safety-related disciplines provide input to resolve safety issues at WVDP
West Valley Demonstration Project	TS.7-1	Some of the procedures for material packaging and transportation are incomplete or out of date

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Site Name	Concern #	Concern Title
West Valley Demonstration Project	TS.7-2	Strict adherence to procedures for some waste packaging operations does not occur and evolutions in operations are not promptly incorporated in the Standard Operating Procedures
West Valley Demonstration Project	TS.9-1	WVDP does not have a full-implemented nuclear criticality safety program
West Valley Demonstration Project	SS.1-1	Security/safeguards modifications have not been formally evaluated by appropriate safety and operations personnel for possible increased risk to safe operation of the facility
West Valley Demonstration Project	SS.5-1	Analyses have not been performed, as required by DOE 5480.16, to determine what weapons can be used safely at the WVDP
West Valley Demonstration Project	FR.1-1	The charter of the Radiation and Safety Committee is inconsistent with the definitions and advisory requirements of DOE 5480.5
West Valley Demonstration Project	FR.3-1	Minutes of the Radiation and Safety Committee do not contain administrative information consistent with good practices for a committee of this type. In addition, they are inadequate for third party assessment of the depth and quality of the review performed as required by DOE 5480.5
West Valley Demonstration Project	FR.4-1	Documentation of annual facility inspection is not in sufficient depth to evaluate the quality and effectiveness of the reviews as required by DOE 5480.5, Section 9.c

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Site Name	Concern #	Concern Title
West Valley Demonstration Project	RP.1-1	The schedule for implementing DOE 5480.11 is not being met
West Valley Demonstration Project	RP.2-1	There is not an independent internal radiation protection audit program with all of the elements, technical expertise, and independence required by DOE 5480.11 and DOE 5482.1B
West Valley Demonstration Project	RP.3-1	Posting and labeling of radiological areas and radioactive material were not always in compliance with WVDP procedures, requirements and good practice
West Valley Demonstration Project	RP.5-1	The absence of a procedure regarding assessment of nonuniform exposure to the skin is not in compliance with DOE 5480.11, Section 9.f(2)
West Valley Demonstration Project	RP.5-2	The nuclear accident dosimetry program does not comply with the requirements of DOE 5480.1A, Chapter II
West Valley Demonstration Project	RP.7-1	The quality assurance overview of the in vitro bioassay contract vendor does not satisfy industry standards and good practice
West Valley Demonstration Project	RP.7-2	The procedure and technical basis for internal dose calculation have not been formalized
West Valley Demonstration Project	RP.10-1	The particulate losses in inlet air sampling lines and the effect on measured air concentrations on CAMs have not been determined

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Site Name	Concern #	Concern Title
West Valley Demonstration Project	RP.13-1	Some of the operational records are susceptible to loss since they are not stored in fire retardant cabinets or sprinklered areas, or duplicated and stored in two separate areas
West Valley Demonstration Project	RP.13-2	Some radiation protection records omit information recommended by ANSI N13.6-1966
West Valley Demonstration Project	PP.1-1	The industrial hygiene program does not meet the intent or requirements of DOE 5480.10 in the areas of hazard assessment, surveillance, and record keeping
West Valley Demonstration Project	PP.2-1	Physical controls to assure that laboratory hood ventilation velocities are maintained at safe levels were not in place and laboratory technicians were not effectively trained in the requirements or bases for such controls
West Valley Demonstration Project	PP.3-1	The hazard communication program, as implemented, does not meet the intent of DOE Orders, prescribed standards, and industry practices for the identification and labeling of chemicals in the workplace
West Valley Demonstration Project	PP.5-1	A periodic monitoring program, as required by DOE 5480.10, has not been implemented to assure the continued effectiveness of controls for nonradiological chemical and/or physical stresses
West Valley Demonstration Project	PP.7-1	The IWP system is utilized to identify and control potential industrial safety/hygiene hazards in operating facilities; however, the system is implemented inconsistently

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Site Name	Concern #	Concern Title
West Valley Demonstration Project	FP.1-1	The WVDP site is not in conformance with NFPA 101, "Life Safety Code," nor have appropriate exemptions been requested
West Valley Demonstration Project	FP.5-1	The scheduled program for inspection and testing of fire protection systems is not in conformance with NFPA requirements and recommended practice
West Valley Demonstration Project	FP.5-2	An action plan for assuring protection of the unprotected portion of the Administrative facility has not been developed and implemented in a timely manner
West Valley Demonstration Project	FP.5-3	Many fire protection deficiencies are not routinely identified and resolved
West Valley Demonstration Project	FP.5-4	The WVDP site lacks prefire plans for fire suppression strategy and tactics
Feed Materials Production Center	S-01	Substantial deficiencies exist in the FMPC nuclear facilities and the application of pertinent design criteria
Feed Materials Production Center	S-02	Current, approved SARs are not available
Feed Materials Production Center	S-03	The independent nuclear facility safety function within WMCO and within ORO is not effective

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Site Name	Concern #	Concern Title
Feed Materials Production Center	S-04	The FMPC facilities are not designed, constructed, or operated in a manner that provides ensured confinement of radioactive or other hazardous materials used in the process
Feed Materials Production Center	S-05	WMCO is not meeting the requirements for posting of radiation areas and in radiation release measurement
Feed Materials Production Center	S-11	No implementation of a basic nonradioactive hazardous materials identification, packaging, marking, labeling, and transportation program
Feed Materials Production Center	S-07	Characterization and possible migration of asbestos at the FMPC is not being addressed
Feed Materials Production Center	S-08	Security activities at the FMPC live-fire ranges do not meet DOE Order requirements
Feed Materials Production Center	S-09	WMCO has incomplete procedures, review systems, and control mechanisms in place relating to fire protection concerns and self-appraisal programs
Feed Materials Production Center	S-06	The structural integrity of the two K-65 silos is questionable
Feed Materials Production Center	S-13	Maintenance program is not fully implemented
Feed Materials Production Center	S-12	QA activities in several areas are inadequate and are not tracked for timely resolutions

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Site Name	Concern #	Concern Title
Feed Materials Production Center	S-10	Procedures relating to packaging and transportation need upgrading and DOT hazardous materials training is inadequate
Feed Materials Production Center	S-14	Training function is not systematic sitewide
Oak Ridge Y-12 Plant	4.5.1.3.1	Operating Procedure Preparation and Revision System
Oak Ridge Y-12 Plant	4.5.1.3.2	Operating Procedure Review and Approval
Oak Ridge Y-12 Plant	4.5.1.3.3	Handling of Classified Information in Procedures
Oak Ridge Y-12 Plant	4.5.2.2.1	On-The-Job Training for Nuclear Facility Workers
Oak Ridge Y-12 Plant	4.5.2.3.1	Comprehensive Documented Training
Oak Ridge Y-12 Plant	4.5.2.4.1	Fabrication Division Training Facility
Oak Ridge Y-12 Plant	4.5.3.3.1	Maintenance Work Backlog, Prioritization, and Scheduling
Oak Ridge Y-12 Plant	4.5.3.3.2	Implementation of Requirements for Work Activities Related to Safety Systems
Oak Ridge Y-12 Plant	4.5.5.3.1	Configuration Control
Oak Ridge Y-12 Plant	4.5.5.3.2	User Design Input
Oak Ridge Y-12 Plant	4.5.5.3.3	Design for Safety

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Site Name	Concern #	Concern Title
Oak Ridge Y-12 Plant	4.5.6.3.1	Planning
Oak Ridge Y-12 Plant	4.5.6.3.2	Modification Work
Oak Ridge Y-12 Plant	4.5.7.3.1	Radiation Surveys and Job Coverage
Oak Ridge Y-12 Plant	4.5.7.4.1	Radiological Procedures
Oak Ridge Y-12 Plant	4.5.7.4.2	Radiological Workplace Controls
Oak Ridge Y-12 Plant	4.5.7.4.3	Radiation Generating Devices
Pantex Plant	S/CF-1	Imbalance of resources for safety and health technical support
Pantex Plant	S/CF-2	Inconsistency in safety specifications
Pantex Plant	S/CF-3	Untimely formalization of modified operating procedures
Pantex Plant	S/CF-4	Replacement components in safety systems are not recorded
Pantex Plant	S/CF-5	Maintenance procedure does not satisfy surveillance requirement
Pantex Plant	S/CF-6	Asbestos training program has deficiencies
Pantex Plant	S/CF-7	Earthquake threat to system critical to safety
Pantex Plant	S/CF-8	Deficiencies remain in emergency plan

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Site Name	Concern #	Concern Title
Pantex Plant	S/CF-9	Deficiencies in off-site emergency medical facility
Pantex Plant	S/CF-10	Radiation protection staff unable to fulfill mission
Pantex Plant	S/CF-11	Radiation protection audits lack sufficient independence and rigor
Pantex Plant	S/CF-12	Inadequate training program for radiation protection technicians
Pantex Plant	S/CF-13	Inability to comply with DOE radiation protection for occupational workers order requirements in the future
Pantex Plant	S/BMPF-1	Reviews of operating experience lack rigor
Pantex Plant	S/BMPF-2	Incomplete awareness by operators of facility status
Pantex Plant	S/NP-1	Protective coverings enhance safety/security interface
Mound Plant	OP/CF-1	Conduct of Operations
Mound Plant	OP/CF-2	Procedure Preparation, Review, and Approval
Mound Plant	OP/CF-3	Danger Tag and Lockout Practices
Mound Plant	OP/CF-4	Failure to Control Posted Operator Aids
Mound Plant	OP/CF-5	Restart Procedure
Mound Plant	OP/CF-6	Incident/Unusual Occurrence Reporting

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Site Name	Concern #	Concern Title
Mound Plant	OP/BMPF-1	Component, Equipment, and System Labeling
Mound Plant	MOD/CF-1	Safety Review of Modifications
Mound Plant	ENG/BMPF-1	Engineering Procedures and Instructions
Mound Plant	TS/CF-1	Safety Analysis Reports
Mound Plant	TS/CF-2	Safety Surveillance
Mound Plant	TS/CF-3	Safety Security Interface
Mound Plant	TS/CF-4	High Explosives Unreviewed Safety Issue
Mound Plant	EP/CF-1	Site Personnel Accountability
Mound Plant	EP/CF-2	Emergency Preparedness Drill and Exercise Program
Mound Plant	EP/CF-3	Emergency Assessment and Notification
Mound Plant	EP/CF-4	Emergency Preparedness Program
Mound Plant	TNG/CF-1	EG&G Mound Training Plan
Mound Plant	TNG/CF-2	Training Records
Mound Plant	TNG/CF-3	Technical Skills Training
Mound Plant	MA/CF-1	Maintenance Practices

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Site Name	Concern #	Concern Title
Mound Plant	MA/CF-2	Material Storage
Mound Plant	MA/CF-3	Equipment Calibration
Mound Plant	MA/BMPF-1	Maintenance Authorizations
Portsmouth Gaseous Diffusion Plant	OP-1	Some Operational Safety Requirements are not stated crisply and/or are not effectively incorporated into operating procedures
Portsmouth Gaseous Diffusion Plant	OP-2	Operating personnel were being dispatched frequently in Building X-333 to visually inspect cascade cells from which a UF ₆ leak detection system alarm had been obtained. These personnel were not required to carry respirators.
Portsmouth Gaseous Diffusion Plant	OP-3	The area monitoring/control rooms in Buildings X-326, X-330 and X-333 lacked the appearance of a well disciplined operation
Portsmouth Gaseous Diffusion Plant	OP-4	An independent safety review is given for Operation Change Memos (OCMs) only when the Production Services Supervisor chooses to request one. None is employed in the annual or biennial review process.
Portsmouth Gaseous Diffusion Plant	OP-5	Some signs and notices in the workplace were misleading, and others were very informal

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	OP-6	Many instruments at PORTS read out in "divisions" rather than in actual units; and some logs, instructions, and other communications are given in the same terms
Portsmouth Gaseous Diffusion Plant	MA-1	Standards for items such as mechanical clearances, testing/acceptance criteria, fastener torquing, and lubrication have not been documented for some maintenance activities
Portsmouth Gaseous Diffusion Plant	MA-2	Maintenance procedures are not consistently used or kept current. Policy on when/how these procedures are to be used has not been promulgated.
Portsmouth Gaseous Diffusion Plant	MA-3	Spare parts stored in process buildings are not adequately secured to ensure that they do not cause safety system damage as the result of a seismic event
Portsmouth Gaseous Diffusion Plant	MA-4	Electrical equipment is not securely mounted to a concrete pad or floor
Portsmouth Gaseous Diffusion Plant	MA-5	Management has not established comprehensive guidelines for acceptable amounts of overtime
Portsmouth Gaseous Diffusion Plant	MA-6	Plant performance indicators do not include sufficient indicators for maintenance
Portsmouth Gaseous Diffusion Plant	MA-7	Not all safety system components are identified as critical items

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	MA-8	Torque wrenches are not adequately controlled to ensure that they have been properly calibrated at intervals
Portsmouth Gaseous Diffusion Plant	MA-9	Tests are not performed on the diesel oil supply to determine if biological organisms are active in the diesel oil. Diesel oil can serve as a host to biological organisms, which can change the properties of the oil (e.g., the Pantex Plant had a positive; finding in their last oil sample with a recommendation from the analysis laboratory to use a specific additive to suppress growth of the organism). These organisms can cause the diesel engines to become inoperable.
Portsmouth Gaseous Diffusion Plant	TC-1	Operating philosophy and training/examination methods lead to operators committing procedures to memory, rather than gaining an understanding of what they are doing
Portsmouth Gaseous Diffusion Plant	TC-3	There are no documented criteria or procedures for remediation or removal from duties of job incumbents who fail requalification examinations or show other evidence of substandard performance
Portsmouth Gaseous Diffusion Plant	TC-3	Plant personnel do not have adequate knowledge of the mechanisms for nuclear criticality in their work areas
Portsmouth Gaseous Diffusion Plant	TC-4	Plant procedures do not require that lesson plans or tests be retained as permanent records
Portsmouth Gaseous Diffusion Plant	TC-5	There is no formal program to ensure that maintenance personnel are qualified to perform their assigned tasks

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	TC-6	Plant performance indicators do not measure the performance or quality of training
Portsmouth Gaseous Diffusion Plant	TC-7	There are no established personnel protection training requirements or programs for visitor or subcontractor personnel
Portsmouth Gaseous Diffusion Plant	TC-8	Lesson plans for operator training do not include appropriate learning objectives
Portsmouth Gaseous Diffusion Plant	TC-9	"Annual Realignment" is lowering the overall qualification level of bargaining unit personnel
Portsmouth Gaseous Diffusion Plant	EP-1	Some of the sounds of the different alarms are similar and the type of emergency (and the proper response) were not correctly identified in many cases
Portsmouth Gaseous Diffusion Plant	EP-2	Cross training between security, operations, and emergency response personnel has not been conducted to reduce the probability of personal injuries during a real emergency
Portsmouth Gaseous Diffusion Plant	TS-1	The Safety Analysis baseline for the plant is unclear against current criteria, with revision not to be completed until FY 1994
Portsmouth Gaseous Diffusion Plant	CS-1	Nuclear criticality safety limits are not conspicuously posted in the workplace and in fissile material storage areas
Portsmouth Gaseous Diffusion Plant	CS-2	Operating personnel interviewed had minimal knowledge of the fundamentals of criticality safety (see Finding TC-3)

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	RP-1	Contamination surveys are not performed routinely when personnel exit some radiological areas, as required by DOE 5480.11, Section 9.g.(4)(c)
Portsmouth Gaseous Diffusion Plant	RP-2	Administrative procedures are not exercised to provide required protection and maintain control of contaminated equipment that is moved to Building X-720 for maintenance or repair
Portsmouth Gaseous Diffusion Plant	RP-3	Training records for HP Surveyors do not comply with the requirements of DOE 5480.11, Section 9.1.m.(5)
Portsmouth Gaseous Diffusion Plant	RP-4	Limited classroom training is provided to HP Surveyors and on-the-job training is incomplete and informal, which does not comply with the requirements of DOE 5480.11, Section 9.o.(3)
Portsmouth Gaseous Diffusion Plant	RP-5	Spots of fixed beta contamination in excess of 50,000 dpm/100 cm ² probably exist in the Building X-705 Recovery Area and are not posted in accordance with the recommendations of DOE 5480.11, Section 9.k.(2)(c)
Portsmouth Gaseous Diffusion Plant	RP-6	Some interim contamination control measures are not fully implemented in accordance with the recommendations of DOE 5480.11, Section 9.1, and thus are not effective
Portsmouth Gaseous Diffusion Plant	RP-7	Contractor internal audits of the radiation protection program are not performed in accordance with the recommendations of DOE 5480.11, Section 9.r

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	RP-8	Health physics staff resources have not been adequate to implement required elements of the radiation protection program
Portsmouth Gaseous Diffusion Plant	RP-9	Outdated radiation warning signs, which give incorrect warnings, are posted in some radiological areas
Portsmouth Gaseous Diffusion Plant	RP-10	Inadequate precautions are taken to avoid exposures to uranium decay products when cleaning out large UF ₆ cylinders in preparation for periodic hydrostatic tests
Portsmouth Gaseous Diffusion Plant	IS-1	The work permit systems in use are not rigorously followed. Numerous violations occur on a monthly basis, some of which could potentially result in injury or death for employees who must rely on the procedures for establishing a barrier between energy sources and their work location.
Portsmouth Gaseous Diffusion Plant	IS-2	Numerous examples of NEC code violations were noted throughout the areas reviewed
Portsmouth Gaseous Diffusion Plant	IS-3	Violations of the DOE Hoisting and Rigging Manual (HRM) were widespread and evident in all areas reviewed
Portsmouth Gaseous Diffusion Plant	IS-4	Violations of the DOE Hoisting and Rigging Manual concerning the use and construction of personnel lifting devices were evident. Section 5.18 of the DOE HRM was violated in Buildings X-720 and X-330.
Portsmouth Gaseous Diffusion Plant	IS-5	Violations of 29 CFR 1910 requirements were evident throughout the areas reviewed

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	IS-6	Poor electrical safety practices in the workplace present a hazard to the employees
Portsmouth Gaseous Diffusion Plant	IS-7	Numerous compressed gas cylinders are not protected against corrosion and are not stored properly per SPP H-22
Portsmouth Gaseous Diffusion Plant	IS-8	The present scheme of safety system identification and isolation controls is inconsistent with general industry practices
Portsmouth Gaseous Diffusion Plant	IS-9	The lock and tag system does not provide the level of protection of current nuclear industry standards
Portsmouth Gaseous Diffusion Plant	IH-1	Some respirators are not returned to the respirator facility in Building X-103 for disinfection
Portsmouth Gaseous Diffusion Plant	IH-2	Routine tests for odor and water vapor in breathing air are not being done. Results of the lab analyses for condensed hydrocarbons suggest that the analytical procedure in use may be incorrect.
Portsmouth Gaseous Diffusion Plant	IH-3	The site procedure for use of the "air purifying filters" does not define the operating pressure for various air supplied respirators available at PORTS
Portsmouth Gaseous Diffusion Plant	IH-4	In some instances, the incorrect respirator or respirator cartridge is specified or used
Portsmouth Gaseous Diffusion Plant	IH-5	There is confusion about who is performing the routine maintenance and repairs on SCBAs

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	IH-6	In Building X-720, a painter had modified the straps to a 3M 9910 respirator, and a MSA breathing air hose was routinely used improperly with a 3M W-5006 Sand Blast Hood
Portsmouth Gaseous Diffusion Plant	IH-7	In Building X-700, 3M 9910 respirators were improperly stored in a cabinet alongside cleaning chemicals and equipment. The supervisor accompanying the Team member removed the respirators.
Portsmouth Gaseous Diffusion Plant	IH-8	PORTS has no formal procedures for inspecting SCBAs
Portsmouth Gaseous Diffusion Plant	IH-9	Unlabeled and/or incompletely labeled containers of hazardous materials were noted in several buildings across PORTS
Portsmouth Gaseous Diffusion Plant	IH-10	Routine inspections of local exhaust ventilation system measurements are not performed on the ventilated dip tanks available for use in Buildings X-700 (chromic acid, caustic, etc.) or X-720 (vapor degreasing tank)
Portsmouth Gaseous Diffusion Plant	IH-11	The inside paint storage room in the Building X-720 paint shop does not have a pilot light near the ventilation fan's switch to indicate that the fan is 'on' or 'off'
Portsmouth Gaseous Diffusion Plant	IH-12	The paint spray booth in the Building X-720 motor painting shop has no visible gauges, audible alarms, or pressure activated devices to indicate that the filters must be replaced

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	IH-13	Although the varnish baking oven in the Building X-720 motor painting shop is equipped with alarms to indicate failure of the ventilation system (combustible gas, low airflow, and loss of fan), no records of periodic checks of the alarms are available
Portsmouth Gaseous Diffusion Plant	IH-14	No evidence that routine local exhaust ventilation system measurements have been performed are available for any of the exhaust systems in Buildings X-720 and X-700, or the Respirator Facility in Building X-103
Portsmouth Gaseous Diffusion Plant	IH-15	The area around the trichloroethane degreaser in Building X-720 does not have a safety shower available. Only an eye wash is available.
Portsmouth Gaseous Diffusion Plant	IH-16	PORTS has defined the operating areas of Building X-700 as an area which requires that employees wear safety glasses, yet four employees in the facility were observed without safety glasses
Portsmouth Gaseous Diffusion Plant	IH-17	In the Building X-720 Darkroom, liquid bleach, is used and no eye wash is available in the room
Portsmouth Gaseous Diffusion Plant	IH-18	In Buildings X-700 and X-720, welding was occurring in the general areas of the shops with insufficient shielding to prevent bystanders from viewing the welding arc. Where installed, some of the welding screens did not permit air circulation at the floor.

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	IH-19	In a construction laydown area in Building X-330 near the nitrogen generator, approximately ten (10) sections of pipe show blistered and scorched paint where the pipes were welded and/or cut
Portsmouth Gaseous Diffusion Plant	IH-20	Evidence of eating was noted in Buildings X-700 and X-720
Portsmouth Gaseous Diffusion Plant	IH-21	Current staffing levels within the IH Department do not permit air monitoring of every asbestos removal operation
Portsmouth Gaseous Diffusion Plant	IH-22	Currently, PORTS does not identify insulation as either asbestos containing or asbestos free
Portsmouth Gaseous Diffusion Plant	IH-23	The PORTS asbestos inspection programs is not completely effective in that there are examples of damaged, friable insulation which may contain asbestos
Portsmouth Gaseous Diffusion Plant	IH-24	Monitoring for airborne lead exposure while personnel discharge firearms at the firing range was not conducted during the second quarter of 1989
Portsmouth Gaseous Diffusion Plant	IH-25	PORTS has not inspected SCBAs for damage at the clamp which secures the breathing tube to the face piece

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	IH-26	Periodic checks of the high temperature alarms and calibrations of the high temperature sensors on the oil lubricated reciprocating compressors which supply breathing air (as well as plant and instrument air) were inadvertently discontinued a few years ago
Portsmouth Gaseous Diffusion Plant	IH-27	The SCBA filling station, manufactured by Mako Compressors, at the Fire Station is not being inspected and serviced as thoroughly as it should
Portsmouth Gaseous Diffusion Plant	IH-28	Personnel responsible for the compressors which supply breathing air (as well as plant and instrument air) were not aware of a cross connection between the breathing air system and nitrogen and had difficulty in correctly identifying the compressor intakes. No concise document is available pertinent to the operation of the breathing air system
Portsmouth Gaseous Diffusion Plant	IH-29	The Q127 penetrometers used to test respirator cartridges in the respirator facility in Building X-103 have not been calibrated as recommended by the manufacturer (expiration sticker dated 7/89)
Portsmouth Gaseous Diffusion Plant	IH-30	Material Safety Data Sheets (MSDSs) for some hazardous materials are not available within the workplace
Portsmouth Gaseous Diffusion Plant	IH-31	The welding exhauster in the Building X-720 satellite welding shop does not have a movable duct

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	IH-32	In Building X-720, sheetmetal mechanics perform airflow measurements when requested. Supervisors of the mechanics stated that they do not receive formal training and the instruments are not routinely calibrated.
Portsmouth Gaseous Diffusion Plant	IH-33	The "Code Personnel", identified as the group responsible for verifying that Building X-720's vapor degreaser hoist operates properly, are not aware that hoist speed must be operated at no more than 11 feet/minute
Portsmouth Gaseous Diffusion Plant	IH-34	An employee failed to use gloves to minimize his exposure to a paint solvent
Portsmouth Gaseous Diffusion Plant	IH-35	In the Building X-720 motor painting shop, the light which indicates that it is safe to enter the confined space under the varnish dip tank illuminates when the exhaust supply fails
Portsmouth Gaseous Diffusion Plant	IH-36	The supervisor of workers who would normally clean mercury spills indicated that no preventative maintenance are available. Another supervisor stated that a non-HEPA filtered vacuum is used for vacuuming in Building X-700, which has radioactive contamination.
Portsmouth Gaseous Diffusion Plant	IH-37	An employee left a pickup truck's engine running inside Building X-700 while he walked over to talk to two other employees standing 10 feet away

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	IH-38	In the Building X-720 paint shop, an employee's lunch and thermos bottle were stored on a shelf under a work table. In the Building X-720 paint and carpenter shops, empty food containers (i.e., baby food and condiment jars) are used to store hazardous products.
Portsmouth Gaseous Diffusion Plant	IH-39	Housekeeping throughout Buildings X-700 and X-720 are poor due, in part, to unused equipment being left in the workplace
Portsmouth Gaseous Diffusion Plant	IH-40	A volleyball net connected to a column in Building X-700 is used by employees. The floor in this area is subject to chemical and radioactive contamination.
Portsmouth Gaseous Diffusion Plant	IH-41	Hoses, without vacuum breakers, connected to the sanitary (potable) water system were noted with their ends submerged, or with the potential of being submerged, in nonpotable liquids
Portsmouth Gaseous Diffusion Plant	IH-42	In Building X-700, which is designated as a no smoking area, cigarette butts are visible throughout the facility and an employee was observed smoking while taking instrument readings in the northeast portion of the Chemical Operations side of the facility. In addition, someone has affixed a "Smoking Permitted" sign within the facility on column E1.
Portsmouth Gaseous Diffusion Plant	IH-43	Some portable eyewash containers are not returned to the Respirator Facility for cleaning/filling within the PORTS limit of 30 days

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	IH-44	When replacing asbestos-containing products (i.e., pipe insulation) with asbestos-free products, no attempt is made to identify these areas
Portsmouth Gaseous Diffusion Plant	IH-45	A review of the monitoring schedule for 1989 shows that routine monitoring to characterize worker exposure cannot be accomplished with the current level of staff
Portsmouth Gaseous Diffusion Plant	SI-1	Improve storage of medical records and files to mitigate potential fire and water damage
Portsmouth Gaseous Diffusion Plant	SI-2	More systematic means for ascertaining the status of valved off seals needs to be considered given the discrepancies found in log entries and status sheets in the ACR
Portsmouth Gaseous Diffusion Plant	SI-3	Chlorine detectors and alarms which have been installed at the chlorine control rooms in Buildings 611 and 6619 could be used to alert Utilities personnel of leaks at the control rooms in Buildings 626, 630, and 633. It is not appropriate for a single worker to attempt to correct a leak of chlorine regardless of size.
Portsmouth Gaseous Diffusion Plant	SI-4	The housekeeping practice in the X-344 change facility as evidenced by a facility inspection on 11/16 is unsatisfactory
Portsmouth Gaseous Diffusion Plant	SI-5	MMES should evaluate the design and current utilization of the X-344 change room to take maximum advantage of its capabilities in implementing a more controlled segregation of contaminated and clean work at PORTS

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Site Name	Concern #	Concern Title
Portsmouth Gaseous Diffusion Plant	SI-6	Contamination surveying of the Building 705 laundry room should be more formal, with documentation of survey results
Portsmouth Gaseous Diffusion Plant	SI-7	Color-coding or other conventional means should be considered to preclude inadvertent commingling of contaminated work clothing being shipped to the laundry
Nevada Test Site	OA.2-1	The <u>FSN Health and Safety Manual</u> is outdated and does not reflect recent DOE requirements from orders issued since 1984
Nevada Test Site	OA.3-1	Neither Fenix and Scisson, Nevada, Inc., nor Holmes & Narver has a formal program or plan designed to improve the overall level of safety performance in their operations
Nevada Test Site	OA.3-2	The annual safety performance program formulated by REECO does not always establish goals that stimulate improvement from year to year
Nevada Test Site	OA.5-1	There is a lack of overall guidance and oversight by NV/NTSO of the activities at NTS
Nevada Test Site	OA.5-2	The treatment afforded incidents that are likely to be designated as Unusual Occurrences is inconsistent between both NTS contractors and user organizations
Nevada Test Site	OA.5-3	The results of Unusual Occurrence investigations are not trended by user organizations and contractors to yield insights into root causes of generic site problems

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Site Name	Concern #	Concern Title
Nevada Test Site	OA.5-4	Neither REECo, EG&G/EM, H&N, FSN nor any of the NTS user organizations have a tracking system in place to follow the status of progress in correcting deficiencies cited in UORs
Nevada Test Site	OA.7-1	H&N cannot assure that the working copies of their <u>Environment, Safety and Health Protection Program Manual</u> are up-to-date
Nevada Test Site	OA.8-1	Not all NTS contractor personnel have received substance abuse training, and no refresher training has been given to those who received this training over two years ago
Nevada Test Site	OP.2-1	Some logbooks are not being uniformly maintained at each facility and in a format that is needed for historical and legal records
Nevada Test Site	OP.3-1	A document that requires operating procedures to be reviewed on a specific schedule does not exist
Nevada Test Site	OP.3-2	Some procedures are neither dated nor signed to indicate that they have been reviewed for accuracy following completion of the steps
Nevada Test Site	MA.1-1	Some non-real property maintenance activities required to ensure safety and compliance with DOE 5700.6B, as well as industry standards and good practices, are being overlooked
Nevada Test Site	MA.2-1	Lock and tag procedures are either not used or being improperly implemented

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Site Name	Concern #	Concern Title
Nevada Test Site	TC.1-1	NV has not provided site-wide training standards and requirements at NTS, and implementation and effectiveness of training is inconsistent
Nevada Test Site	TC.3-1	There is no assurance that initial on-the-job training for waste management operations personnel is effective
Nevada Test Site	TC.4-1	There is no NV oversight that ensures all NTS contractor, user, and visitor personnel radiation workers are provided the training required by DOE 5480.11
Nevada Test Site	TC.6-1	The LLNL criticality safety training program for NTS personnel does not include documented retraining, as required by DOE 5610.3 and 5480.5
Nevada Test Site	AX.3-1	ALARA objectives to reduce the production of low-level waste for tunnel operations at NTS have not been fully achieved
Nevada Test Site	EP.1-1	Emergency preparedness responsibilities for NTS are fragmented
Nevada Test Site	EP.1-2	Major activities, including preparation for emergencies resulting from weapons tests, have not been subjected to routine oversight by personnel knowledgeable in emergency preparedness
Nevada Test Site	EP.1-3	Responsibilities and interfaces for the DOE Emergency Duty Officer and the Operations Coordination Center are ill-defined

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Site Name	Concern #	Concern Title
Nevada Test Site	EP.2-1	Existing emergency plans and implementing procedures are inconsistent and do not facilitate classification of and response to credible emergency events at NTS
Nevada Test Site	EP.2-2	County emergency plans are neither approved nor current, so emergency coordination and communications with surrounding counties is not assured
Nevada Test Site	EP.2-3	The maximum credible accident at the Liquefied Gaseous Fuels Spill Test Facility has not been evaluated or planned for. See also Concern TS.2-1.
Nevada Test Site	EP.3-1	DOE emergency cadre personnel have not received training in emergency classification and response
Nevada Test Site	EP.3-2	There are neither training nor qualification requirement for the NTS Emergency Duty Officer
Nevada Test Site	EP.4-1	Corrective actions from exercises are not implemented in a timely fashion
Nevada Test Site	EP.4-2	Proficiency in handling on-site emergencies was not demonstrated
Nevada Test Site	EP.6-1	No document correlates the three separate emergency classification systems used at NTS, providing little assurance that events will be classified according to DOE Orders

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Site Name	Concern #	Concern Title
Nevada Test Site	EP.7-1	The accountability system for persons underground in tunnels and shafts was not adequate to assure proper personnel accountability so that searches for missing persons could be performed properly
Nevada Test Site	EP.7-2	Self-rescue respirators in the tunnels were not maintained in a manner that assures their availability and functional readiness
Nevada Test Site	EP.7-3	There is a lack of emergency exits from the tunnels and adequate compensatory measures are not in place
Nevada Test Site	EP.7-4	Criteria to determine which locations require accountability to protect personnel in case of an emergency have not been established for NTS, thus, accountability is not assured by existing systems
Nevada Test Site	EP.7-5	The ability of emergency personnel and vehicles to enter Area 27 rapidly in case of a medical emergency has not been adequately assured
Nevada Test Site	TS.2-1	Current and complete Safety Analysis Reports that conform to the requirements of DOE 5481.1B are not available for facilities at NTS

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Site Name	Concern #	Concern Title
Nevada Test Site	FR.1-1	NV has not identified NTS facilities/activities that should be classified as "nuclear facilities" in accordance with DOE 5480.5, nor developed programs to meet the requirements of DOE 5480.5 in areas such as safety analysis, documented training, Operational Safety Requirements, and independent safety oversight for these nuclear facilities
Nevada Test Site	FR.2-1	NV prime contractors have not formalized independent safety reviews to address all activities that are required by DOE 5482.1B
Nevada Test Site	FR.2-2	Safety oversight activities address individual contractors and functional areas, but do not provide for an assessment of sitewide activities/facilities
Nevada Test Site	FR.5-1	NV prime contractors are not conducting triennial reviews of their internal appraisal systems as required by DOE 5482.1B, 9.d(2)(d)
Nevada Test Site	FR.6-1	There is no coordinated NTS-wide operating experience review program
Nevada Test Site	RP.1-1	NV has not effectively appraised, audited, or enforced DOE radiation protection policies and procedures, nor have they engaged in aggressive oversight of NTS, rather these functions have been performed by REECe, resulting in less than complete coverage for the program

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Site Name	Concern #	Concern Title
Nevada Test Site	RP.2-1	Neither REEC Co nor LANL (NTS) have satisfactory internal audit programs which comply with DOE 5480.11
Nevada Test Site	RP.2-2	The current practice of higrading core samples could lead to excessive hand exposures which are not as-low-as-reasonably-achievable (ALARA)
Nevada Test Site	RP.2-3	No audit program for personnel whole body dosimetry or for extremity dosimetry is being conducted
Nevada Test Site	RP.3-1	Procedures and posting at NTS, are not in compliance with DOE 5480.11
Nevada Test Site	RP.3-2	The lack of direction and oversight by NV leads to misunderstanding of who is responsible for posting user laboratory sites at NTS
Nevada Test Site	RP.4-1	Standard Operating Procedures and Special Work Procedures are available but not posted at the entrance to the work sites that clearly define the type of protective clothing requirements, dose rates expected, and other information
Nevada Test Site	RP.4-2	Extremity exposures and doses cannot be accurately determined nor is the calibration of the dosimeter, as required by DOE 5480.11, appropriate for the types of radiation encountered at NTS
Nevada Test Site	RP.5-1	The REEC Co external personnel dosimetry quality assurance plan does not include the requirement for blind dosimeter testing

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Site Name	Concern #	Concern Title
Nevada Test Site	RP.5-2	The error range of sodimetric measurements is not determined, as required by DOE 5480.11
Nevada Test Site	RP.5-3	The high frequency of not returned and tardy dosimeter exchanges increases the possibility of missing a significant exposure
Nevada Test Site	RP.6-1	Permitting eating, drinking, and smoking in contaminated or potentially contaminated areas is in conflict with good health physics practices
Nevada Test Site	RP.6-2	The use of instruments that are out of calibration is unacceptable and not in compliance with ANSI-323
Nevada Test Site	RP.7-1	REEC Co does not have an internal dosimetry program which complies with the requirements of DOE 5480.11
Nevada Test Site	RP.8-1	REEC Co portable radiation monitoring instrumentation at NTS is not in compliance with applicable ANSI standards relating to radio frequency susceptibility
Nevada Test Site	RP.8-2	LLNL calibration of portable radiation monitoring instruments is not in compliance with the requirements of DOE 5480.11
Nevada Test Site	RP.9-1	The air monitoring program in the tunnel operations cannot qualify airborne radioactivity as required by DOE 5480.11

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Site Name	Concern #	Concern Title
Nevada Test Site	RP.10-1	Posting of radiation areas and documentation of survey results of specific test sites are not in compliance with the requirements of DOE 5480.11
Nevada Test Site	RP.11-1	ALARA programs for the prime contractors at NTS do not have established goals and milestones as required by DOE 5480.11
Nevada Test Site	RP.12-1	Survey records were not readily accessible
Nevada Test Site	RP.12-2	Annual occupational exposure information is not being distributed to REEC Co employees, as required by DOE 5480.11
Nevada Test Site	FP.2-1	Numerous facilities at NTS are not in compliance with the egress maintenance provisions of NFPA 101 (Life Safety Code), as prescribed by DOE 5480.4
Nevada Test Site	FP.6-1	A compliance program for NFPA 1500 (as required by DOE Order 5480.4) has not been established
Nevada Test Site	FP.6-2	The Fire Department has not demonstrated the capacity to promptly terminate and mitigate the effects of a fire in a safe and effective manner
Nevada Test Site	PT.2-1	NV and REEC Co management directives do not assure packaging and transportation operations meet the requirements of DOE 5480.1, 5480.3, 5480.4, and 1540.1

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Site Name	Concern #	Concern Title
Nevada Test Site	PT.3-1	NV policies and procedures for handling, packaging and shipping hazardous materials, substances, and wastes, do not meet the full intent or requirements of DOE 5480.1A, 5480.3, and 5480.4
Nevada Test Site	PT.3-2	On-site handling, packaging and movement of hazardous materials, substances and wastes is not in accordance with the requirements of DOE 5480.1A, and NV-232
Nevada Test Site	PT.4-1	NV safety oversight of packaging and transportation operations does not meet the full intent of the health, safety, and environmental protection requirements of DOE 5480.1A
Nevada Test Site	PT.4-2	The control of handling, storage and intra-site movements of hazardous materials, substances and wastes (including hazardous, mixed, and radioactive) do not meet all the requirements of DOE 5480.1A
Nevada Test Site	PT.4-3	The NTS spill prevention, control and countermeasures program does not meet the safety requirements of DOE 5480.4 and 40 CFR 112

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Site Name	Concern #	Concern Title
Nevada Test Site	PT.5-1	The training program for all personnel who prepare hazardous materials for off-site shipment did not meet the full intent of DOE 5480.3, which includes the training requirements of 49 CFR 100 through 199 and 10 CFR 71. In addition, the training program for personnel who handle or may be involved with intrasite movements of hazardous materials did not meet the full intent of the safety, health, and environmental protection requirements of DOE 5480.1A (see also Concern TC.1-1).
Nevada Test Site	PT.5-2	Preparation for response to transportation incidents involving hazardous materials do not meet the full intent of the health, safety, and environmental protection requirements of DOE 5480.1A
Nevada Test Site	PT.8-1	NV safety oversight of NTS operations does not include packaging and transportation, and does not meet the requirements of DOE 5482
Nevada Test Site	PT.9-1	LLNL and REEC Co internal audit programs do not meet the full intent of DOE 5480.3 and 5482.1B
Nevada Test Site	QV.1-1	The NTS Quality Assurance Committee does not meet on a quarterly basis and therefore is not fulfilling its functions as defined in NV11XB.1-12
Nevada Test Site	QV.1-2	NV/Quality Assurance Division quality assurance audit reports are not always issued in a timely manner

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Site Name	Concern #	Concern Title
Nevada Test Site	QV.5-1	Identification and control of items in the Area 2 and Area 3 holding yards does not adequately address the requirements of ANSI/ASME NQA-1-1986, Supplements 8.S-1 and 13.S-1
Nevada Test Site	PP.1-1	There is no mechanism to assure that occupational exposure measurements are used to document the exposure of non-REECO employees
Nevada Test Site	PP.1-2	Some NTS facilities are not receiving adequate industrial hygiene support coverage
Nevada Test Site	PP.1-3	Health and safety standards applied to tunneling operations do not comply with DOE 5480.4
Nevada Test Site	PP.1-4	NV oversight of NTS industrial hygiene programs is incomplete
Nevada Test Site	PP.2-1	REECO's computerized worker exposure files are inadequate to support data retrieval and trend analysis (see Concern RP.12-2).
Nevada Test Site	PP.2-2	Delays in approval of the REECO Electrical Safety Code also has delayed implementation of electrical safety improvements
Nevada Test Site	PP.3-1	Personnel protection is used as the primary control for health hazards, when engineering controls or administrative controls are both feasible, and required under the hierarchy of controls established by OSHA, the Mine Safety and Health Act, and the California Tunnel Standards

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Site Name	Concern #	Concern Title
Nevada Test Site	PP.4-1	Exposures to noise and silica are not determined and documented for FSN employees
Nevada Test Site	PP.4-2	Long-term exposures to air contaminants and noise are not documented
Nevada Test Site	PP.5-1	NV provides no assurance that the site-wide use of respirators is in compliance with ANSI Z88.2
Nevada Test Site	PP.6-1	Conductors are abandoned in or near electrical supply substations without proper isolation or insulation
Nevada Test Site	PP.6-2	Unlabeled and potentially mislabeled circuits present electrical hazards to personnel
Nevada Test Site	PP.6-3	Clearing times for low voltage service circuits are not reviewed
Nevada Test Site	PP.6-4	Clearance tagging and lockout are not consistent for construction site substations
Nevada Test Site	PP.6-5	Electrical substations to support construction do not comply with all applicable electrical codes
Nevada Test Site	PP.6-6	Open storage of flammable materials is a violation of OSHA standards
Nevada Test Site	PP.7-1	Employees are not currently informed of the identity of some gases under the OSHA regulations and DOE 5483.1A, and no procedure exists to identify these gases to the employees

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Site Name	Concern #	Concern Title
Nevada Test Site	PP.7-2	The lack of a site-wide hazardous materials authorization process impedes compliance with the Hazard Communication Standard (29 CFR 1910.1200)
Nevada Test Site	PP.7-3	H&N's lack of current material data sheets, an failure of old data sheets to provide adequate disclosure, violates the Hazard Communication Standard (29 CFR 1910.1200)
Nevada Test Site	AV.1-1	There is no assurance that the safety of the construction modifications for the new Airborne Response Team hangar are adequate for the originally intended use of the hangar
Nevada Test Site	AV.1-2	NV will lose its current cost-effective means of assuring the airworthiness of its aircraft and will not be in compliance with DOE Order 5480.13, should the Air worthiness Certificates by surrendered
Nevada Test Site	AV.2-2	Unilateral surrender of the aircraft Airworthiness Certificates by NV may set a precedent whereby all other DOE aircraft may have their Federal Aviation Administration Airworthiness Certificates involuntarily withdrawn
Nevada Test Site	AV.2-3	NTS security helicopters and pilots are not capable in all circumstances, of safe flight in inadvertent instrument conditions

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Site Name	Concern #	Concern Title
Nevada Test Site	AV.8-1	The NTS policy permitting single pilot operations of security helicopters contributes to unsafe flying conditions and the lack of tighter controls for night vision goggle training, balancing mission effectiveness against hazard/risk, contributes to a high accident rate
Kansas City Plant	51	Noncompliance to DOE Accident Reporting Requirements
Kansas City Plant	52	Limited Compliance Inspections
Kansas City Plant	53	Inadequate Safety Oversight of Construction Subcontractors
Kansas City Plant	54	Crane Inspection
Kansas City Plant	55	Sling Inspection
Kansas City Plant	56	Point of Operation Guarding
Kansas City Plant	57	Machine Guarding
Kansas City Plant	58	Fan Blade Guarding
Kansas City Plant	59	Saw Guarding
Kansas City Plant	60	Radial Saws
Kansas City Plant	61	Bandsaws
Kansas City Plant	62	Grinders

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Site Name	Concern #	Concern Title
Kansas City Plant	63	Guarding Point of Operation Power Presses
Kansas City Plant	64	Guarding Horizontal Shafts
Kansas City Plant	65	Flexible Cords
Kansas City Plant	66	Hazardous Material Communication
Kansas City Plant	67	Walking Working Surfaces
Kansas City Plant	68	Guarding Floor and Wall Openings
Kansas City Plant	69	Fixed Industrial Ladders
Kansas City Plant	70	Occupational Noise Exposure
Kansas City Plant	71	Personal Protective Equipment
Kansas City Plant	72	Eye and Face protection
Kansas City Plant	73	Respirator Protection
Kansas City Plant	74	Hand Tools
Kansas City Plant	75	Storage of Oxygen Cylinders
Kansas City Plant	76	Electrical Equipment
Kansas City Plant	77	Marking Electrical Disconnects

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Site Name	Concern #	Concern Title
Kansas City Plant	78	Working Clearances Around Electrical Equipment
Kansas City Plant	79	Congested Work Areas with Equipment Powered by Flexible Cords
Kansas City Plant	80	Crane Inspection Program Noncompliance to OSHA and DOE Required Standards
Kansas City Plant	81	Noncompliance to DOE Order 5483.1A
Kansas City Plant	82	Allied-Signal Purchasing Issues Construction Subcontracts Without Fulfilling the Requirements of DOE Order 5480.9
Kansas City Plant	83	Operators of Overhead Cranes Are Not Trained and Qualified
Kansas City Plant	84	Noncompliance with Lockout/Tagout Standard
Kansas City Plant	85	Noncompliance to DOE Order 5480.16 Firearms Safety
Kansas City Plant	86	Analysis of Illness/Injury Statistics
Kansas City Plant	87	Slow and Uncertain Maintenance Response to Safety Concerns
Kansas City Plant	88	Continuing Education of Safety Engineering Staff
Kansas City Plant	89	Facility Lacks a Comprehensive Environmental, Safety, and Health Manual
Kansas City Plant	90	Safety Committees

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Site Name	Concern #	Concern Title
Kansas City Plant	91	Occupational Injury and Illness Statistics
Kansas City Plant	92	Workplace Monitoring Programs
Kansas City Plant	93	Ventilation Systems Assessments/Upgrades
Kansas City Plant	94	Improper Asbestos Abatement Procedures
Kansas City Plant	95	Eating/Drinking/Smoking in Work Areas
Kansas City Plant	96	Wearing of Personal Clothing in Work Areas
Kansas City Plant	97	Surety of Workplace Review and Controls
Kansas City Plant	98	Performance Criteria for Ventilation Systems
Kansas City Plant	99	Professional Certification of Staff
Kansas City Plant	100	Comprehensive Program Planning and Direction
Kansas City Plant	101	Noncompliance with the National Electrical Code
Kansas City Plant	102	Electrical Safety Training Deficiencies
Kansas City Plant	103	High-Voltage Safety Procedures Deficiencies
Kansas City Plant	104	Electrical Safety Inspections Deficiencies
Kansas City Plant	105	Electrical Safety Review Committee

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Site Name	Concern #	Concern Title
Kansas City Plant	106	Noncompliance with Life Safety Code
Kansas City Plant	107	Facility Does Not Meet Improved Risk Criteria
Kansas City Plant	108	Lack of a Fire Loss Potential Review and Appraisal
Kansas City Plant	109	Ineffective Communication Between the Loss Prevention and the Safety Organizations
Kansas City Plant	110	Inadequate Manpower Resources at the Fire Department
Kansas City Plant	111	Inadequate Planning for Public Protection
Kansas City Plant	112	Property Protection Costs
Kansas City Plant	113	Use of an Intergraph CADD System for Fire Protection Planning
Kansas City Plant	114	Evaluation of Various Maximum Foreseeable Loss Areas for Dollar Loss Exposure with Respect to DOE Policy Criteria
Kansas City Plant	115	Very Professional Valve Failure Investigation
Kansas City Plant	116	Bar Code Inspection System
Kansas City Plant	117	Evacuation Routing Is Not Clear
Kansas City Plant	118	Timely Personnel Accountability of all On-Site Personnel Is Unlikely

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Site Name	Concern #	Concern Title
Kansas City Plant	119	Accident Risks Not Analyzed
Kansas City Plant	120	Information on Off-Site Population Is Not Available
Kansas City Plant	121	Emergency Response Training Is Not in Accordance with DOE Order 5500.3A
Kansas City Plant	122	Insufficient Emergency Planning Resources
Kansas City Plant	123	The Emergency Plan Is Not Based on Credible Analyzed Accidents
Kansas City Plant	124	Emergency Plan Document Control Deficiencies
Kansas City Plant	125	No Provisions for Annual Review and Update of the Emergency Plan
Kansas City Plant	126	Annual Internal Appraisal of the Emergency Management Program Not Performed
Kansas City Plant	127	Protective Action Emergency Plan Training Is Not in Accordance with DOE Order 5500.3
Kansas City Plant	128	Inadequate Close-Out of Action Items
Kansas City Plant	129	Insufficient Meteorological Information for Calculating Dispersion
Kansas City Plant	130	Potential Habitability Problem in the EOC

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Site Name	Concern #	Concern Title
Kansas City Plant	131	The Computer-Based Effluent Accident Assessment Model Has Not Been Evaluated for the Site
Kansas City Plant	132	No Backup Communication Capability in the Over-the-Road Ambulance
Kansas City Plant	133	Procedure and Checklist Needed for Ambulance Supplies
Kansas City Plant	134	Backup Communication Equipment Is Not Available in Some Relocation Areas
Kansas City Plant	135	Emergency Plan Event Classification Is Not in Accordance with DOE Order 5500.3A
Kansas City Plant	136	Improvements Are Needed in Emergency Response
Kansas City Plant	137	The Emergency Plan Is Difficult To Use
Kansas City Plant	138	Lack of ALARA Documentation
Kansas City Plant	139	X-Ray Installation Deficiencies
Kansas City Plant	140	Lack of a Radiation Protection Program Document Meeting DOE Order 5480.11 Requirements
Kansas City Plant	141	Receipt of Unexpected Radioactive Returns
Kansas City Plant	142	Inadequate Health Physics Staffing

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Kansas City Plant	143	Inadequate Documentation of Records
Kansas City Plant	144	Insufficient Emergency Egress Routes
Kansas City Plant	145	Inadequate Safety-Security Interface Review Process
Kansas City Plant	146	Use of Weapons Near Hazardous Materials
Kansas City Plant	147	Infrequent Visits of Medical Staff to Workplaces
Kansas City Plant	148	Lack of Required Physical Examination Program for Older Age Group
Kansas City Plant	149	Inadequate Protection of Medical Records
Kansas City Plant	150	Few Reported Occupational Illnesses
Kansas City Plant	151	Medical Department Classifies Occupational Illnesses for Reporting Purposes
Kansas City Plant	152	No Regularly Planned Meetings
Kansas City Plant	153	Certified Radiologist Needed
Kansas City Plant	154	Open Communication with the Medical and Industrial Hygiene Departments
Pinellas Plant	OA.1-1	The Position Guides for exempt positions are out of date and do not reflect current ES&H responsibilities and authorities

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	OA.1-2	Many GEND Section and Subsection mission and function statements do not include ES&H as a functional responsibility
Pinellas Plant	OA.2-1	EH&SP has been performing some line safety functions and independent safety oversight of the same functions. (See Sections IH.2 and EP.1 and Concern TS.6-4.)
Pinellas Plant	OA.2-2	EH&SP does not perform plant-wide functional safety appraisals and does not have a follow-up and tracking system for corrective actions. (See Sections EP.1, FR.6, RP.2, IH.2, OS.1, and FP.7 and Concerns MA.1-2, TS.6-2, TS.6-4, and OS.4-1.)
Pinellas Plant	OA.2-3	There is no system for involving EH&SP in a timely and effective manner in the review and oversight of all activities and projects that could have safety significance
Pinellas Plant	OA.2-4	The GEND facility "Smoking/No Smoking" policy is not effective in eliminating passive exposures to secondary tobacco smoke
Pinellas Plant	OA.3-1	Goals and objectives are in most cases subjective and not stated in such a way that fulfillment or achievement of the goal or objective can be measures; nor are they given appropriate emphasis in management documents. (See Sections OP.1, MA.1, and OS.1.)
Pinellas Plant	OA.5-1	The AL/PAO oversight of GEND has not been consistent or effective and has not provided GEND with a true picture of their ES&H program

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	OA.7-1	A site-wide safety assessment and subsequent Safety Analysis Reports do not exist for all those product lines, activities, and operations that are determined by the assessment to present a hazard of a type and magnitude not normally encountered and accepted by the public in the course of their everyday living; nor have there been developed operating limits, or Operational Safety Requirements that provide boundary for the safe operation of the plant. (See Sections OS.3 and SS.3 and Concerns EP.2-1, EP.2-2, OP.2-1, OS.3-1, and FP.3-1.)
Pinellas Plant	OA.7-2	GEND does not have a system to ensure that important requirements, instructions, procedures, and documents are properly controlled and available in the workplace to individuals and organizations who need the information
Pinellas Plant	OA.7-3	GEND does not assure that procedures are developed, reviewed, and approved for all necessary activities, and does not have a policy that meets DOE requirements to assure consistency in the format, content, review, approval, use, and revision of procedures
Pinellas Plant	QV.1-1	A quality assurance program, as required by ANSI/ASME NQA-1 and GOP A.5.03, has not been fully developed and implemented for GEND Non-Weapons Program
Pinellas Plant	QV.1-2	Quality Program Plans to address the requirements for GEND functions are not fully developed and implemented for all activities as required by DOE 5700.6B and GOP A.5.03

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	QV.2-1	Control and quality assurance requirements for purchased items and material as required by ANSI/ASME NQA-1 for Non-Weapons critical systems have not been developed and implemented for all GEND organizations
Pinellas Plant	QV.3-1	Receiving and preinstallation inspection requirements for critical systems in the Non-Weapons programs have not been developed as required by ANSI/ASME NQA-1
Pinellas Plant	QV.3-2	There is no control system to assure that used electric control devices will function as intended and that salvage parts used in critical systems have been first verified to be functional
Pinellas Plant	QV.4-1	Surveys and audits of the calibration status are not sufficiently broad in scope and depth to verify calibration
Pinellas Plant	QV.5-1	There is no system for the Non-Weapons Program to identify and control hardware and materials for critical systems in the maintenance area warehouse, and there is no non-conformance reporting system
Pinellas Plant	QV.6-1	A system for inspections of critical systems in the Non-Weapons Program is not yet developed in accordance with requirements of ANSI/ASME NQA-1
Pinellas Plant	OP.1-1	The responsibilities and authority of each position in operations are not contained in a formal document that is available to the employees. (See Concern OA.1-1.)

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SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	OP.1-2	Posted operator aids are not administratively controlled and, therefore, their use and posting throughout the facility is neither consistent nor verifiable with respect to validity or accuracy
Pinellas Plant	OP.2-1	A system is not in place to ensure that the facilities are always in compliance with all requirements of the Safety Analysis Reports
Pinellas Plant	OP.2-2	Log-keeping practices do not adequately convey the facility status and are not always in accordance with operating instructions
Pinellas Plant	OP.3-1	A documented system requiring the review and approval of operating procedures by all personnel charged with assuring the adequacy of the procedures does not exist. (See Concern OA.7-3.)
Pinellas Plant	OP.4-1	Standards and directives providing a clear, concise statement of acceptable operating status for facilities and major systems have not been established
Pinellas Plant	OP.4-2	The monitoring of systems and equipment by operations personnel in some facilities is not consistent with acceptable standards
Pinellas Plant	OP.4-3	EH&S Standard 2.9, "Lockout/Tagout Procedures, reissued August 1, 1989, is not being enforced and does not meet the requirements of DOE 5483.1A and 29 CFR 1910.150

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	OP.6-1	The depth and breadth of operator knowledge at some facilities are not commensurate with acceptable industrial practices at facilities of comparable sophistication and complexity. (See Concern TC.1-1.)
Pinellas Plant	OP.7-1	GEND has not implemented a documented shift turnover program at all facilities
Pinellas Plant	OP.8-1	GEND has not fully implemented a program addressing human factors conventions and standards
Pinellas Plant	MA.2-1	Removal of facilities or equipment no longer in service has not been verified for completion in all instances at GEND. (See Section QV.6.)
Pinellas Plant	MA.3-1	A protected, centrally located facility does not exist to support maintenance storage and staging activities
Pinellas Plant	MA.5-1	The suggested inspection internals stated in DOE 4330.4 are not being met
Pinellas Plant	MA.6-1	Generation and updating of Preventive Maintenance Instructions are not being performed in a timely manner
Pinellas Plant	MA.6-2	All equipment requiring preventive maintenance has not been identified

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SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	TC.1-1	Training at the Pinellas Plant is not supported by GEND policy and standards and is not formally established uniformly across the plant
Pinellas Plant	AX.1-1	The functional requirements of each auxiliary system have not been developed and documented
Pinellas Plant	AX.2-1	GEND has not implemented a documented program to reduce the total hazardous substances discharged to the environment as required by DOE 5400.3 and doe 5820.2a. (See Concern TS.5-1.)
Pinellas Plant	AX.3-1	GEND has not implemented a documented program to reduce the solid hazardous waste and solid radioactive waste generated, as required by DOE 5400.3 and DOE 5820.2A. (See Concern TS.5-1.)
Pinellas Plant	AX.5-1	The ventilation systems are not checked, tested, and maintained in a manner consistent with generally accepted industrial practices
Pinellas Plant	AX.5-2	Online exhaust stack monitors have not been designed and tested in accordance with generally accepted engineering standards, ANSI N13.10-1974 and ANSI N13.1-1969
Pinellas Plant	AX.5-3	High efficiency particulate air filters are not regularly tested in accordance with ANSI N510-1980

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SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	AX.5-4	The fume hood sash positions acceptable for safe operation of the fume hoods are not identified
Pinellas Plant	EP.2-1	A systematic assessment of credible hazards at the Pinellas Plant has not been incorporated into the emergency plans
Pinellas Plant	EP.2-2	Formalized, controlled emergency plans specific to buildings, areas, or operations, as required by DOE N5500.5, have not been developed
Pinellas Plant	EP.2-3	Formal, controlled implementing procedures for emergency actions are not established for all operations
Pinellas Plant	EP.3-1	GEND emergency response personnel performance did not demonstrate proficiency in handling spills of hazardous materials
Pinellas Plant	EP.5-1	GEND cannot ensure the readiness of their emergency equipment
Pinellas Plant	EP.6-1	GEND does not have the ability to assess the consequences for all credible emergencies.
Pinellas Plant	TS.3-1	There is no program to control facility modifications. (See Concern QV.3-2.)
Pinellas Plant	TS.5-1	The GEND Waste Management Program is not in compliance with DOE 5400.1, DOE 5400.3, and DOE 5820.2A (September 26, 1988). (See Concern AX.3-1.)

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SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	TS.6-1	GEND has not established a single point contact for packaging and transportation functions
Pinellas Plant	TS.6-2	The GEND quality assurance audits and internal appraisal programs do not meet all the requirements of DOE 5700.6B, DOE 5480.2, DOE 5482.1B, and AL 5480.3. (See Concerns OA.2-2 and FR.1-1.)
Pinellas Plant	TS.6-3	GEND policies and procedures for handling, packaging, and shipping hazardous materials, substances, and wastes do not meet all requirements of DOE 5480.1A, DOE 5480.3, DOE 5480.4, DOE 1540.1, and DOE 1540.2
Pinellas Plant	TS.6-4	The handling, storage, and intrasite movements of hazardous materials, substances, and wastes including hazardous, mixed, and radioactive) do not meet all of the health, safety and environmental protection requirements of DOE 5480.1A
Pinellas Plant	TS.6-5	Preparation for response to onsite transportation incidents involving hazardous materials does not meet all the safety requirements of DOE 5480.1A. (See Concerns EP.3-1 and TC.1-1.)
Pinellas Plant	TS.6-6	Preparation for response to offsite transportation incidents involving DOE cargos does not meet the requirements of DOE 1540.1. It also does not meet the requirements of DOE 5480.3 (49 CFR 172.600, which will be effective on June 4, 1990). (See Section EP.1 and Concern OA.2-2.)

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Site Name	Concern #	Concern Title
Pinellas Plant	TS.6-7	The GEND spill prevention, control, and countermeasures program does not meet all the requirements of DOE 5480.4 and 40 CFR 112
Pinellas Plant	FR.1-1	The internal safety appraisal function provided by the GEND Department Safety Committee has not been proactive or independent of line responsibility, is not functioning, and is not in compliance with DOE 5482.1B, Section 9.d
Pinellas Plant	FR.5-1	Triennial appraisals of the GEND safety review system are not being conducted, as required, to comply with DOE 5482.1B, Section 9.d
Pinellas Plant	RP.1-1	The Environmental Chemistry Laboratory is not meeting existing or projected program requirements
Pinellas Plant	RP.3-1	Radiological postings are not being accomplished in accordance with DOE 5480.11 and GEND procedures
Pinellas Plant	RP.3-2	The Radiation Protection Program for the operation and use of X-ray machines and the accelerator lacks formality and does not comply with generally accepted standards
Pinellas Plant	RP.3-3	Radiological work procedures are not being complied with
Pinellas Plant	RP.5-1	The personnel dosimetry program at GEND does not ensure personnel radiation exposures are accurately determined and recorded

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SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	RP.7-1	The internal radiation dosimetry program at GEND does not ensure that personnel radiation exposures are accurately determined and recorded
Pinellas Plant	RP.8-1	Fixed and portable radiological protection instrumentation is not being properly calibrated, used, and maintained so that measurements of radioactivity are accurately determined. (See Concern QV.4-1.)
Pinellas Plant	RP.10-1	The contamination control program does not ensure that workers are protected from unnecessary radiation exposure
Pinellas Plant	IH.1-1	Sufficient resources are not available to develop, implement, and support Industrial Hygiene Programs requirements at GEND
Pinellas Plant	IH.3-1	GEND has not effectively developed and implemented Industrial Hygiene Programs required by prescribed standards and/or recognized potential hazards
Pinellas Plant	IH.4-1	A periodic monitoring program, as required by DOE 5480.10, has not been implemented to assure the effectiveness of controls for nonradiological chemical and/or physical stresses
Pinellas Plant	IH.4-2	Industrial Hygiene data are not readily retrievable, analyzed for trends, or routinely utilized to support hazard surveillance programs
Pinellas Plant	IH.5-1	GEND is not in compliance with DOE-prescribed occupational health standards

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SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	IH.6-1	GEND has not effectively implemented a Health Hazard Communication Program as required by DOE 5480.10 and 29 CFR 1910.1200
Pinellas Plant	OS.1-1	Line management is not implementing the occupational safety program requirements in accordance with GEND policy
Pinellas Plant	OS.3-1	Programs for identification and evaluation of potential safety and health concerns at the Pinellas Plant have not been adequately developed or implemented
Pinellas Plant	OS.4-1	Accident investigation and follow-up at the Pinellas Plant are inadequate to ensure identification of probable cause and judgment of needs to prevent recurrence of similar accidents
Pinellas Plant	OS.4-2	Analyses, and/or communications to management, of accident and injury data have been inadequate to evaluate performance and identify trends and potential problem areas
Pinellas Plant	OS.4-3	The GEND Safety Surveillance Program at the Pinellas Plant is not adequate in frequency, scope, or documentation to ensure measurement and control of safety performance
Pinellas Plant	OS.4-4	The AL surveillance program at the Pinellas Plant does not provide GEND management clear guidance regarding safety and health program performance, nor does it accurately measure GEND performance results

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SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Pinellas Plant	OS.5-1	The Pinellas Plant does not comply with all DOE-prescribed Occupational Safety Standards
Pinellas Plant	FP.1-1	Policy and technical program requirements have not been fully established to ensure the effective implementation and control of the overall fire protection program as required by DOE 5480.7
Pinellas Plant	FP.2-1	Formal program requirements and implementation strategies have not been established to ensure compliance with NFPA 101 "Life Safety Code" requirements
Pinellas Plant	FP.3-1	The potential threat to the public as the result of an onsite fire causing the release of hazardous materials has not been assessed as required by DOE 5480.7, "Improved Risk" criteria
Pinellas Plant	FP.3-2	Means have not been provided for controlling liquid runoffs from a credible fire to ensure containment of potential contaminants
Pinellas Plant	FP.4-1	Production programs have not been assessed to identify their potential vulnerabilities to delays and to other impacts that would result from a credible fire, as required by DOE 5480.7
Pinellas Plant	FP.6-1	The offsite fire department and plant fire brigade cannot ensure the prompt termination of the effects of a fire in a safe and effective manner, due to a less-than-required level of training, participation with simulated drills, prefire planning, and facility tours

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Site Name	Concern #	Concern Title
Pinellas Plant	FP.7-1	An internal fire protection survey and appraisal program is not in place to assess risks, programmatic interruption potential, and the adequacy of fire control devices to qualify for the "improved risk" level of fire protection, as required by DOE 5480.7
Pinellas Plant	FP.7-2	Fire protection features to assure the safe use of flammable materials are not being utilized in accordance with an "improved risk" level of protection as required by DOE 5480.7
Pinellas Plant	MS.1-1	Medical records are not protected against environmental damage from fire, water, humidity, or excess temperature
Pinellas Plant	MS.2-1	GEND does not have documented procedures that will ensure effective assessment of the medical/physical fitness for duty as related to the specific job duties, responsibilities, and stresses for subcontract employees and GEND employees with known medical problems
Pinellas Plant	MS.3-1	The size of the medical staff is not sufficient for the work load
Pinellas Plant	MS.3-2	Privacy and space are not sufficient for required med. services

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SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Savannah River Site	OA.1-1	The functional organization, accountabilities, and interactions between Waste Management Projects and the Engineering and Projects Division are not well defined, causing internal work coordination problems that are disruptive to an orderly and supportive work process
Savannah River Site	OA.1-2	There is no central point of authority for coordination of personnel protection policies and procedures on a sitewide basis
Savannah River Site	OA.1-3	Relationships between WSRC and DOE are strained and not conducive to a positive, responsive, and supportive work atmosphere, which is an important component of a safe, productive, and professional environment
Savannah River Site	OA.6-1	Inadequate facilities and the overstressing and fatiguing of staff contribute to reduced safety margins for activities that require human interaction and decision making
Savannah River Site	OA.7-1	There is no effective configuration control system for Waste Management facilities
Savannah River Site	OA.7-2	Records storage practices are in violation of DOE 5480.4, its referenced NFPA-232, Standard for Protection of Records, and 32 CFR 1220
Savannah River Site	OA.7-3	The document control system in use by Waste Management Projects does not meet the requirements of NQA-1 Basic Requirement 6 and Supplement 6S-1

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Site Name	Concern #	Concern Title
Savannah River Site	QV.1-1	A quality assurance program as required by ANSI/ASME NQA-1 and DOE-SR 5700.6C has not been fully developed and implemented for Waste Management
Savannah River Site	QV.4-1	The calibration program as implemented does not assure that measuring and test equipment used in process control, environment, health, and safety applications is functionally accurate
Savannah River Site	QV.5-1	The control of items between central receiving and the end user does not meet the requirements of NQA-1 Supplement 13S-1
Savannah River Site	QA.6-1	Not all inspection requirements and oversight activities are recognized, planned for, or conducted in a way that complies with Basic Requirement 10 and Supplement 10S-1 of NQA-1
Savannah River Site	OP.1-1	Responsibilities and authority of each management, supervisory, and professional position are not documented for ready access
Savannah River Site	OP.2-1	Written policies are not available to direct the work assignments of trainees to assure that qualified persons are used
Savannah River Site	OP.4-1	The lock, tag, and try procedure (WSRC-8Q) does not recognize the importance of process status control, and lacks elements of industry good practice with regard to independent alignment verification, validation frequency, and tag information. Implementation is not in accordance with the SRS Safety Manual (WSRC-8Q), DOE 5482.1A, and 29 CFR 1910.150.

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Site Name	Concern #	Concern Title
Savannah River Site	OP.6-1	Less experienced operators do not adequately monitor the condition of the equipment involved in their work
Savannah River Site	OP.8-1	Providing two different digital control systems in the in-tank precipitation control room is not a good human factors practice
Savannah River Site	MA.1-1	Lack of a unified sitewide maintenance organizational structure inhibits implementation of effective and efficient maintenance activities
Savannah River Site	MA.2-1	Inadequate attention to good maintenance practices can result in unsafe conditions and/or release of radioactive materials
Savannah River Site	MA.3-1	The small size of the H-Area maintenance shops contributes to crowded working conditions, which inhibit safe performance of maintenance activities
Savannah River Site	MA.3-2	Due to the lack of periodic load tests, hoists, cranes, forklifts, and/or rigging slings may be used outside of their load range or may fail in use
Savannah River Site	MA.4-1	The WMS and "Tickler" system are not providing identification of all needed maintenance actions and requirements
Savannah River Site	MA.4-2	Temporary installations do not receive adequate technical review and follow-up
Savannah River Site	MA.5-1	Documentation of corrective maintenance of equipment is incomplete

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Site Name	Concern #	Concern Title
Savannah River Site	MA.6-1	Optimum reliability, safety, and performance of equipment is not being achieved because of the lack of a complete formal preventive maintenance program
Savannah River Site	MA.7-1	Optimal equipment performance is not being achieved because of an incomplete predictive maintenance program
Savannah River Site	TC.1-1	Operators and supervisors at the Waste Management facilities have not been trained to operate the facilities as required by DOE 5480.5, Safety of Nuclear Facilities (September 23, 1986)
Savannah River Site	TC.3-1	Comprehensive job knowledge is not measured prior to assigning personnel to operating tasks
Savannah River Site	TC.4-1	Not all Waste Management employees receive required annual retraining on OSHA-related topics, as required by 29 CFR 1910.120
Savannah River Site	TC.4-2	Not all personnel have been appropriately trained in accordance with DOE 5480.11
Savannah River Site	TC.10-1	There is no assurance that first-line supervisors have proper and adequate knowledge and experience to direct normal and emergency activities of the operators whom they supervise, as required by DOE 5480.5

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Site Name	Concern #	Concern Title
Savannah River Site	TC.11-1	No facility exercise (drill) program is in place to assure that operators and supervisors have the skills, knowledge, and ability to respond to abnormal and emergency operating situations
Savannah River Site	AX.1-1	The functional requirements for each auxiliary system have not been developed and documented
Savannah River Site	AX.1-2	Waste Management has not fully implemented a program addressing human factors conventions and standards as applicable to auxiliary systems
Savannah River Site	AX.2-1	The design and testing of effluent monitoring systems is not in accordance with ANSI N13.1-1969 and ANSI N42.18-1980
Savannah River Site	AX.2-2	Analyses have not been performed to demonstrate that the effluent monitors can provide relevant and timely indication and notification of radioactive releases to the operators given existing background radiation levels, as required by DOE 6430.1A
Savannah River Site	AX.2-3	High-level radioactive waste is not monitored in accordance with the requirements of DOE 5820.2A and DOE 5480.4
Savannah River Site	AX.3-1	WSRC has not implemented a documented program to reduce the hazardous waste generated at all facilities, as required by DOE 5400.3 and DOE 5820.2A

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Site Name	Concern #	Concern Title
Savannah River Site	AX.5-1	Testing of HEPA filters does not meet the requirements of DOE 5480.4 and ANSI N510-1980
Savannah River Site	AX.6-1	The operating envelope and testing and surveillance requirements for the normal and emergency power systems important to the safe operation of the facility are not specified in the applicable Safety Analysis, Operational Safety Requirements, or Technical Standard
Savannah River Site	AX.6-2	Normal and emergency power systems are not tested and maintained in accordance with IEE 308-1980, as referenced by DOE 5480.4, and with generally accepted industrial practices for facilities and systems of similar complexity
Savannah River Site	AX.8-1	Waste Management limiting conditions for operations have not been completely and adequately identified, and Engineered Safety Systems, as defined in DOE 6430.1A, have not been identified
Savannah River Site	EP.1-1	Significant elements of the emergency preparedness program (e.g., training, exercises, drills; program reviews; correction of deficiencies; and assignment of personnel have not been developed and implemented as required by DOE 5500.3
Savannah River Site	EP.2-1	The Emergency Plans and Procedures are missing program elements, are inconsistent, and are not effectively coordinated between areas and facilities, and have not been kept up-to-date, as required by DOE 5500.3

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Site Name	Concern #	Concern Title
Savannah River Site	EP.3-1	The absence of any trained planning staff and missing or deficient program elements required by DOE 5500.3 could result in inadequate response to emergencies
Savannah River Site	EP.4-1	There is no assurance that the Waste Management facilities can adequately and consistently respond to a range of emergencies
Savannah River Site	EP.5-1	During an emergency, communication may not be adequate to keep the Area Emergency Coordinator and the Technical Support Center informed of status
Savannah River Site	EP.5-2	The emergency facilities and equipment have deficiencies that, during an emergency, could result in hazards to emergency workers and degraded response to the emergencies
Savannah River Site	EP.6-1	The Waste Management facilities and equipment have deficiencies that, during an emergency, could result in hazards to emergency workers and degraded response to the emergencies
Savannah River Site	EP.6-2	The notification program and its implementation do not provide for timely, consistent, and documented notifications and communications
Savannah River Site	EP.7-1	Evacuation procedures to protect F- and H-Area Tank Farm personnel during releases from the canyon buildings are not adequate

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Site Name	Concern #	Concern Title
Savannah River Site	EP.7-2	Accountability procedures to protect personnel during emergencies are not developed and implemented for the Waste Management facilities
Savannah River Site	TS.2-1	A current and complete Safety Analysis Report is not available for each Waste Management facility, as required by DOE 5480.5
Savannah River Site	TS.3-1	Procedures for engineering project design do not require formal review and approval by all safety-related disciplines
Savannah River Site	TS.3-2	Work requests and procedures for small process or facility modification projects and maintenance do not require formal review and approval by all safety-related disciplines
Savannah River Site	TS.3-3	Completion of as-built drawings, revised procedures, and operations training following facility modifications is not required prior to restart of operations
Savannah River Site	TS.4-1	Analytical laboratory services for the F- and H-Area Tank Farms are inadequate to effectively support operations
Savannah River Site	TS.8-1	Waste Management does not have a fully implemented nuclear criticality safety programs
Savannah River Site	SS.3-1	The risk of using weapons, vehicles, and protective force equipment in the vicinity of facility systems, components, and processes has not been determined, as required by DOE 5480.16

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Site Name	Concern #	Concern Title
Savannah River Site	SS.4-1	The training required by DOE 5480.16 on use of weapons and other equipment has not been conducted
Savannah River Site	FR.4-1	WSRC has not provided for an annual facility safety review that meets the requirements of DOE 5480.5
Savannah River Site	FR.5-1	The Triennial Review represented by ESH-FSE-890068 does not meet the requirements of DOE 5480.5
Savannah River Site	FR.6-1	Waste Management does not have a program in place to incorporate external sources of information about operating experiences
Savannah River Site	RP.1-1	The organization and administration of the radiological protection program does not ensure the effective implementation of radiological protection programs
Savannah River Site	RP.1-2	The Health Protection Department's appraisal program is not in compliance with DOE 5480.5
Savannah River Site	RP.3-1	The criteria for posting radiation areas and recording survey results for beta doses are not based on technical criteria
Savannah River Site	RP.3-2	Source control programs are not adequate to ensure control of radioactive sources
Savannah River Site	RP.5-1	The dose to personnel driving waste trucks is not properly determined as required by DOE 5480.11

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Site Name	Concern #	Concern Title
Savannah River Site	RP.8-1	Fixed field radiological protection instruments are not all currently calibrated so that accurate measurements can be made
Savannah River Site	RP.9-1	The air monitoring program does not ensure reliable estimates of air activity, as required by DOE 5480.11
Savannah River Site	RP.10-1	The contamination control program does not minimize the spread of contamination
Savannah River Site	RP.11-1	The ALARA program does not ensure that collective exposures are kept as low as reasonable achievable, as required by DOE 5480.11
Savannah River Site	PP.1-1	Current personnel protection programs do not meet the requirements of DOE 5481.1A, DOE 5480.4, DOE 5480.9, DOE 5480.10, 29 CFR 1910, and 29 CFR 1926
Savannah River Site	PP.1-2	Site construction and industrial safety policies are administered differently because a central point of authority has not been established and a consolidated safety program has not been defined
Savannah River Site	PP.2-1	The written safety and health programs are not in compliance DOE mandatory consensus standards

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Site Name	Concern #	Concern Title
Savannah River Site	PP.3-1	Periodic reviews of designated standards and walk-through surveys by professional industrial hygiene personnel are being performed only sporadically, and therefore are not in compliance with DOE 5480.10
Savannah River Site	PP.3-2	Safety reviews of purchase orders for safety concerns are not being performed in accordance with good management practices
Savannah River Site	PP.3-3	Safety staff walk-throughs of Waste Management facilities are not performed in accordance with good management practices
Savannah River Site	PP.4-1	The current program for periodic chemical monitoring of both construction and operations personnel does not meet the requirements of DOE 5480.10 and ANSI Z88.2-1980
Savannah River Site	PP.5-1	The SRS asbestos program does not meet the requirements of 29 CFR 1926 and DOE 5480.10
Savannah River Site	PP.5-2	The SRS hearing-conservation program does not meet the requirements of 29 CFR 1926
Savannah River Site	PP.5-3	The SRS carcinogen control program does not comply with the requirements of DOE 5480.10
Savannah River Site	PP.5-4	Emergency notification capabilities in the Tank Farm areas are not in compliance with 29 CFR 1910.20 or 40 CFR 264

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Site Name	Concern #	Concern Title
Savannah River Site	PP.5-5	The SRS respiratory protection program is not in compliance with ANSI Z88.2-1980 requirements regarding monitoring and administrative controls for respirator usage, as mandated by DOE 5480.4
Savannah River Site	PP.6-1	OSHA noncompliance items within the Waste Management areas have not been identified and corrected
Savannah River Site	PP.7-1	The hazards communication program is not adequately addressing the health and safety risk associated with chemicals that do not carry the NFPA label, as required by 29 CFR 1910.1200
Savannah River Site	FP.1-1	The Fire Protection organization and administration necessary for the effective implementation and control of the fire protection program are not in place, as required by DOE 5480.7
Savannah River Site	FP.2-1	Compliance to NFPA 101, Life Safety Code, has not been achieved, and alternate measures have not been provided
Savannah River Site	FP.2-2	There is no program in place to ensure that facilities meet the requirements of WSRC Policy Statement 4.7, or NFPA 101, Life Safety Code, or that conformance is verified by periodic field inspections
Savannah River Site	FP.5-1	There is no assurance that the maximum property loss, due to credible fire scenarios, will not exceed the \$1 million limits established by DOE 5480.7

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Site Name	Concern #	Concern Title
Savannah River Site	FP.6-1	The Fire Department is not in compliance with the requirements of NFPA 1500, "Standard on Fire Department Occupational Safety and Health Program, as mandated by DOE 5480.4, for such items as annual medical examinations, specific training, physical fitness, and Personal Alert Safety System devices
Savannah River Site	FP.7-1	The requirements for improved risk, as mandated by DOE 5480.7, are not met by the Fire Protection Engineering program
Lawrence Livermore National Laboratory	OA.1-1	Accountability for safety responsibility is not clearly defined because of the lack of upper-level management control documentation.
Lawrence Livermore National Laboratory	OA.1-2	LLNL has failed to maintain clear lines of safety responsibility and independence of safety overview.
Lawrence Livermore National Laboratory	OA.1-3	All management personnel and staff interviewed at Site 300 do not have the same understanding of the line of their safety responsibilities.
Lawrence Livermore National Laboratory	OA.1-4	Mission/function statements that define the assigned organizational purpose and how this purpose is to be accomplished do not exist for all organizational units.
Lawrence Livermore National Laboratory	OA.1-5	The Resident Manager does not have sufficient direct authority or resources to fulfill his safety responsibilities.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	OA.1-6	For Site 300, it is frequently not possible, as required by DOE 5480.1B and DOE 5482.1B, to trace a single line of safety responsibility from the LLNL Director to the staff performing the task.
Lawrence Livermore National Laboratory	OA.1-7	There is no LLNL system in place to ensure that DOE policies and requirements are addressed by the cognizant personnel and that compliance with the requirements is currently maintained. As a result, LLNL operations are being conducted in significant noncompliance with DOE Orders.
Lawrence Livermore National Laboratory	OA.2-1	Conflicts of interest between responsibilities for program and safety exist at LLNL.
Lawrence Livermore National Laboratory	OA.3-1	LLNL does not require and does not have written and promulgated sitewide safety goals, nor do all departmental elements have specific, measurable safety goals which can be tracked.
Lawrence Livermore National Laboratory	OA.4-1	The University of California demonstrates little corporate commitment to safe operations at LLNL.
Lawrence Livermore National Laboratory	OA.5-1	The performance of corrective actions and the prevention of recurrence through addressing basic causes and related generic problems does not meet the Corrective Action requirements of DOE 5700.6B.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	OA.5-2	The UOR program at LLNL does not conform to the policy and objectives of the Unusual Occurrence Reporting System, DOE 5000.3, Sections 7.a.(5) and 7.b(2) and (3).
Lawrence Livermore National Laboratory	OA.5-3	Complete and accurate information necessary for safe operation is not systematically and consistently being developed and promulgated to employees.
Lawrence Livermore National Laboratory	OA.5-4	The audit program does not provide needed management information on the conduct of activities undertaken to comply with procedural requirements as required by DOE 5700.6B.
Lawrence Livermore National Laboratory	OA.5-5	A sitewide system for analysis and trending of operational data and consequent corrective action has not been developed and implemented by LLNL.
Lawrence Livermore National Laboratory	OA.6-1	Means to ensure that job descriptions and qualifications reflect LLNL needs, and that personnel performance is measured in a consistent way, have not been established at LLNL.
Lawrence Livermore National Laboratory	OA.6-2	Specific position/job descriptions, which delineate specific safety responsibilities, do not exist for all management personnel.
Lawrence Livermore National Laboratory	OA.7-1	LLNL is not in compliance with DOE 5481.1B and SAN MD 5481.1A for the preparation of safety analysis documents for all facilities.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	OA.7-2	Current key safety documents are not available and controlled in accordance with recommended standards such as ANSI/ASME NQA-1 as indicated in DOE 5700.6B.
Lawrence Livermore National Laboratory	OA.8-1	The LLNL fitness-for-duty program is deficient with respect to its application to prospective employees, employees in sensitive positions, visitors, and subcontractor employees.
Lawrence Livermore National Laboratory	QV.1-1	The LLNL quality assurance program does not meet the requirements of DOE 5700.6B for independent verification of activities that affect quality and for the selective application of the quality assurance elements in the recognized standard ANSI/ASME NQA-1.
Lawrence Livermore National Laboratory	QV.1-2	Quality assurance (QA) requirements are not being implemented to meet DOE 570.6B and the LLNL Quality Assurance Manual requirements for QA elements such as auditing, staff training, and developing and implementing quality practices.
Lawrence Livermore National Laboratory	QV.4-1	There is no sitewide LLNL calibration policy for measuring and test equipment as required by DOE 5700.6B and ANSI/ASME NQA-1.
Lawrence Livermore National Laboratory	OP.1-1	LLNL main site management does not maintain a continuous, in-depth involvement in Site 300 operations and safety issues.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	OP.1-2	Formal administrative controls for operations are not consistent in the way they are provided, applied, enforced, and monitored throughout LLNL; nor do they conform completely to the format specified in SAN MD 5481.1A.
Lawrence Livermore National Laboratory	OP.1-3	There is no sitewide requirement to address safety performance as part of the annual performance appraisal within the operating divisions at LLNL.
Lawrence Livermore National Laboratory	OP.2-1	No document includes procedures and guidelines covering the maintenance of skills of operators assigned to the various Site 300 facilities.
Lawrence Livermore National Laboratory	OP.3-1	Documentation does not demonstrate that the policies and procedures governing operations at Site 300 and the High Explosives Applications Facility (HEAF, Bldg. 191) facilities are strictly adhered to.
Lawrence Livermore National Laboratory	OP.3-2	Existing procedures and equipment do not effectively guide or support the Site 300 operations staff when unusual or abnormal situations are encountered.
Lawrence Livermore National Laboratory	OP.3-3	Not all policies defining activities that require Facility Safety or Operational Safety Procedures may be sufficiently specific to cover all hazardous operations at Site 300.
Lawrence Livermore National Laboratory	OP.3-4	The safe conduct of routinely performed, normal operations at Site 300 is not always ensured or guided by formal mechanisms such as written checklists.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	OP.3-5	The LLNL program to improve the criteria for mandating the use of approved procedures in Bldg. 331 is not yet implemented.
Lawrence Livermore National Laboratory	OP.4-1	Health and Safety Manual Supplement 26.13, General Lock and Tag Procedure, revised June 27, 1984, does not comply with the provisions of 29 CFR 1910.147 for use of locks and tags.
Lawrence Livermore National Laboratory	OP.5-1	Not all explosives operations strictly comply with the provisions of DOE/EV/06194, DOE Explosive Safety Manual, with respect to items such as electrical line routing, personnel access controls, and ignition sources.
Lawrence Livermore National Laboratory	OP.5-2	One storage cubicle in Bldg. 229 did not have a barrier to suppress missiles from escaping the magazine, as recommended by a Department of Defense Explosives Safety Inspection Team in 1985.
Lawrence Livermore National Laboratory	OP.6-1	Safety-related information (unusual occurrence reports, lessons learned, and documented safety meetings) does not reach the operating staffs in a consistent or effective manner at LLNL.
Lawrence Livermore National Laboratory	OP.8-1	A policy governing the approval and posting of operating aids in control rooms does not exist.
Lawrence Livermore National Laboratory	OP.8-2	LLNL has no requirement for the inclusion of human factors engineering in the design, layout, and operations of facilities, as required by DOE 6430.1A, Section 1300-12 for nonreactor nuclear facilities.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	MA.1-1	Organizational documentation needed for an effective maintenance program is not complete since not all equipment is covered and maintenance is not systematically controlled in accordance with technical manuals.
Lawrence Livermore National Laboratory	MA.1-2	Conformance to DOE 4330.4 is not fully in effect and is not currently a contractual requirement.
Lawrence Livermore National Laboratory	MA.1-3	The heavy reliance on the skills of personnel to ensure proper maintenance and the assurance of continuity of talents is not sufficiently balanced by formally documented procedures.
Lawrence Livermore National Laboratory	MA.1-4	The plant and utilities, particularly the older portions, have deteriorated to the extent that a major recovery effort is necessary.
Lawrence Livermore National Laboratory	MA.1-5	No policy is in place to ensure that basic maintenance requirements are given the required emphasis and priority with respect to programmatic activities.
Lawrence Livermore National Laboratory	MA.2-1	In general, the Whiz Tag System does not contain guidance, criteria, and controls to ensure safe conduct of maintenance of plant systems and facilities nor control of safety system design features.
Lawrence Livermore National Laboratory	MA.2-2	Maintenance procedures do not provide detailed guidance for maintenance activities.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	MA.2-3	In some areas, building-specific responsibility for identifying and correcting preservation and maintenance problems is not clearly assigned and does not effectively support building systems such as water, gas, and electric utilities.
Lawrence Livermore National Laboratory	MA.2-4	A policy establishing basic guidelines for maintenance and calibration of key programmatic equipment and instrumentation is lacking.
Lawrence Livermore National Laboratory	MA.3-1	The LLNL main maintenance shop, Bldg. 511, is in a poor state of repair.
Lawrence Livermore National Laboratory	MA.3-2	There is no mechanism to ensure that all machine tools are included in the centralized machine tool maintenance program.
Lawrence Livermore National Laboratory	MA.4-1	Informal maintenance procedures impact maintenance planning and work control.
Lawrence Livermore National Laboratory	MA.5-1	A high level of corrective maintenance to buildings and utilities is not evident at LLNL.
Lawrence Livermore National Laboratory	MA.5-2	older experimental systems do not receive the required level of corrective maintenance to ensure safe and efficient operations.
Lawrence Livermore National Laboratory	MA.6-1	Preventive maintenance activities have not been optimized with vendor recommendations or with locally generated, component-specific procedures or checklists.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	MA.7-1	A predictive maintenance program is not fully in place, and overall planning, scheduling, and budgeting have not been completed in sufficient detail to evaluate the planned program and its associated goals.
Lawrence Livermore National Laboratory	MA.8-1	At essentially all program areas examined, formal maintenance procedures for programmatic equipment are not employed.
Lawrence Livermore National Laboratory	TC.1-1	Training at LLNL is not supported by corporate policy and standards and is not formally established consistent with good practice and DOE expectations.
Lawrence Livermore National Laboratory	TC.4-1	LLNL has not maintained radiological protection retaining requirements as specified in DOE 5480.11 or in accordance with good industry practice.
Lawrence Livermore National Laboratory	AX.1-1	Auxiliary systems at the explosive testing facilities are poorly designed and maintained.
Lawrence Livermore National Laboratory	AX.3-1	The Administrative Memo, "Director's Statement on Waste Minimization," issued March 8, 1989, has not been aggressively enforced.
Lawrence Livermore National Laboratory	AX.6-1	The availability testing of emergency generators does not verify operability of the system because there is no assurance that diesel fuel quality has not degraded, and a checklist is not completed by the test conductors as the test proceeds.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	EP.1-1	The LLNL Emergency Plan is not in compliance with DOE 5500.3 or draft DOE 5500.3A, Chapter III, Sections 1b and c.
Lawrence Livermore National Laboratory	EP.2-1	The LLNL Emergency Plan is not in accordance with DOE 5500.3 or draft DOE 5500.3A, Chapter III, Planning and Preparedness (i.e., Hazards Identification, Updating Hazards, Analysis Requirements, Accident or Event Characteristics).
Lawrence Livermore National Laboratory	EP.2-2	LLNL Emergency Plan Implementing Procedures are not in accordance with the requirements of DOE 5500.3 or draft DOE 5500.3A which address the facility emergency operations.
Lawrence Livermore National Laboratory	EP.3-1	Emergency Response Training Programs have not been developed for all LLNL Facility Managers and Technical Coordinators and do not ensure adequate documentation of the program in accordance with DOE 5500.3, or draft DOE 5500.3A, Chapter III., Section 1.
Lawrence Livermore National Laboratory	EP.3-2	LLNL Emergency Response Training is not in compliance with DOE 5500.3, and the DOE Training Accreditation Program (TAP).
Lawrence Livermore National Laboratory	EP.3-3	The Emergency Public Information Program is not in accordance with DOE 5500.3 or draft DOE 5500.3A, Chapter III., Public Information, in that timely release of public information was not made to simulated offsite agencies.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	EP.4-1	The LLNL Emergency Preparedness drill and exercise program does not comply with requirements of DOE 5500.3, that all facility drills are not documented.
Lawrence Livermore National Laboratory	EP.5-1	The equipment, materials, resources, and documentation requirements of draft DOE 5500.3A are not used to ensure that all required items are available for emergencies in the LLNL Emergency Operations Center.
Lawrence Livermore National Laboratory	EP.6-1	LLNL does not have the necessary coordination meetings by the State and local emergency management agencies to obtain approval of the LLNL Emergency Plan, Emergency Action Levels and Emergency Classification Systems, as required in DOE 5500.3.
Lawrence Livermore National Laboratory	EP.7-1	The LLNL Emergency Plan does not meet the requirements of draft DOE 5500.3A, Chapter II, Hazards Assessment, in providing a detailed listing of hazards and accidents analyzed in the Safety Analysis Report.
Lawrence Livermore National Laboratory	TS.2-1	The review system for LLNL safety procedures does not ensure auditability of reviews or performance of independent technical peer reviews within the originating organization.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	TS.2-2	LLNL has not made a determination whether existing safety analysis documentation adequately identifies the risks associated with all of its operating facilities that can be reasonably expected to have potential for major onsite or offsite impacts to people or the environment, as required by DOE 5481.1B, Chapter II, Section 4.
Lawrence Livermore National Laboratory	TS.2-3	Not all LLNL facilities that require Safety Analysis Reports have them in place, and existing Safety Analysis Reports and Safety Analysis Documents do not adequately define Operational Safety Requirements, designate equipment important to safety, or reflect complete safety analyses as required by DOE 5480.5, DOE 5481.1B, and LLNL Safety Analysis Report guidance.
Lawrence Livermore National Laboratory	TS.2-4	Not all LLNL facilities have Operational Safety Requirements (OSRs) in compliance with DOE 5480.5 requirements and SAN MD 5481.1A guidance. Those OSRs that do exist are deficient in content and format.
Lawrence Livermore National Laboratory	TS.3-1	There is no definitive guidance within LLNL to ensure consistency of approach and quality for Operational Readiness Reviews.
Lawrence Livermore National Laboratory	TS.3-2	Facility and schematic drawings do not completely conform to the requirements of LLNL Plant Engineering Policy and Operations Manual in regard to approvals and showing of correct "as-built" status.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	TS.5-1	Ventilation exhaust streams which might contain hazardous materials are not all monitored or sampled to quantify releases, and the lack of monitoring/sampling has not been justified by documented analysis.
Lawrence Livermore National Laboratory	PT.1-1	The hazardous materials transportation program is fragmented, uncoordinated, inconsistent, ineffective, and not in compliance with DOE Orders.
Lawrence Livermore National Laboratory	PT.3-1	The audit and appraisal program is insufficient in both frequency and depth to ensure that the quality assurance (QA) requirements of DOE 5480.3 and DOE 5700.6B are met.
Lawrence Livermore National Laboratory	PT.3-2	The system for corrective action and followup on packaging and transportation audits and appraisals does not comply with DOE Orders.
Lawrence Livermore National Laboratory	PT.3-3	The hazardous materials container procurement and inspection program does not provide assurance that containers will meet DOE Orders and Department of Transportation (DOT) regulations.
Lawrence Livermore National Laboratory	PT.4-1	There is no comprehensive and consistent sitewide program for ensuring that packaging, identification, and transportation of hazardous materials (on site, between sites, offsite) meet Department of Transportation (DOT) and Environmental Protection Agency (EPA) regulations, as required by DOE 5480.3, Section 7.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	PT.6-1	LLNL does not have a system for handling, identifying, and transporting packages of hazardous materials, in compliance with the safety policies and criteria prescribed in DOE 1540.1, DOE 5480.1, and DOE 5480.3, and in State and Federal regulations.
Lawrence Livermore National Laboratory	PT.6-2	Shipping manifests do not consistently meet the Department of Transportation (DOT) and Environmental Protection Agency (EPA) regulations in that they do not provide the required information in the specified format.
Lawrence Livermore National Laboratory	CS.3-1	The criticality safety evaluations performed by the Criticality Safety and Analysis Group do not always include a formal documentation of the review process.
Lawrence Livermore National Laboratory	CS.5-1	The sound levels of the criticality alarm system in Bldg. 332 do not conform with the recommendations of ANSI/ANS 8.3-1986.
Lawrence Livermore National Laboratory	SS.1-1	There exist several mechanisms by which facilities and equipment may be modified without receiving a Security/Safety review to the same codes, standards and criteria afforded the original design.
Lawrence Livermore National Laboratory	SS.3-1	The Protective Force Division Emergency Plan does not clearly establish lines of authority and responsibility under all applicable conditions.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	SS.3-2	Safety limits have not been established as required by DOE 5480.16 for the use of security weapons and equipment near safety systems and hazardous material.
Lawrence Livermore National Laboratory	SS.4-1	The protective force training program and its implementation are not in compliance with Special Order 86-04, Security Emergency Response Team (S.E.R.T.), revised January 22, 1987, and DOE 5480.16.
Lawrence Livermore National Laboratory	SS.4-2	The protective force training records are not auditable, and therefore, do not provide demonstrated evidence of officer qualification in accordance with DOE 5480.16.
Lawrence Livermore National Laboratory	SS.4-3	The LLNL physical fitness training program for protective force officers is not in compliance with 10 CFR 1046.11.(d).
Lawrence Livermore National Laboratory	SS.4-4	Protective force officers do not receive training in the specific safety rules and hazards associated with some facilities and processes at LLNL.
Lawrence Livermore National Laboratory	FR.1-1	There is no fully functioning Safety Review Committee or collection of committees providing independent safety oversight for LLNL operations as required by DOE 5482.1B.
Lawrence Livermore National Laboratory	FR.3-1	The conduct of the Facility Safety Procedure and Operational Safety Procedure review and approval process at LLNL is not consistent with the health and safety hazard presented by the process being considered.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	FR.4-1	The annual appraisal guidance provided in the Health and Safety Manual is not in compliance with DOE 5480.5.
Lawrence Livermore National Laboratory	FR.4-2	The LLNL Site Independent Review and Appraisal System is not in compliance with the requirements of DOE 5480.5, DOE 5480.1B, and generally accepted industrial practices.
Lawrence Livermore National Laboratory	FR.5-1	A formal triennial review of the safety review system for LLNL operations is not conducted as required by DOE 5482.1B and DOE 5480.5.
Lawrence Livermore National Laboratory	FR.6-1	LLNL site management has not implemented a safety program that ensures the timely followup and closure of all safety items.
Lawrence Livermore National Laboratory	RP.1-1	There is an insufficient number of operational and administrative procedures to provide guidance in the detailed implementation of programs and to control interactions among the various radiation protection groups.
Lawrence Livermore National Laboratory	RP.1-2	Administrative and operational procedures are not consistently developed, reviewed, and approved.
Lawrence Livermore National Laboratory	RP.2-1	Audit plans of radiological activities do not ensure that all elements are addressed, including those specified in DOE 5482.1B, Section 9.d, and DOE 5480.11, Section 9.r.
Lawrence Livermore National Laboratory	RP.2-2	There is very little independence in internal radiation protection audit programs.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	RP.3-1	The radiation work permit does not provide information to the worker on the radiological environment of the workplace.
Lawrence Livermore National Laboratory	RP.3-2	Radwaste containers and some controlled areas are not properly posted in accordance with DOE 5480.11.
Lawrence Livermore National Laboratory	RP.6-1	LLNL practices such as wearing half-face masks and permitting high hood airflow velocities may not properly control potential internal radiation exposures.
Lawrence Livermore National Laboratory	RP.6-2	Emergency respirator protection equipment is not being properly inspected in accordance with ANSI Z88.2.
Lawrence Livermore National Laboratory	RP.7-1	The bioassay sampling frequency and type, in combination with the air monitoring program, may not detect internal exposures to all radionuclides at the levels specified in the DOE draft Performance Standards for Internal Dosimetry Programs.
Lawrence Livermore National Laboratory	RP.7-2	The LLNL internal radiation dosimetry program does not meet the requirements of ANSI N13.30 for quality assurance and quality control.
Lawrence Livermore National Laboratory	RP.8-1	The calibration and maintenance for some of the fixed and portable instrumentation do not satisfy all requirements in ANSI Standards and good industry practices.
Lawrence Livermore National Laboratory	RP.9-1	The air monitoring systems may not reliably provide the information needed for an effective internal dose control program.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	RP.10-1	Some work practices in a radiation environment do not ensure proper radiation control.
Lawrence Livermore National Laboratory	RP.10-2	Swipe counting procedures may allow the release of equipment above the smearable release limit specified in DOE 5480.11.
Lawrence Livermore National Laboratory	RP.11-1	The ALARA principles were not incorporated during the handling and processing of the samples.
Lawrence Livermore National Laboratory	RP.12-1	Occupational radiation exposure records are not collected, stored, and retained in accordance with a uniform procedure or system.
Lawrence Livermore National Laboratory	IH.1-1	Industrial hygiene professional support to the Health and Safety Teams has not been sufficient to ensure effective identification and control of potential health hazards in the workplace.
Lawrence Livermore National Laboratory	IH.1-2	A significant number of Health and Safety Technicians have not been provided sufficient industrial hygiene training to ensure consistent implementation of the industrial hygiene program.
Lawrence Livermore National Laboratory	IH.1-3	Health and Safety Technicians are not sufficiently involved in routine operational research activities to minimize potential hazards or monitor the effectiveness of controls.
Lawrence Livermore National Laboratory	IH.1-4	LLNL does not have controls or effective procedures in place to facilitate consistent interpretation and implementation of the industrial hygiene program across organizational units.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	IH.2-1	LLNL has not consistently implemented operational safety procedures to ensure that potential employee exposures to chemical and physical agents are maintained at levels consistent with the ALARA goals for the main site or with DOE 5480.10.
Lawrence Livermore National Laboratory	IH.3-1	LLNL has not implemented a uniform health hazard evaluation, control, and tracking program for potential sitewide health hazards.
Lawrence Livermore National Laboratory	IH.3-2	Operations at LLNL involving potential exposure to toxic agents and chemical carcinogens [i.e., metals (Be), solvents, and amine-based curing agents] are not evaluated in light of current personal protective equipment guidelines.
Lawrence Livermore National Laboratory	IH.4-1	The main site has not developed criteria for continuous performance-based indicators for high hazard exhaust ventilation systems.
Lawrence Livermore National Laboratory	IH.5-1	The LLNL implementation of a comprehensive asbestos control program is not consistent with internal LLNL guidelines and requirements of the ALARA program.
Lawrence Livermore National Laboratory	IH.5-2	LLNL has not completed a sitewide review of respirator usage, as recommended in the prescribed DOE standard, ANSI Z88.2.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	IH.6-1	LLNL has not fully implemented all elements of the OSHA Hazard Communication Standard, 29 CFR 1910.1200, particularly those aspects of the Standard related to availability of Materials Safety Data Sheet (MSDS) labeling requirements, and maintenance of chemical inventory.
Lawrence Livermore National Laboratory	OS.1-1	LLNL has not implemented an effective independent oversight program for health and safety-related activities.
Lawrence Livermore National Laboratory	OS.1-2	LLNL administrative procedures for recording occupationally related illnesses do not ensure that all data reported to DOE/DOL are correct.
Lawrence Livermore National Laboratory	OS.2-1	Some hazardous activities are performed without written Operational Safety Procedures even though these are required by LLNL and/or mandatory requirements.
Lawrence Livermore National Laboratory	OS.4-1	Plant Engineering controls over construction activities are not effective in ensuring that construction work conforms to OSHA requirements in 29 CFR 1926.
Lawrence Livermore National Laboratory	OS.5-1	The LLNL practices for ladder inspections, electrical installation and modifications, fire extinguisher inspections, portable power tool and cord inspections, and hoist inspections have not been effective in meeting DOE-prescribed occupational safety standards.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	FP.1-1	Because the fire protection program is divided among three separate groups, a unified fire protection program does not exist at the main site or Site 300 to meet the requirements of DOE 5480.7 and industry standard practices.
Lawrence Livermore National Laboratory	FP.2-1	The Life Safety Code analysis does not appear to have been followed precisely sitewide, to address the deviations from the existing requirements of the Life Safety Code, DOE Explosive Safety Manual, Uniform Building Code, and the LLNL Health and Safety Manual.
Lawrence Livermore National Laboratory	FP.4-1	The loss by fire in the cable run areas or from severe exposure from Trailers 1701, 1702, or 1703 could result in the shutdown of a facility (Bldg. 1705).
Lawrence Livermore National Laboratory	FP.5-1	The recommendations contained in the Factory Mutual Research Corporation (FMRC) report are not being implemented in a timely manner. DOE has not granted exemptions from the FMRC report.
Lawrence Livermore National Laboratory	FP.5-2	The automatic sprinkler system at Site 300 are not fully operational, and others cannot be considered reliable during subfreezing weather.
Lawrence Livermore National Laboratory	FP.6-1	Because the Site 300 Fire Department is not fully staffed, potential interior fire fighting activities are limited.

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Site Name	Concern #	Concern Title
Lawrence Livermore National Laboratory	FP.7-1	Design review and planning are incomplete for new construction and building modifications involving fire protection and life safety.
Lawrence Livermore National Laboratory	FP.7-2	The preventive maintenance, inspection, and testing of fire systems and fire alarm systems is not in compliance with DOE 5480.7 and DOE 6430.1A.
Lawrence Livermore National Laboratory	FP.7-3	The deficiencies noted by Factory Mutual for Site 300 have not been addressed in a timely manner.
Lawrence Livermore National Laboratory	FP.7-4	The fire protection water supplies are considered insufficient per NFPA-13 and Factory Mutual Research Corporation (FMRC) Data Sheet 2-8N and unreliable at Site 300 due to deficiencies in the flow and pressure available, and in the valve inspection program. Deficiencies in the valve inspection program and the limited accessibility to the fire protection control valves make the water supplies at LLNL unreliable.
Lawrence Livermore National Laboratory	FP.7-5	The sitewide fire alarm system is deficient in meeting requirements (NFPA-72D) for the use of listed or approved fire alarm equipment and does not provide for automatic notification to building occupants.
Brookhaven National Laboratory	QA.1-1	Lines of authority and responsibility cannot always be traced on existing organization charts nor are organization charts controlled or approved

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	OA.1-2	Line safety responsibility was not clearly understood and practiced at Brookhaven National Laboratory
Brookhaven National Laboratory	OA.1-3	Safety meetings are not regularly scheduled and do not fully promote safety at Brookhaven National Laboratory
Brookhaven National Laboratory	OA.2-1	Administrative policies and controls are not in place to ensure the conditions that are necessary for a healthful and safe workplace
Brookhaven National Laboratory	OA.2-2	Laboratory-wide administrative policies and controls do not ensure that all elements of an effective safety program exist within each department and division
Brookhaven National Laboratory	OA.2-3	A potential conflict of interest exists among those who have both independent safety review responsibilities and line safety responsibility or past safety responsibility for the program
Brookhaven National Laboratory	OA.3-1	The BNL environment, safety, and health goals are neither definitive nor measurable and in many cases lack specific departmental action plans to accomplish the BNL-wide goals as well as the specific departmental goals. Safety goals are also not embraced or appreciated by all Laboratory management
Brookhaven National Laboratory	OA.3-2	Measurable and definitive goals are not being developed and promulgated to all Laboratory employees

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	OA.5-1	Interlock problems, including their use, misuse, and nonreporting, have not been evaluated, and the root cause of the problems determined; nor has corrective action been taken to upgrade and enforce this primary system of personnel protection
Brookhaven National Laboratory	OA.6-1	Personnel programs do not ensure that specific job descriptions and job qualifications are established for all positions that affect safe and reliable operations
Brookhaven National Laboratory	OA.7-1	Management is not ensuring control of vital safety and operating documents
Brookhaven National Laboratory	OA.7-2	The AGS and the 60-inch Cyclotron are not in compliance with DOE 5481.1B, which requires an SAR for each DOE facility
Brookhaven National Laboratory	OA.7-3	The Brookhaven National Laboratory document control system does not ensure, as required by ANSI/ASME NQA-1, that documents important to the safe operation of a facility are available when needed and controlled
Brookhaven National Laboratory	QV.1-1	Documented and approved quality assurance plans are not all in place at BNL as required by the <u>BNL Quality Assurance Manual</u> and DOE 5700.6B

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	QV.1-2	Independent verifications, surveillance, and audits of quality attainment within the departments, divisions, and projects are too few to enable the BNL Director and his line managers to review and evaluate the implementation of their quality assurance programs, as required by DOE 5700.6B
Brookhaven National Laboratory	QV.1-3	The Quality Assurance Steering Committee functions and lines of communication are not addressed in the <u>Brookhaven National Laboratory Quality Assurance Manual</u>
Brookhaven National Laboratory	QV.1-4	Quality assurance audits at Brookhaven National Laboratory conducted by both the Quality Assurance Office and Designated Quality Assurance Representatives do not cover all departments and divisions as required by Laboratory policy
Brookhaven National Laboratory	QV.1-5	The Chicago Operations Office had not conducted timely quality verification audits as required by DOE 5700.6B
Brookhaven National Laboratory	QV.2-1	Brookhaven National Laboratory does not currently have a system in place for the evaluation and control of suppliers based on their past performance
Brookhaven National Laboratory	QV.4-1	The BNL policy for calibration of measuring and testing equipment is not implemented by all departments and divisions
Brookhaven National Laboratory	QV.5-1	BNL management is not enforcing its basic policies for nonconformance issues

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	QV.5-2	A formal system for the disposition of nonconforming materials has not been implemented by all Brookhaven National Laboratory departments and divisions
Brookhaven National Laboratory	QV.5-3	Identification, control, and storage of safety-related hardware and materials are not being performed in accordance with ANSI/ASME NQA-1 requirements
Brookhaven National Laboratory	QV.6-1	Personnel requesting inspections and tests do not always provide acceptance instructions or procedures describing the effort to be performed and the criteria for acceptance, as required by ANSI/ASME NQA-1
Brookhaven National Laboratory	QV.7-1	Material identification requirements are not adequately provided in welding rod control procedures and practices
Brookhaven National Laboratory	OP.1-1	The responsibilities and authorities of each position in the organization are not uniquely defined in a formal document made available to the staff at large
Brookhaven National Laboratory	OP.1-2	Measurable goal and performance indicators are not used at many facilities to effectively improve performance and safe operations
Brookhaven National Laboratory	OP.1-3	Operations personnel do not clearly understand their authority and responsibility

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	OP.1-4	Formal policy and guidelines from Department Chairpersons and Division Heads do not exist for development, review, approval, and issuance of organization charts
Brookhaven National Laboratory	OP.1-5	Department Chairpersons and Division Heads are not effectively formulating and issuing policy for their organizations which is specific for their needs
Brookhaven National Laboratory	OP.1-6	Use of the suggestive "should" in policy and guidance documents results in accountability for safety-related responsibilities not being clearly established
Brookhaven National Laboratory	OP.2-1	BNL, in general, does not have policy and procedures establishing the requirements for facility operations logs, their content, use, and review
Brookhaven National Laboratory	OP.3-1	In general, the BNL process for procedure preparation, approval, modification, distribution, and safety impact determination is inconsistent, not formalized, and undocumented
Brookhaven National Laboratory	OP.3-2	A policy controlling the posting and implementation of operating aids in the control rooms does not exist
Brookhaven National Laboratory	OP.3-3	The operation of the NSLS and the REF facilities is not in compliance with their Safety Analysis Reports

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	OP.4-1	A configuration control system did not exist requiring identification of safety-related components in the field and requiring formal review and approval before changes are made that may affect safe operation
Brookhaven National Laboratory	OP.5-1	The control, use, and content of operating procedures for experiments are not sufficient to ensure that the experimenter is provided a well-defined safe operating envelope
Brookhaven National Laboratory	OP.5-2	Controls and procedures are not in place to ensure that access to the NSLS experiment floor area is restricted to authorized and trained users and escorted visitors
Brookhaven National Laboratory	OP.6-1	Management has not established standards and directives providing a clear concise statement of acceptable operating states for facilities and experiments
Brookhaven National Laboratory	OP.6-2	BNL Health and Safety Guide 1.5.1, "Lock-Out/Tag-Out Requirements" is not being enforced as required by DOE 5483.1A and 29 CFR 1910.147
Brookhaven National Laboratory	OP.7-1	The housekeeping in some facilities is poor and is not in accordance with DOE 5483.1A, 29 CFR 1910.22, and generally accepted industrial practice
Brookhaven National Laboratory	OP.8-1	The depth and breadth of operator knowledge is not commensurate with acceptable industrial practices at facilities of comparable sophistication and complexity

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	OP.9-1	BNL has not developed and implemented coding convention standards (color, size, shape, position and nomenclature) for facility components and equipment
Brookhaven National Laboratory	OP.10-1	The current shift turnover process does not assure effective and accurate transfer of essential information regarding the facility status between crews and interacting members of the same crew
Brookhaven National Laboratory	MA.1-1	A uniform, BNL-wide maintenance program, consistent with the requirements of DOE 4330.4, industry standards, and good practices is not provided by the current organizational structure
Brookhaven National Laboratory	MA.1-2	The responsibility for the maintenance activity at NSLS is not defined
Brookhaven National Laboratory	MA.1-2	Formal or uniform maintenance programs are not consistently implemented at the Alternating Gradient Synchrotron Facility
Brookhaven National Laboratory	MA.2-1	Many BNL facilities are crowded with equipment (which in some cases is unused) and may impact safe effective operation, industry safety standards, and good operating practices
Brookhaven National Laboratory	MA.2-2	Documentation of maintenance activities for programmatic equipment is incomplete, and procedures for work control are not sufficient to ensure safe and efficient maintenance

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	MA.5-1	Lack of consistent application of safety requirements in maintenance shop areas promotes unsafe conditions and contributes to the potential for accidents and injury
Brookhaven National Laboratory	MA.7-1	Documentation of maintenance requirements, procedures and activities is incomplete and not sufficiently accurate to ensure safe and effective maintenance. This lack of documentation may affect the continuity of operations of one-of-a-kind and other special equipment should existing experienced personnel retire or transfer
Brookhaven National Laboratory	MA.8-1	Documentation of maintenance data and information is not adequate to support a maintenance history program
Brookhaven National Laboratory	MA.8-2	Maintenance procedures and documentation of maintenance activities for programmatic equipment frequently do not enable maintenance to be carried out in a controlled and safe manner
Brookhaven National Laboratory	TC.1-1	BNL has no lab-wide training policy or requirements for initial and ongoing qualification programs
Brookhaven National Laboratory	TC.1-2	Training records of each individual's training participation and performance are not documented at BNL in several departments and divisions
Brookhaven National Laboratory	TC.2-1	BNL does not have formalized lesson plans to ensure adequacy of safety training

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	TC.3-1	BNL has not developed and documented qualification standards and evaluation methods to adequately verify trainee competence in maintenance activities
Brookhaven National Laboratory	TC.4-1	All radiation workers at Brookhaven National Laboratory have not been trained and certified to meet the requirements of DOE 5480.11
Brookhaven National Laboratory	TC.4-2	Safety training and certification requirements for employee and visitor users are not in compliance with DOE 5480.11 at many Brookhaven National Laboratory facilities
Brookhaven National Laboratory	TC.5-1	At most Brookhaven National Laboratory facilities, there is no maintenance training and qualification program to ensure safe and effective maintenance activities
Brookhaven National Laboratory	TC.9-1	Documentation of the health physics training program required to verify that technicians receive certified training in compliance with DOE 5480.11 is incomplete and not readily available
Brookhaven National Laboratory	AX.5-1	High-efficiency particulate air filters without pressure drop instrumentation cannot be monitored for clogging or penetration on a continuous basis
Brookhaven National Laboratory	EP.1-1	The magnitude and consequences of emergencies involving nonradioactive hazardous materials have not been identified, nor have BNL emergency plans or emergency organization structures been well defined to respond to this type of emergency

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	EP.2-1	Not all local emergency plans are being kept current in accordance with the requirements of the BNL <u>Laboratory Emergency Response Plan</u>
Brookhaven National Laboratory	EP.3-1	Neither initial nor continuing training programs for most emergency response personnel have established formal qualification/requalification requirements
Brookhaven National Laboratory	EP.5-1	The BNL Emergency Operations Facility is not equipped to facilitate the control of all postulated emergencies
Brookhaven National Laboratory	EP.5-2	The radiation monitoring equipment designated for use during an emergency response does not meet all of the requirements of ANSI N320-1979
Brookhaven National Laboratory	EP.6-1	Emergency assessment and notification practices and procedures are not based on current DOE emergency event classifications or protective action guides
Brookhaven National Laboratory	TS.1-1	BNL has no formal system to ensure review of proposed actions by interfacing organizations whose interests might be impacted
Brookhaven National Laboratory	TS.2-1	Engineering personnel who design facility modifications do not all have cognizance of or full access to documents that define the safety requirements for individual facilities

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	TS.2-2	There is no system of procedures for formal interchange of information between technical and operations/maintenance staffs that ensures operation/maintenance practices and designs are consistent
Brookhaven National Laboratory	TS.2-3	Operational safety limitations are not identified for most nonreactor facilities
Brookhaven National Laboratory	TS.2-4	In nonreactor areas, safety systems and devices are not fully identified, and special testing or maintenance requirements are not stipulated for such equipment
Brookhaven National Laboratory	TS.3-1	Many of the BNL organizations do not have written procedures controlling design and review of modifications
Brookhaven National Laboratory	TS.3-2	Safety Analysis Reports are not prepared before completion of a facility design or of a facility modification
Brookhaven National Laboratory	TS.3-3	Brookhaven National Laboratory <u>Occupancy</u> Readiness Reviews do not satisfy the requirements for the more conventional <u>Operational</u> Readiness Reviews
Brookhaven National Laboratory	TS.4-1	There is no comprehensive program for systematic evaluation of equipment performance
Brookhaven National Laboratory	TS.4-2	Not all performance testing and monitoring files are readily auditable by a third party for verification of compliance with requirements

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	TS.4-3	No formal sitewide system has been established for performance testing and monitoring of equipment within established safety parameters and limits
Brookhaven National Laboratory	TS.8-1	The BNL Annual Site Environmental Report was not distributed on the schedule required by DOE 5400.1
Brookhaven National Laboratory	CS.1-1	The criticality safety program is not independent of operations in compliance with ANS 8.1-1983 as required by DOE Orders
Brookhaven National Laboratory	CS.5-1	A criticality alarm system, nuclear accident dosimeters, and emergency procedures and drills have not been implemented to cover the fissile fuel storage areas at the High Flux Beam Reactor in compliance with DOE 5480.5
Brookhaven National Laboratory	EA.2-1	The charters for the department and division experiment safety review committees did not fully define the body, scope, and authority of the committee
Brookhaven National Laboratory	EA.4-1	The boundaries of safe operation were not developed for each experiment or class of experiments at the various departments and divisions at the Brookhaven National Laboratory, as required by DOE 5481.1B
Brookhaven National Laboratory	SR.1-1	The Ad Hoc Committee for the review and approval of table-top and planned larger (non-Radiation Effects Facility) experiments are not in compliance with DOE 5482.1B, Section 9.d

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	SR.7-1	BNL is not in compliance with DOE 5482.1B in all programmatic areas reviewed in this TSA
Brookhaven National Laboratory	FR.4-1	Periodic facility safety reviews do not include a safety review of all procedures and operational activities as required by DOE 5482.1B
Brookhaven National Laboratory	FR.5-1	Brookhaven National Laboratory does not perform a triennial appraisal of the safety review system
Brookhaven National Laboratory	RP.3-1	Implementation of some aspects, particularly radiation worker retraining, of DOE 5480.11 will not be accomplished by January 1, 1990, as specified in BNL's implementation plan
Brookhaven National Laboratory	RP.3-2	BNL does not have uniform posting in radiation areas
Brookhaven National Laboratory	RP.3-3	In general, there are no formal, documented departmental radiation protection procedures which implement the guides in the <u>BNL Safety Manual</u>
Brookhaven National Laboratory	RP.3-4	Many of the interlock systems are not consistent with the <u>BNL Safety Manual</u>
Brookhaven National Laboratory	RP.3-5	Many radiation protection procedures developed and used by operations personnel are outdated or do not apply accepted good practices

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	RP.3-6	Procedures issued by the Safety and Environmental Protection Division are not being effectively tracked for review, revision, and approval
Brookhaven National Laboratory	RP.3-7	The existing Radiation Work Permit form lacks information required to ensure work "as low as reasonably achievable"
Brookhaven National Laboratory	RP.3-8	Brookhaven National Laboratory does not have an effective program to control access to radiological areas
Brookhaven National Laboratory	RP.4-1	External radiation exposure control is not adequate to minimize exposures or to quickly recognize that higher than normal exposure is being received by personnel
Brookhaven National Laboratory	RP.5-1	The commercial film badge service provided to BNL is not accredited under DOELAP
Brookhaven National Laboratory	RP.7-1	The Safety and Environmental Protection Division internal dosimetry program has not undergone an internal audit as required by DOE 5482.1B
Brookhaven National Laboratory	RP.8-1	Calibration of radiation protection instruments does not meet ANSI N323 as required by DOE 5480.4
Brookhaven National Laboratory	RP.9-1	Air monitoring systems do not ensure reliable estimates of air activity
Brookhaven National Laboratory	RP.11-1	BNL does not have a documented ALARA program

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	IH.4-1	Industrial hygiene data are not developed to allow long-term exposure estimates for many substances
Brookhaven National Laboratory	IH.5-1	BNL does not comply with the respiratory protection and laser safety standards required by DOE 5480.4. Internal audits have failed to identify these deficiencies
Brookhaven National Laboratory	IH.6-1	The BNL hazard communications program, required by DOE 5480.4 and 5483.1A, has not been fully implemented
Brookhaven National Laboratory	IH.6-2	Brookhaven National Laboratory is not in compliance with 29 CFR 1910.1200 and unlikely to comply with deadlines established in 29 CFR 1910.1450
Brookhaven National Laboratory	OS.3-1	All pesticide hazards arising in the work place are not identified and controlled
Brookhaven National Laboratory	OS.4-1	The priority given to safety is not adequate to ensure that safety performance meets DOE expectations as required by DOE 5483.1A
Brookhaven National Laboratory	OS.4-2	BNL is not controlling hazardous conditions at its construction activities and is not enforcing construction safety standards as required by DOE 5480.4 and DOE 5480.9
Brookhaven National Laboratory	OS.4-3	BNL has not established a formal program to track the corrective actions identified during injury and illness recording, investigation, and reporting

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	OS.5-1	BNL is not consistently enforcing the use of personnel protective equipment as required by DOE 5483.1A
Brookhaven National Laboratory	OS.5-2	The BNL Compressed Gas Cylinder Safety Policy and Procedures do not meet DOE 5480.4 requirements
Brookhaven National Laboratory	OS.5-3	Egress or rescue capability is not provided for the catch basins as required by the Occupational Safety and Health Act, Section 5(a) (1)
Brookhaven National Laboratory	OS.6-1	BNL is not posting their injury and illness data as required by DOE 5483.1A
Brookhaven National Laboratory	OS.6-2	BNL safety training program is not adequate as required by DOE 5483.1A
Brookhaven National Laboratory	FP.1-1	Not all of the fire protection functions required by DOE 5480.7 and BNL Safety Department operations procedures and safety directives are being performed
Brookhaven National Laboratory	FP.1-2	Fire protection deficiencies are not being corrected in a timely manner
Brookhaven National Laboratory	FP.1-3	The Chicago Operations Office has not conducted Fire Protection Appraisals of Brookhaven National Laboratory facilities at the frequency required by DOE 5480.7

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	FP.1-4	All requirements for testing frequency and documentation for fire protection equipment are not clearly identified in Brookhaven National Laboratory fire protection procedures
Brookhaven National Laboratory	FP.2-1	BNL life safety provisions do not meet the minimum requirements of NFPA 101, <u>The Life Safety Code</u> , as required by DOE 5480.7-9.1(1)
Brookhaven National Laboratory	FP.3-1	No quantitative analysis has been performed to ensure that an off-site release of hazardous amounts of toxic or radioactive materials will not occur under maximum credible fire conditions as per DOE 5480.7-9.a.(3)
Brookhaven National Laboratory	FP.4-1	BNL has not performed an analysis to verify that a credible fire loss could not impair an operation in a vital facility for a period greater than six months, as required by DOE 5480.7-9.b
Brookhaven National Laboratory	FP.4-2	The transformer yard arrangement does not meet the criteria of Factory Mutual Data Sheet 5-4, Table III for equipment and building separation
Brookhaven National Laboratory	FP.5-1	BNL has not determined that a maximum credible fire may result in an unacceptable property loss as required by DOE 5480.7, Sections 9.c, 9.d, 10.b.(8), and 10.b.(11)
Brookhaven National Laboratory	FP.5-2	A fire involving either the Chemistry or Physics complex cooling towers may result in direct damage to the buildings in excess of the "improved risk" criteria of DOE 5480.7

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	FP.5-3	Combustible areas obstructed from sprinklers at the National Synchrotron Light Source and small combustible operations of the Alternating Gradient Synchrotron are not protected in accordance with Factory Mutual Data Sheet 2-8 for Highly Protected Risks
Brookhaven National Laboratory	FP.5-4	Automatic Fire protection of critical records, off-site vital records storage, and the arrangement of equipment are not consistently provided for electronic data and computer apparatus as required by DOE 5480.7 and mandatory standards
Brookhaven National Laboratory	FP.5-5	The maintenance of roof decks is inadequate to prevent damage to critical equipment and experiments and weakening to windstorm damage per DOE 5480.7
Brookhaven National Laboratory	FP.5-6	Cable tray arrangements do not meet the criteria of Factory Mutual Data Sheet 5-31, and the impact of a fire involving this material has not been recently analyzed
Brookhaven National Laboratory	FP.5-7	The lack of fire walls, smoke barriers, or sealed vertical cut-offs poses a loss potential in excess of the improved risk criteria of DOE 5480.7
Brookhaven National Laboratory	FP.5-8	Brookhaven National Laboratory has not determined through formal and regularly scheduled analyses that a maximum credible fire will not result in an unacceptable property loss, as required DOE 5480.7

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	FP.7-1	Some sprinkler and halon systems at BNL do not completely conform to DOE 5430.1A-1530-4.1 and -5.25 requirements
Brookhaven National Laboratory	FP.7-2	The distribution of some portable fire extinguishers in several buildings is not in accordance with NFPA 10 and DOE 6430.1A-1530-7
Brookhaven National Laboratory	FP.7-3	Housekeeping and the control of ordinary combustibles is not adequate in several buildings at BNL
Brookhaven National Laboratory	FP.7-4	Flammable liquid hazards at BNL are not being controlled in accordance with DOE 5480.7-9.a.(2)(b) and the requirements of NFPA 30
Brookhaven National Laboratory	FP.7-5	During welding operations, site procedures for the protection of combustibles and use of fire watch personnel were not being followed, as required by NFPA 51B
Brookhaven National Laboratory	FP.7-6	BNL is not implementing an effective fire barrier maintenance program as required by DOE 5480.7-10.b.(5) and 10.b.(7)
Brookhaven National Laboratory	FP.7-7	Materials with unusually high fire characteristics, notably expanded plastic duct insulation, exist in interior finish applications at BNL, in conflict with DOE 5480.7-9.a.(2)(a) and 6430.1A-0110-6.1

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	FP.7-8	Fire water main flows, water storage tanks, and emergency lights and signs are not tested or inspected at NFPA-specified frequencies
Brookhaven National Laboratory	FP.7-9	Not all portable and modular buildings at BNL conform to the requirements of DOE/EV-0043, "Fire Protection for Portable Structures," with respect to exposure distances and sprinkler protection
Brookhaven National Laboratory	FP.7-10	Precautions for the storage and use of compressed gas cylinders are not in accordance with improved risk practices
Brookhaven National Laboratory	FP.7-11	Automatic sprinkler systems at BNL are not always arranged and maintained according to improved risk as outlined in the NFPA Fire Protection Handbook
Brookhaven National Laboratory	FP.7-12	There is no diking around elevator hydraulic tanks and pumps per NFPA 30 Section 2-4.1.1 which can allow burning oil to spread to surrounding equipment
Brookhaven National Laboratory	FP.7-13	Cable and wiring circuits are not fully maintained in accordance with NFPA 70 "National Electric Code"
Brookhaven National Laboratory	FP.7-14	The presence of combustibles in critical equipment or otherwise unprotected areas, such as at the Alternating Gradient Synchrotron, poses an avoidable fire risk

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	FP.7-15	Tobacco smoking is an ignition source to transient combustibles in the Alternating Gradient Synchrotron, a largely unprotected and important facility
Brookhaven National Laboratory	FP.7-16	Maintenance, cable support, and fire protection for the transformers near the beam separator line of the Alternating Gradient Synchrotron is not in accordance with the manufacturer's instructions or Factory Mutual Data Sheet 5-4
Brookhaven National Laboratory	MS.2-1	A formal tracking program does not exist in the Occupational Medical Clinic
Brookhaven National Laboratory	MS.4-1	Policies, procedures, and practices of the Occupational Medical Clinic are not periodically reviewed and audited as required by good practices
Brookhaven National Laboratory	MS.5-1	The Health Awareness and Wellness Program is not fully implemented for Brookhaven National Laboratory by the Occupational Medical Clinic
Brookhaven National Laboratory	PT.2-1	BNL has not routinely audited packaging and transportation function as required by DOE 5480.3 and DOE 5482.1B
Brookhaven National Laboratory	PT.3-1	BNL does not have policies and procedures for handling, packaging, and shipping hazardous materials, substances, and wastes, as required by the health, safety, and environmental requirements of DOE 5480.1A, or all the requirements of DOE 5480.3 and 5480.4

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	PT.4-1	BNL does not have safety oversight of P&T operations as required by DOE 5480.1A
Brookhaven National Laboratory	PT.5-1	BNL does not conduct handling, storage, intrasite movements, and emergency response aspects of hazardous materials, substances, and wastes (including hazardous, mixed, and radioactive) and does not intent of the health, safety, and environmental requirements of DOE 5480.1A
Brookhaven National Laboratory	PT.6-1	The BNL training program for personnel with P&T functions does not meet the existing standards of DOE 5480.3 (7/9/85) for offsite shipment or 5480.1A for intrasite movements
Brookhaven National Laboratory	PT.6-3	BNL does not have a spill prevention, control, and countermeasures program which meets all the requirements of DOE 5480.4 and 40 CFR 112
Brookhaven National Laboratory	FS.2-1	Corrective actions and safety complaints are not being pursued on an aggressive, timely, and formal basis to reduce BNL's high accident rate involving security inspectors
Brookhaven National Laboratory	FS.3-1	Methods for reporting, evaluation, and tracking of BNL safety performance data are not in keeping with accepted industry practice
Brookhaven National Laboratory	FS.5-1	The emergency medial response simulation did not follow good industry practice, thereby diminishing the quality of the training received as a result of these drills

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Site Name	Concern #	Concern Title
Brookhaven National Laboratory	FS.6-1	The storage of Engagement Simulation System weapons does not comply with DOE 5480.16
Brookhaven National Laboratory	FS.6-2	There is potential for an inadvertent mix-up between the Engagement Simulation System weapons and spare live-fire weapons which are kept in the same locked cabinet
Sandia National Laboratories, Livermore	OA.1-1	Management has not defined the roles, responsibilities, and interfaces required to consistently implement an effective environment, safety and health program
Sandia National Laboratories, Livermore	OA.1-2	Management has not established an environment, safety, and health program meeting Department of Energy requirements
Sandia National Laboratories, Livermore	OA.3-1	Management has not established a comprehensive set of sitewide environment, safety, and health objectives, nor have environment, safety and health personal performance objectives been required as part of the employee evaluation process
Sandia National Laboratories, Livermore	OA.5-1	Management has not established a formal program to assess the safety performance of the site
Sandia National Laboratories, Livermore	OA.5-2	A documented system for reporting unusual events, meeting the requirements of DOE 5000.3 and DOE 5484.1, does not exist
Sandia National Laboratories, Livermore	OA.6-1	Management has not prepared comprehensive staffing plans supporting environment, safety, and health requirements

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	OA.7-1	The existing document control system for environment, safety, and health functions does not meet the requirements of DOE 5480.5, DOE 5700.6B, and ANSI/ASME NQA-1, Section 6
Sandia National Laboratories, Livermore	OA.7-2	Existing vital records storage does not meet the requirements of DOE 5700.6B, ANSI/ASME NQA-1, and DOE 1324.2A
Sandia National Laboratories, Livermore	QV.1-1	The quality assurance programs do not meet the requirements of DOE 5700.6B, AL 5700.6B Rev. II, QC-1, and QC-2
Sandia National Laboratories, Livermore	QV.1-2	At Sandia National Laboratories, Livermore, Albuquerque is not performing audits to meet the requirements of DOE 5700.6B and AL 5700.6B Rev. II, Element 18
Sandia National Laboratories, Livermore	QV.1-3	The Albuquerque Operations Office quality assurance requirements for auditing are not being satisfactorily implemented to meet the requirements of DOE 5700.6B
Sandia National Laboratories, Livermore	QV.1-4	A complete quality assurance training program has not been established and implemented as required by AL 5700.6B Rev. II
Sandia National Laboratories, Livermore	QV.2-1	There is no formal quality assurance program for procurement and supplier control as required by AL 5700.6B Rev. II
Sandia National Laboratories, Livermore	QV.3-1	Sitewide receiving and pre-installation inspections of all quality related material, parts, and components are not in compliance with the requirements of AL 5700.6B Rev. II, Elements 7 and 10

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	QV.4-1	The Sandia National Laboratories, Livermore, calibration program does not assure that measuring and test equipment used for sitewide measurements of quality relating activities are properly calibrated and adjusted as required by AL 5700.6B Rev. II, Element 12
Sandia National Laboratories, Livermore	QA.6-1	Inspections and verifications either are not performed or are performed by persons who are not independent of the organization doing the work as required by DOE AL 5700.6B. Rev. II, Element 10
Sandia National Laboratories, Livermore	OP.2-1	The concept of formality in the conduct of operations has not been applied to tests, experiments, or utility operations
Sandia National Laboratories, Livermore	OP.3-1	The Safe Operating Procedure system is not being effectively and consistently implemented
Sandia National Laboratories, Livermore	OP.3-2	An integrated system for developing and issuing policies and procedures for safely operating systems and equipment does not exist
Sandia National Laboratories, Livermore	OP.4-1	A lockout/tagout system that meets the requirements of 29 CFR 1910.147 has not been implemented and other tagging methods have not been formalized
Sandia National Laboratories, Livermore	OP.4-2	Tritium Research Laboratory daily checklists do not indicate specific limiting conditions for operation values, and procedures do not identify those tests which satisfy limiting conditions for operation surveillance requirements

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	MA.1-1	The overall maintenance program does not comply with DOE 4330.4, DOE 1324.2A, and AL 5700.6B.
Sandia National Laboratories, Livermore	MA.2-1	Maintenance is not being performed in a safe, effective manner per the requirements of DOE 4330.4, Section 7
Sandia National Laboratories, Livermore	MA.3-1	Housekeeping at the Sandia National Laboratories, Livermore maintenance facilities does not comply with the 29 CFR 1910.22, paragraphs a) and b)
Sandia National Laboratories, Livermore	MA.3-2	Support facilities and equipment do not effectively support maintenance activities
Sandia National Laboratories, Livermore	MA.4-1	Methods for planning, scheduling, and control of maintenance activities do not ensure safe, timely, and effective completion of work
Sandia National Laboratories, Livermore	MA.5-1	A program for correction maintenance is not in place at Sandia National Laboratories, Livermore
Sandia National Laboratories, Livermore	MA.6-1	The Sandia National Laboratories, Livermore preventive maintenance program does not meet the requirements DOE 4330.4, Section 9.b.(6)
Sandia National Laboratories, Livermore	MA.7-1	The Sandia National Laboratories, Livermore predictive maintenance program does not meet the requirements of DOE 4330.4, Section 9

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	MA.8-1	Technical information and procedures for maintenance activities are not prepared, reviewed, authorized, or controlled as required by DOE 4330.4, DOE 1324.2A, and INPO 85-038
Sandia National Laboratories, Livermore	TC.1-1	Sandia National Laboratories, Livermore does not have documented sitewide performance-based training programs for initial and ongoing qualification and certification
Sandia National Laboratories, Livermore	TC.4-1	Safety training programs to ensure safe and effective operations at Sandia National Laboratories, Livermore are not fully developed and implemented
Sandia National Laboratories, Livermore	TC.5-1	Initial and continuing training programs for maintenance personnel at the Sandia National Laboratories Livermore are not established
Sandia National Laboratories, Livermore	AX.1-1	The system for establishing facility safety requirements has not been applied sitewide in accordance with DOE 5481.1B
Sandia National Laboratories, Livermore	AX.1-2	The recommendation of Technical Safety Appraisal Report, DOE/EH-0041, to install a glovebox has not been completed
Sandia National Laboratories, Livermore	AX.2-1	The design and operation of the Liquid Effluent Control Systems is not standardized on the basis of consideration of safety risks and operational benefits
Sandia National Laboratories, Livermore	AX.2-2	Reserve holdup capacity requirements are not specified for the Liquid Effluent Control System in accordance with DOE 5480.1, Chapter XII, 4e

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	AX.3-1	A formal waste minimization program, in accordance with DOE 5400.1, does not exist
Sandia National Laboratories, Livermore	AX.5-1	Testing of high-efficiency particulate air filters is not in accordance with ANSI N510-1980 and DOE 6430.1
Sandia National Laboratories, Livermore	AX.5-2	High-efficiency particulate air filters are not monitored for pressure drop to detect plugging
Sandia National Laboratories, Livermore	AX.5-3	The functional requirements and testing for fume hoods, except for the Tritium Research Laboratory, are not properly documented
Sandia National Laboratories, Livermore	AX.6-1	There is no assurance that standby generators will supply critical loads in a loss of site power
Sandia National Laboratories, Livermore	AX.6-2	The functional requirements of the uninterruptible power supplies are not defined
Sandia National Laboratories, Livermore	AX.6-3	There are no documented requirements for testing standby diesel generators
Sandia National Laboratories, Livermore	EP.1-1	The Albuquerque Operations Office has had minimal involvement in the Sandia National Laboratories Livermore, Emergency Preparedness Program and has not identified administrative elements of the program that do not comply with DOE 5500.1A

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	EP.2-1	Protection of offsite personnel from onsite emergencies is not assured as required by DOE 5500.1A
Sandia National Laboratories, Livermore	EP.2-2	Personnel accountability procedures will not indicate who is missing in all credible events as required by DOE N5500.5
Sandia National Laboratories, Livermore	EP.3-1	Not all emergency response personnel have been trained as required by DOE N5500.5
Sandia National Laboratories, Livermore	EP.4-1	The drill program has not assured effective interface with offsite agencies
Sandia National Laboratories, Livermore	EP.5-1	There is no sitewide emergency notification system or alarm
Sandia National Laboratories, Livermore	EP.5-2	Malfunctions of the emergency phone system were not corrected in a timely fashion
Sandia National Laboratories, Livermore	EP.6-1	Emergency Action Levels do not assure proper classification of emergencies involving chemical releases
Sandia National Laboratories, Livermore	TS.1-1	Personnel, procedures, and facilities available to Plant Engineering limit its ability to perform adequate in-house support
Sandia National Laboratories, Livermore	TS.1-2	The storage and control of design documents and drawings is not sufficient to assure long-term documentation of design projects

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	TS.1-3	Plant Engineering has not implemented a design and configuration control system
Sandia National Laboratories, Livermore	TS.2-1	Sandia National Laboratories, policies and procedures for technical support are neither sufficient for, nor specific to, the Sandia National Laboratories, Livermore operation
Sandia National Laboratories, Livermore	TS.2-2	Procedures do not assure the approval of construction and modification designs by Environment, Safety, and Health Department personnel as well as other safety disciplines
Sandia National Laboratories, Livermore	TS.4-1	The requirements for testing of safety equipment except at the Tritium Research Laboratory are not defined
Sandia National Laboratories, Livermore	PT.1-1	Safety oversight of packaging and transportation activities does not meet all the requirements of DOE 5480.1 and DOE 5482.1B
Sandia National Laboratories, Livermore	PT.1-2	The risk of transporting exceptionally hazardous materials by DOE conveyance over public highways has not been assessed
Sandia National Laboratories, Livermore	PT.2-1	The training program for qualification of packaging and transportation personnel does not meet the requirements of DOE 5480.3 (49 CFR) or the Sandia National Laboratories, Livermore on-site transportation manual
Sandia National Laboratories, Livermore	PT.3-1	Quality assurance and internal self-appraisal programs do not meet all the requirements of DOE 5700.6B, DOE 5480.3, and DOE 5482.1B. (Also see Concerns FR.1-1 and QV.1-1.)

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	PT.3-2	The "Quality Plan for Sandia National Laboratories, Livermore, Packaging and Shipping Radioactive and Hazardous Material Offsite," January 25, 1990, does not comply with DOE 5700.6B and DOE 5480.3. (Also see Concern QV.1-1.)
Sandia National Laboratories, Livermore	PT.5-1	The preparation for response to offsite transportation incidents involving Department of Energy cargoes does not meet all of the requirements of AL 1540.1
Sandia National Laboratories, Livermore	PT.5-2	The preparation for response to onsite transportation incidents involving hazardous materials does not meet the emergency response requirements of DOE 5480.1B. (Also see concern TC.1-1.)
Sandia National Laboratories, Livermore	PT.6-1	The Spill Prevention, Control and Countermeasures Program does not meet the requirements of DOE 5480.1B, and DOE 5480.4 (40 CFR 112)
Sandia National Laboratories, Livermore	PT.8-1	The handling and onsite transfers of hazardous materials do not meet all the health and safety requirements of DOE 5480.1B
Sandia National Laboratories, Livermore	PT.8-2	Storage of hazardous materials does not meet the safety and health requirements of DOE 5480.1B
Sandia National Laboratories, Livermore	PT.9-1	Procedures for preparing, packaging, and transporting offsite shipments of hazardous materials were not prepared in accordance with DOE 5480.3, and were not always followed

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	PT.9-2	The Department of Energy has not established hazardous materials packaging safety requirements for air shipments of Class A Explosives from Sandia National Laboratories, Livermore
Sandia National Laboratories, Livermore	PT.9-3	Procedures for handling incoming radioactive and hazardous materials packages are not in compliance with DOE 1540.1
Sandia National Laboratories, Livermore	SS.3-1	The Protective Force does not have written orders specifying practices to be followed in response to an incident in all locations with potentially dangerous quantities of hazardous chemicals
Sandia National Laboratories, Livermore	SS.4-1	The Firearms Safety Committee has no Environment, Safety, and Health Department representative
Sandia National Laboratories, Livermore	SS.4-2	Measures taken to reduce the high frequency of Lost Workday Case Incidence in the Protective Force have not been sufficiently effective
Sandia National Laboratories, Livermore	FR.1-1	The internal safety review and appraisal system is not organized to assure compliance with DOE 5480.5 and DOE 5482.1B
Sandia National Laboratories, Livermore	FR.2-1	Except for the Tritium Research Laboratory operations, the instructions for review of proposed experiments are not clear and as a result do not assure consistent review of experiment proposals

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	FR.4-1	No administrative policy document assures the performance of the Annual Facility Safety Review for the Tritium Research Laboratory, as required by DOE 5480.5
Sandia National Laboratories, Livermore	FR.5-1	Except for the Tritium Research Laboratory, Triennial Appraisals of the internal safety review systems are not required or performed
Sandia National Laboratories, Livermore	FR.6-1	There is no formal review system to assure that offsite (and onsite) operating experience is disseminated
Sandia National Laboratories, Livermore	RP.1-1	Audits and reviews of the radiation protection program by Environment, Safety and Health Department management were not formally planned and conducted as required by DOE 5482.1B, Section 10
Sandia National Laboratories, Livermore	RP.2-1	An internal audit program in compliance with DOE 5480.11 and DOE 5482.1B, Section 9d has not been implemented. (Also see Section 4.5.12, Concern FR.1-1.)
Sandia National Laboratories, Livermore	RP.3-1	Management had not implemented a system to assure Environment, Safety and Health Department review, approval and control of all radiation protection activities. (Also see Section 4.5.14, Concern PP.1-1 and Section 4.5.1, Concern OA.1-2.)
Sandia National Laboratories, Livermore	RP.3-2	Some procedures for conduct of the radiation protection program had not been developed as required by DOE 5480.11

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	RP.3-3	Posting of some controlled areas is not in compliance with U.S. Department of Energy 5480.11
Sandia National Laboratories, Livermore	RP.5-1	The external dosimeter used at Sandia National Laboratories, Livermore did not meet the Department of Energy Laboratory Accreditation Program standard for dosimetry systems as required by DOE 5480.11
Sandia National Laboratories, Livermore	RP.5-2	A summary of annual, cumulative, and committed effective dose equivalent was not provided to each radiation worker as required by DOE 5480.11
Sandia National Laboratories, Livermore	RP.7-1	The internal dosimetry program for uranium urinalysis and dose determination did not meet the requirements of DOE 5480.11
Sandia National Laboratories, Livermore	RP.8-1	Radiological protection instruments were not calibrated in compliance with ANSI N323 requirements. (Also see Section 4.5.2, Concern QV.4-1.)
Sandia National Laboratories, Livermore	RP.9-1	Portable and fixed air samplers were not routinely calibrated as required by DOE 5480.11
Sandia National Laboratories, Livermore	RP.10-1	The routine contamination surveillance program did not provide assurance that areas outside of controlled areas would remain free of radioactive sources and contamination

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	RP.10-2	Not all incoming and outgoing packages of radioactive materials were surveyed for radiation and contamination as required by Sandia National Laboratories, Livermore procedures and Department of Energy and Department of Transportation requirements. (Also see Section 4.5.9 Concern PT.9-3.)
Sandia National Laboratories, Livermore	RP.11-1	A formal, documented As Low As Reasonably Achievable Program had not been implemented as required by DOE 5480.11
Sandia National Laboratories, Livermore	RP.12-1	Radiation protection records were not maintained in compliance with ANSI N13.6
Sandia National Laboratories, Livermore	PP.1-1	An occupational safety and industrial hygiene program has not been defined and implemented to address Department of Energy- and Occupational Safety and Health Administration requirements as mandated by DOE 5483.1A
Sandia National Laboratories, Livermore	PP.1-2	Management has not established a means for assessing the adequacy and effectiveness of occupational safety and industrial hygiene programs or for establishing priorities for improvement. (Also see Section 4.5.1, Concern OA.5-1.)
Sandia National Laboratories, Livermore	PP.1-3	Staff industrial hygiene and occupational safety personnel are restricted from observing, supporting, and participating in some plant activities because they have not fulfilled the training requirements in 29 CFR 1910.120

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	PP.1-4	Personnel did not recognize their responsibility for all aspects of their personal safety
Sandia National Laboratories, Livermore	PP.3-1	Chemical and physical hazards in the workplace have not been identified in accordance with Department of Energy and Occupational Safety and Health Administration requirements
Sandia National Laboratories, Livermore	PP.3-2	There were no systems to assure that occupational safety and industrial hygiene concerns were properly investigated or that lessons learned from past experiences would be retained
Sandia National Laboratories, Livermore	PP.4-1	Investigation and documentation of accidents and incidents did not comply with current Department of Energy or Occupational Safety and Health Administration requirements identified in DOE 5480.4
Sandia National Laboratories, Livermore	PP.4-2	Chemical, physical, and biological stresses in the workplace were not monitored in accordance with Department of Energy and Occupational Safety and Health Administration requirements
Sandia National Laboratories, Livermore	PP.5-1	A confined space entry program has not been developed and implemented in accordance with ANSI Z117.1 (1977)
Sandia National Laboratories, Livermore	PP.7-1	Hazardous chemicals were not properly and uniformly labeled as required by the Occupational Safety and Health Administration hazard communication standard

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	FP.1-1	Formal management policy and direction for the overall fire protection program does not exist as required by DOE 5480.7
Sandia National Laboratories, Livermore	FP.2-1	NFPA 101, "Life Safety Code," is not followed sitewide
Sandia National Laboratories, Livermore	FP.2-2	Automatic sprinkler protection is not installed in Sheds 9183 and 9631
Sandia National Laboratories, Livermore	FP.4-1	Impairment of operations in Room 173, Bldg. 913 is not adequately addressed
Sandia National Laboratories, Livermore	FP.5-1	The storage in Building 928 is not adequately sprinklered as required in DOE 5480.7, Section 6f
Sandia National Laboratories, Livermore	FP.6-1	The first responding fire department personnel from Lawrence Livermore National Laboratory do not make quarterly tours of the Sandia National Laboratories, Livermore site
Sandia National Laboratories, Livermore	FP.7-1	Fire protection systems and equipment are not inspected, tested, and maintained in accordance with National Fire Protection Association codes and standards and DOE 5480.7
Sandia National Laboratories, Livermore	MS.1-1	The Occupational Physician does not report to a senior management level as required in DOE 5480.8
Sandia National Laboratories, Livermore	MS.2-1	Injury and illness recordkeeping and reporting was not performed in conformance Occupational Safety and Health Administration and Department of Energy requirements

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Site Name	Concern #	Concern Title
Sandia National Laboratories, Livermore	MS.3-1	Voluntary examinations are not conducted in conformance with DOE 5480.8 which requires exams annually or every 2 years depending on age
Sandia National Laboratories, Livermore	MS.3-2	Audiometry is not performed in accordance with Occupational Administration standards
Sandia National Laboratories, Livermore	MS.3-3	Site visits are not conducted as required by DOE 5480.8
Sandia National Laboratories, Livermore	MS.3-4	Medical staffing does not meet the requirements of DOE 5480.8
Sandia National Laboratories, Livermore	MS.3-5	The medical facility is not sufficiently spacious nor designed to meet current and anticipated needs as required by DOE 5480.8
Sandia National Laboratories, Livermore	MS.4-1	Policies, practices, and procedures are not adequately documented as required by DOE 5480.8
Sandia National Laboratories, Livermore	MS.5-1	There is no documented mechanism for medical services to receive full and timely information as required by DOE 5480.8 on all physical, chemical, and biologic agents to which employees are exposed

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Site Name	Concern #	Concern Title
Hanford Site	OA.1-1	The As Low As Reasonably Achievable Program at Westinghouse Hanford Company does not command sufficient company-wide attention and adequate management response to be as effective as it should be in protecting the health and safety of workers
Hanford Site	OA.1-2	The prioritization of safety and health related activities at Westinghouse Hanford Company is not effectively balanced in budget and staffing considerations
Hanford Site	OA.1-3	An apparent organizational conflict of interest exists where the oversight function performed by the Westinghouse Hanford Company Environmental Assurance group is directed by the line function Environmental Division of Environmental and Waste Management
Hanford Site	OA.1-4	Some Westinghouse Hanford Company position/job descriptions are not up to date and are contained in a variety of different types of documents
Hanford Site	OA.1-5	Many Pacific Northwest Laboratory's position/job descriptions and listings of responsibility are not up to date or do not exist, and others are contained in various forms and documents
Hanford Site	OA.1-6	The Pacific Northwest Laboratory's independent safety overview group is not organizationally independent from the responsible line management group

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Site Name	Concern #	Concern Title
Hanford Site	OA.1-7	Pacific Northwest Laboratory's Radiation Protection Technicians do not receive an independent safety overview as required by DOE 5482.1B
Hanford Site	OA.1-8	Formal documentation of Hanford Environmental Health Foundation policies, procedures, and functions of the organization are neither complete, current, nor up to current industry or DOE standards
Hanford Site	OA.2-1	Not all organizational segments have understood and accepted the Westinghouse Hanford Company management processes
Hanford Site	OA.3-1	Hanford Environmental Health Foundation management is not effectively communicating its goals and objectives
Hanford Site	OA.5-1	There is lack of integration and use of standard management information sharing mechanisms across the Westinghouse Hanford Company
Hanford Site	OA.5-2	Westinghouse Hanford Company management assessment and monitoring activities are not timely to note and resolve developing negative trends in performance of important activities related to safety
Hanford Site	OA.5-3	No internal audit system is in place in Hanford Environmental Health Foundation to provide management an independent perspective of compliance with policies, procedures, and ability of the organization to meet management commitments

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Site Name	Concern #	Concern Title
Hanford Site	OA.5-4	The Department of Energy-Richland Operations Office is not providing sufficient management oversight of sitewide safety and health programs as required by DOE 5480.5
Hanford Site	OA.6-1	Westinghouse Hanford Company programs and staff response necessary to support the creative and successful long term development and maintenance of a highly qualified and trained staff are not sufficient
Hanford Site	OA.6-2	Hanford Environmental Health Foundation management programs are not adequate to meet existing human resource needs
Hanford Site	OA.7-1	Many Safety Analysis Reports for facilities operated by Westinghouse Hanford Company are outdated and do not meet criteria required by DOE 5480.5 and DOE 5481.1B
Hanford Site	OA.7-2	Sufficient Westinghouse Hanford Company resources to assure timely completion of updated Safety Analysis Reports for existing facilities are not assured because of staffing shortfalls and competition with prioritization of new project activities
Hanford Site	OA.7-3	At Westinghouse Hanford Company, some facilities and processes do not have as-built drawings to show the current configurations
Hanford Site	OA.7-4	The Safety Analysis Report for the facilities operated by Pacific Northwest Laboratory is outdated and does not meet criteria as required by DOE 5480.5 and DOE 5481.1B

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Site Name	Concern #	Concern Title
Hanford Site	OA.7-5	As required by Pacific Northwest Laboratory's Management Guide (MG) 2.0, "Organization and Management Accountabilities," a safe operating envelope has not been developed for non-nuclear facilities, experiments, or processes
Hanford Site	OA.7-6	Many Pacific Northwest Laboratory's facilities and processes do not have as-build drawings to show the current configuration of the facility
Hanford Site	OA.7-7	Pacific Northwest Laboratory does not have a consistent program for receipt, implementation, and updating of procedures and operating documents
Hanford Site	OA.7-8	At the Hanford Environmental Health Foundation, document control systems are not properly defined nor executed, as required in DOE 1324.5
Hanford Site	OA.8-1	The Pacific Northwest Laboratory's substance abuse program does not meet the nuclear industry practice with regard to training of all staff, refresher training, preemployment and random screening; and the assistance program is not well understood by all managers
Hanford Site	OA.8-2	All management personnel and staff at Kaiser Engineers Hanford have not received training regarding the substance abuse and employee assistance program

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Site Name	Concern #	Concern Title
Hanford Site	OA.8-3	Kaiser Administrative Policy 21.35 and the Kaiser Personnel Security Program, Section 3, do not present a clear policy regarding required actions by those receiving substance abuse assistance, and the Employee Assistance Program administrator's responsibility for reporting substance abuse
Hanford Site	OA.8-4	The Hanford Environmental Health Foundation fitness for duty program does not meet established industry standards as presently enforced in the commercial nuclear environment by the U.S. Nuclear Regulatory Commission and in other industries having critical functions
Hanford Site	QV.1-1	Westinghouse Hanford Company has not implemented quality verifications in some activities and has only partially or incorrectly implemented them in others, which does not comply with the requirements of DOE 5700.6B
Hanford Site	QV.1-2	The Pacific Northwest Laboratory's procedure for Management Monitoring does not require necessary and specific line management independent verification activity
Hanford Site	QV.1-3	The provisions for independent verification by line management in the Organization Section of the Kaiser Engineer Hanford Quality Assurance program document are incomplete and are not being implemented by detailed procedures

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Site Name	Concern #	Concern Title
Hanford Site	QV.1-4	Hanford Environmental Health Foundation has no Quality Assurance plan that meets ANSI/ASME NQA-1 Nuclear Quality Assurance/Quality Control Program or DOE 5700.6B requirements for all requirements for all activities
Hanford Site	QV.1-5	Department of Energy-Richland Operations Office has not ensured that Hanford Site Contractors develop and use effective, compatible Quality Assurance project plan
Hanford Site	QV.2-1	Westinghouse Hanford Company has not demonstrated control over some purchased material, equipment, and services as required by DOE 5483.1A and DOE 5700.6B
Hanford Site	QV.2-2	At Pacific Northwest Laboratory's critical programs may be progressing at Hanford on the basis of inaccurate or invalid test data
Hanford Site	QV.2-3	Pacific Northwest Laboratory has not demonstrated control over some purchased material, equipment, and services as required by DOE 5483.1A and DOE 5700.6B
Hanford Site	QV.2-4	Kaiser Engineers Hanford has not demonstrated control over some purchased material, equipment, and services as required by DOE 5483.1A and DOE 5700.6B
Hanford Site	QV.2-5	Hanford Environmental Health Foundation has not demonstrated control over some purchased material, equipment, and services as required by DOE 5483.1A and DOE 5700.6B

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Site Name	Concern #	Concern Title
Hanford Site	QV.3-1	Westinghouse Hanford Company receipt inspections depend on the skill, experience, and judgment of users of purchased material and equipment to assure conformance to requirements, a practice which is not in accordance with independent verification requirements of DOE 5700.6B
Hanford Site	QV.3-2	Pacific Northwest Laboratory's receipt inspections depend on the skill, experience, and judgment of users of purchased material and equipment to assure conformance to requirements, a practice which is not in accordance with independent verification requirements of DOE 5700.6B
Hanford Site	QV.3-3	Kaiser Engineers Hanford receipt inspections depend on the skill, experience, and judgment of users of purchased material and equipment to assure conformance to requirements, a practice which is not in accordance with independent verification requirements of DOE 5700.6B
Hanford Site	QV.4-1	Custodians of measuring and test equipment are not trained in their responsibilities for the calibration program
Hanford Site	QV.4-2	The existing calibration recall and control systems are ineffective and have not been corrected satisfactorily
Hanford Site	QV.4-3	Calibration programs are not effectively implemented by Pacific Northwest Laboratory
Hanford Site	QV.4-4	Calibration programs are not effectively implemented by Kaiser Engineers Hanford

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Site Name	Concern #	Concern Title
Hanford Site	QV.4-5	The Hanford Environmental Health Foundation calibration programs, practices, and procedures do not comply with DOE 5700.6B and require extensive documentation and implementation of corrective actions
Hanford Site	OP.1-1	Assurances from the K Area Fuel storage facility management were not readily available as to the validity of well water analysis and the reporting process
Hanford Site	OP.1-2	Continuing storage of fuel in the K East and K West Basins constitutes a safety problem
Hanford Site	OP.2-1	At the Westinghouse Hanford Company B-Plant Storage Pool, the administrative procedures and equipment do not provide adequate protection for the movement of radiation sources in the pool or the protection of the operators
Hanford Site	OP.3-1	Westinghouse Hanford Company management of the N-Reactor fuel basin is not adequately covered by funded plans
Hanford Site	OP.4-1	Instrument calibration status is not readily available in the PUREX control room
Hanford Site	OP.4-2	At Westinghouse Hanford Company, the Job Control System is insufficiently implemented at the Tank Farm to properly support the operation

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Site Name	Concern #	Concern Title
Hanford Site	OP.5-1	At Westinghouse Hanford Company, the inability to ship spent resin from the K-storage facilities is causing an undesirable operating condition
Hanford Site	OP.5-2	At the Westinghouse Hanford Company KE and KW fuel storage facilities, no provision exists for continuous redundant monitoring of basin water for leakage
Hanford Site	OP.8-1	At Westinghouse Hanford Company, the location of the valve labels at the Plutonium Finishing Plant can be ambiguous
Hanford Site	OP.8-2	At Westinghouse Hanford Company, effective control of operator aids is not implemented at the Tank Farm
Hanford Site	OP.8-3	Operational Safety Requirement items on the Westinghouse Hanford Company nonreactor nuclear facility control rooms are not identified
Hanford Site	MA.1-1	Tagout and lockout requirements are not consistently and uniformly applied to all Westinghouse Hanford Company facilities. The requirements are not consistent with Occupational Safety and Health Administration tagout and lockout standards as required in DOE 5480.4
Hanford Site	MA.1-2	Tagout and lockout requirements are not consistently and uniformly applied to all Pacific Northwest Laboratory facilities, and do not comply with Occupational Safety and Health Administration standards as required by DOE 5480.4

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Site Name	Concern #	Concern Title
Hanford Site	MA.1-3	Pacific Northwest Laboratory's management is not effectively communicating safety and health standards and policy to the maintenance line organization
Hanford Site	MA.2-1	At Westinghouse Hanford Company, existing maintenance procedures are not always complied with
Hanford Site	MA.2-2	Existing maintenance procedures are not always complied with at Pacific Northwest Laboratory
Hanford Site	MA.2-3	At Pacific Northwest Laboratory, the requirements of the <u>Hanford Hoisting and Rigging Manual</u> are not uniformly and consistently applied throughout the site
Hanford Site	MA.2-4	Existing maintenance procedures are not always complied with at Kaiser Engineers Hanford
Hanford Site	MA.2-5	At Kaiser Engineers Hanford, the requirements of the <u>Hanford Hoisting and Rigging Manual</u> are not uniformly and consistently applied throughout the Site
Hanford Site	MA.4-1	At Westinghouse Hanford Company, work control systems and lessons-learned programs are not completely incorporated into maintenance activities
Hanford Site	MA.5-1	At Westinghouse Hanford Company, the corrective maintenance backlog is not being effectively managed to meet Institute of Nuclear Power Operations 85-038 Guidelines

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Site Name	Concern #	Concern Title
Hanford Site	MA.6-1	At Westinghouse Hanford Company, procedures for evaluating impact of changes of upper level documents on maintenance procedures and manuals are inadequate
Hanford Site	MA.7-1	Predictive maintenance program is not fully in place. Overall planning, scheduling, and budgeting have not been completed in sufficient detail to evaluate the planned program and its associated goals
Hanford Site	TC.1-1	Westinghouse Hanford Company's computer database for training records is not an effective tool for management to ensure all initial required training is accomplished
Hanford Site	TC.1-2	Westinghouse Hanford Company's database does not flag partially completed training requirements
Hanford Site	TC.1-3	The Pacific Northwest Laboratory's radiological response teams are not provided with necessary cross-training with chemical hazard response teams
Hanford Site	TC.1-4	The Hanford Environmental Health Foundation's hazardous material response teams are not provided with necessary cross-training with radiological hazard response teams
Hanford Site	TC.2-1	The Westinghouse Hanford Company training program reflecting the standby status of the N-Reactor is not approved

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Site Name	Concern #	Concern Title
Hanford Site	TC.3-1	Westinghouse Hanford Company has no formal policies or procedures for dry runs and process runs following extended facility shutdown
Hanford Site	TC.3-2	Pacific Northwest Laboratory's Bldg. 327 Post Irradiation Testing Laboratory has no training plan and no structured on-the-job training programs, contrary to DOE 5480.5, Section 10
Hanford Site	TC.4-1	Pacific Northwest Laboratory's radiation worker training is not complete or current as required by DOE 5480.11
Hanford Site	TC.4-2	Kaiser Engineers Hanford radiation worker training and radiation worker remedial training is not conducted consistent with good industry standards
Hanford Site	TC.5-1	Westinghouse Hanford Company maintenance training requirements are not defined by procedure
Hanford Site	TC.5-2	Pacific Northwest Laboratory's lock and tag training is not effectively implemented for crafts personnel
Hanford Site	TC.5-3	Kaiser Engineers Hanford required training on lock and tag procedure is incomplete, contrary to DOE 5480.5, Section 10
Hanford Site	TC.6-1	Kaiser Engineers Hanford training on criticality safety is not current
Hanford Site	TC.7-1	Existing training facilities of Westinghouse Hanford Company are inadequate to support training

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Site Name	Concern #	Concern Title
Hanford Site	TC.7-2	Existing training facilities of Kaiser Engineers Hanford are inadequate to support training
Hanford Site	TC.9-1	Westinghouse Hanford Company's familiarization rotation tours for the Health Physics Technician training program is not structured in a manner that provides adequate overview training
Hanford Site	TC.9-2	Pacific Northwest Laboratory's remedial training policy for Radiological Protection Technicians is nonexistent
Hanford Site	TC.9-3	With a limited number of examinations and a lack of examination security, examination security cannot be assured at Pacific Northwest Laboratory
Hanford Site	TC.9-4	Pacific Northwest Laboratory's training instructors are not being evaluated annually as required by the training program
Hanford Site	TC.10-1	At Westinghouse Hanford Company, no specific course or training is provided for Health Physics Technician supervisors or technical support staff
Hanford Site	TC.10-2	At Pacific Northwest Laboratory, no training plan is available to develop knowledge and skills necessary for managers, supervisors, and technical staff as required by DOE 5480.5, Section 10

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Site Name	Concern #	Concern Title
Hanford Site	TC.11-1	Training to improve facility operator individual and crew proficiency to respond to off-normal conditions are not included in the process facility training at Westinghouse Hanford Company
Hanford Site	AX.1-1	Westinghouse Hanford Company Engineers assigned to the Tank Farm do not stay long enough to provide a stable work force.
Hanford Site	AX.1-2	At Westinghouse Hanford Company, management, has not effectively located/housed the Tank Farm support groups, leaving staff widely dispersed and making coordination difficult
Hanford Site	AX.1-3	At Westinghouse Hanford Company, the shift manager's office at the Tank Farm is not suitably controlled to be a effective workplace
Hanford Site	AX.1-4	At Westinghouse Hanford Company, a comprehensive program to determine the degree of degradation and evaluate the impact on safety of the old facilities is not available
Hanford Site	AX.1-5	Surveillances and procedures at Pacific Northwest Laboratory are not adequate to assure compliance with Operational Safety Requirements
Hanford Site	AX.1-6	At Pacific Northwest Laboratory it was not readily apparent that there was one individual responsible for the safety of a facility who was also intimately familiar with the operation and with the Operational Safety Requirements

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Site Name	Concern #	Concern Title
Hanford Site	AX.1-7	At Pacific Northwest Laboratory, no comprehensive program was found to determine the degree of degradation of the facilities and evaluate the impact on safety
Hanford Site	AX.2-1	Equipment upgrading required for monitoring and sampling effluent at Westinghouse Hanford Company has not been implemented
Hanford Site	AX.3-1	The Westinghouse Hanford Company institutionalized safety systems and job control system failed to prevent the accident at FFTF on February 6, 1990, and did not ensure that the job was closely supervised and that the people were well trained
Hanford Site	AX.3-2	Application of the solid waste minimization program was not aggressively implemented at Westinghouse Hanford Company per DOE 5820.2A
Hanford Site	AX.3-3	Application of the solid waste minimization program was not aggressively implemented at Pacific Northwest Laboratory per DOE 5820.2A
Hanford Site	AX.3-4	Operating procedures are not consistently reviewed at Pacific Northwest Laboratory
Hanford Site	AX.3-5	Pacific Northwest Laboratory's procedures are not related to, and do not contain, references to Operational Safety Requirements, responsibilities for Operational Safety Requirements are divided, and personnel are not adequately familiar with Operational Safety Requirements

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Site Name	Concern #	Concern Title
Hanford Site	AX.4-1	Pacific Northwest Laboratory's Bldg. 209E has not been effectively and expeditiously cleaned of fissile material
Hanford Site	AX.5-1	At PUREX, wall exhausters in the operating gallery exhaust to the atmosphere without filters and without assurance that this is an acceptable practice
Hanford Site	AX.5-2	The age and degree of maintenance of the portable equipment at the Tank Farm used to supply emergency backup ventilation raises questions about its reliability
Hanford Site	AX.5-3	Alarms are not provided at the Pacific Northwest Laboratory hot cells to warn personnel at the hot cell that the cell pressure is approaching a positive value
Hanford Site	AX.6-1	Old diesel generators at the Tank Farm are difficult to maintain and spare parts are not available, making their reliability questionable
Hanford Site	EP.2-1	The definitions listed in DOE 5500.1A are not being used in the existing Hanford Site emergency plans and implementing procedures with the possible consequence that inconsistent emergency classifications can result in improper response actions
Hanford Site	EP.3-1	All Westinghouse Hanford Company personnel responding to an emergency do not have the necessary training to permit access to some facilities

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Site Name	Concern #	Concern Title
Hanford Site	EP.3-2	Department of Energy-Richland Operations Office public presentations during emergency exercises do not project a professional image
Hanford Site	EP.5-1	Adequate communications equipment including telephones, radios, and bullhorns are not available at the Westinghouse Hanford Company Building Incident Command Post facilities during emergencies
Hanford Site	EP.5-2	Key members of the Westinghouse Hanford Company emergency response/management organizations are not readily identified during emergencies
Hanford Site	TS.1-1	At Westinghouse Hanford Company, morale has been impacted because of the uncertainty with regard to the future mission of the Fast Flux Test Facility
Hanford Site	TS.1-2	Westinghouse Hanford Company Tank Farm design documents are seriously out of date and do not match existing installations
Hanford Site	TS.2-1	Chemical analysis procedures employed at the Pacific Northwest Laboratory are not controlled
Hanford Site	TS.3-1	In many instances, modifications and upgrades to WHC facilities are not being carried out
Hanford Site	TS.3-2	In many instances, modifications and upgrades to aging Pacific Northwest Laboratory facilities are not being carried out

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Site Name	Concern #	Concern Title
Hanford Site	TS.3-3	Facility modifications conducted by Kaiser Engineers Hanford to not receive a complete design input as required by DOE 4700.1 and DOE 6480.1
Hanford Site	TS.4-1	At Westinghouse Hanford Company, a testing procedure agreement for the steam relief valves has not been resolved between the B-Plant personnel and the Safety Group
Hanford Site	TS.5-1	At Westinghouse Hanford Company, the waste minimization program at the Tank Farm has not been fully implemented per DOE 5820.2A
Hanford Site	PT.1-1	Proposed new Department of Energy Headquarters policy requiring compliance with Department of Transportation requirements for onsite transfers of hazardous materials on public access roadways is not clearly specified and implemented by Westinghouse Hanford Company
Hanford Site	PT.1-2	At Pacific Northwest laboratory, responsibilities for safety and safety oversight of Packaging and Transportation activities are not clearly defined or adequately independent
Hanford Site	PT.2-1	The Pacific Northwest Laboratory's safety training is not adequate for the shipping representatives or the packagers of radioactive and nonradioactive hazardous materials
Hanford Site	PT.3-1	At Pacific Northwest Laboratory, quality assurance packaging and transportation audits are not documented as required by DOE 5700.6

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Site Name	Concern #	Concern Title
Hanford Site	PT.4-1	Pacific Northwest Laboratory conducts incomplete surveillances for packaging and transportation activities
Hanford Site	PT.8-1	At Pacific Northwest Laboratory, some radioactive hazardous waste shipments from 300 Area to 200 Area are not in accordance with U.S. Department of Transportation Regulations
Hanford Site	PT.9-1	Westinghouse Hanford Company does not assure that Model 1500 shipping casks are safety tied down while being moved on the Hanford Site by an independent shipping contractor
Hanford Site	PT.9-2	The Pacific Northwest Laboratory's nonradioactive hazardous materials shipments do not receive the required oversight and inspection as required in PNL-MA-81
Hanford Site	CS.2-1	Westinghouse Hanford Company has not addressed the apparently lower safety margin resulting from a 2 percent subcriticality margin compared to the 5 percent value usually required by the Nuclear Regulatory Commission
Hanford Site	CS.3-1	The level of monthly reporting for Westinghouse Hanford Company does not document the depth and completeness of the operational criticality reviews that are being done at PUREX
Hanford Site	CS.5-1	Pacific Northwest Laboratory does not specify the frequency of nuclear criticality evacuation drills as required by DOE 5480.5 and have not conducted such drills

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Site Name	Concern #	Concern Title
Hanford Site	CS.5-2	Priorities and resources have not been committed to resolve deficiencies in the Pacific Northwest Laboratory's Criticality Accident Alarm System
Hanford Site	SS.3-1	Westinghouse Hanford Company, contrary to DOE 5480.16, has not established safety limits for the use of security weapons and equipment near safety systems and hazardous materials
Hanford Site	SS.3-2	Pacific Northwest Laboratory, contrary to DOE 5480.16, has not established safety limits for the use of security weapons and equipment near safety systems and hazardous materials
Hanford Site	SS.3-3	The Patrol Operations Center as equipped, staffed, and operated does not ensure the Hanford Patrol can safely accommodate normal security operations and a major emergency situation concurrently
Hanford Site	SS.4-1	Contrary to DOE 5480.16, Westinghouse Hanford Company, Hanford Patrol Officers and security personnel are not receiving training and retraining in the hazards and specific safety requirements for the features of each facility with which they interact
Hanford Site	SS.4-2	At Westinghouse Hanford Company, contrary to DOE 5480.16, protective safety equipment is not provided in sufficient quantities and at the proper locations to ensure the safety of Hanford patrol Officers during emergencies

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Site Name	Concern #	Concern Title
Hanford Site	SS.4-3	At Pacific Northwest Laboratory, unqualified or uncertified staff members have unrestricted access to radiologically controlled areas
Hanford Site	FR.3-1	The Westinghouse Hanford Company independent review and appraisal system as documented and configured does not provide demonstrable and auditable evidence of the independence of the reviewer(s) as required by DOE 5480.5, DOE 5480,6, and DOE 5482.1B
Hanford Site	FR.3-2	The Kaiser Engineers Hanford independent review and appraisal system as documented and configured does not provide demonstrable and auditable evidence of the independence of the reviewer as required by DOE 5482.1B
Hanford Site	FR.4-1	Pacific Northwest Laboratory has not established an independent review and appraisal system that addresses all of the requirements of DOE 5480.5
Hanford Site	FR.5-1	Contrary to DOE 5482.1B, Kaiser Engineers Hanford and Hanford Environmental Health Foundation have not established an independent review and appraisal system that provides for conducting triennial reviews
Hanford Site	FR.6-1	Pacific Northwest Laboratory has not established a program to analyze findings to identify recurring problems, determine appropriate corrective actions and implement improvements based upon these analyses

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Site Name	Concern #	Concern Title
Hanford Site	RP.1-1	Westinghouse Hanford Company management does not assure effective control of all radiological activities, given the average experience of radiation protection technologists and the inadequate level of field supervision
Hanford Site	RP.1-2	Westinghouse Hanford Company does not have effective controls to minimize materials entering controlled areas in accordance with DOE 5820.2A
Hanford Site	RP.1-3	Westinghouse Hanford Company does not have a formal procedure in place to escalate delinquent problem reports to upper management's attention to assure timely resolution
Hanford Site	RP.1-4	Kaiser Engineers Hanford management had not performed audits of radiological work activities
Hanford Site	RP.1-5	Department of Energy-Richland Operations Office staffing, resources and lack of a detailed work breakdown plan are resulting in ineffective implementation of the radiological program
Hanford Site	RP.3-1	Westinghouse Hanford Company has no formal procedures in place to require health physics and line management review and approval to restart work shut down for radiological concerns
Hanford Site	RP.3-2	Contrary to DOE 5480.11, radioactive material and radiological areas are not all being properly posted and labelled in Westinghouse Hanford Company areas

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Site Name	Concern #	Concern Title
Hanford Site	RP.3-3	Contrary to DOE 5480.11, Westinghouse Hanford Company radiation protection program does not ensure control of all radioactive sources
Hanford Site	RP.3-4	At Pacific Northwest Laboratory, some radiological procedures are not periodically updated and have no formal technical basis, as per DOE 5480.11, Attachment 2
Hanford Site	RP.3-5	No formal program exists to assure Pacific Northwest Laboratory management audits unneeded radioactive sources and contaminated equipment for disposition as required by DOE-RL 5480.11A, Section 9
Hanford Site	RP.3-6	Kaiser Engineers Hanford management has not performed independent audits in accordance with DOE 5482.1B and ANSI/ASME NQA-1 Nuclear Quality Assurance/Quality Control Program
Hanford Site	RP.3-7	Kaiser Engineers Hanford management assigns untrained, unqualified personnel to perform radiological surveillances, contrary to DOE 5480.11 and DOE 5482.1B
Hanford Site	RP.4-1	Westinghouse Hanford Company management has not reviewed the use and placement of fan radiation sources and assure exposure will be As Low As Reasonably Achievable
Hanford Site	RP.6-1	Contrary to DOE 5480.11, Westinghouse Hanford Company management has not assured airborne radioactive material areas will be posted below 25 percent of the derived air concentration

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Site Name	Concern #	Concern Title
Hanford Site	RP.6-2	Contrary to DOE 5480.11, Westinghouse Hanford Company management has not provided the radioactivity-measuring equipment and monitoring devices necessary in Bldg. 2706T to measure and ensure discharges will be As Low AS Reasonably Achievable
Hanford Site	RP.6-3	Westinghouse Hanford Company management cannot assure internal exposure will be reduced when smoking, eating, drinking, and chewing is permitted in potentially contaminated areas
Hanford Site	RP.6-4	Westinghouse Hanford Company management has not required monitoring of the respiratory hazard periodically during use as required by 29 CFR 1910.134 and DOE 5480.4
Hanford Site	RP.8-1	Westinghouse Hanford Company management has not provided sufficient quantities of grab samplers to fully support radiological air sampling requirements of DOE 5480.11
Hanford Site	RP.8-2	Contrary to 5480.11, beta correction factors appropriate for the beta energies to be measured are not posted on radiation survey meters
Hanford Site	RP.8-3	At Westinghouse Hanford Company, daily performance test of dose rate instruments has not been uniformly implemented in all health physics field locations as required by DOE 5480.11
Hanford Site	RP.8-4	Westinghouse Hanford Company management has not assured operability of radiation protection instruments

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Site Name	Concern #	Concern Title
Hanford Site	RP.9-1	Grab sampling is not a method that is performed following a continuous air monitor alarm
Hanford Site	RP.9-2	At Westinghouse Hanford Company, constant air monitors (CAMs) in parts of B-Plant monitoring canyon areas are not in accordance with ANSI N13.1 and have excessively long sample transport lines and 90° bends in the lines that can result in significant line loss
Hanford Site	RP.10-1	Westinghouse Hanford Company management has not developed a program to govern the control, use, and monitoring of vacuum cleaners
Hanford Site	RP.10-2	Westinghouse Hanford Company management has not assured roadway surveys will be performed at the required frequency
Hanford Site	RP.11-1	Management has not assured the performance of job As Low As Reasonably Achievable reviews will result in the work being performed ALARA as required by DOE 5480.11
Hanford Site	RP.11-2	Westinghouse Hanford Company has not established radiological action levels that require escalation of the As Low As Reasonably Achievable review process to higher management
Hanford Site	RP.11-3	Kaiser Engineers Hanford does not have a fully effective As Low As Reasonably Achievable Program which establishes identifiable goals and objectives in accordance with industry standards and institute of Nuclear Power Operations Guidelines

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Site Name	Concern #	Concern Title
Hanford Site	RP.12-1	Westinghouse Hanford Company management has not established methods that ensure radiological surveys will be documented, reviewed, and approved by health physics supervision as required by DOR 5480.11 and ANSI 13.6
Hanford Site	IH.1-1	Westinghouse Hanford Company has not established key elements of an industrial hygiene program required to help ensure worker health as defined in DOE 5480.10
Hanford Site	IH.1-2	Westinghouse Hanford Company is not allocating adequate resources to effectively identify, evaluate, and control potential health hazards in the workplace as required in DOE 5480.10
Hanford Site	IH.1-3	Westinghouse Hanford Company Management has not provided assurance that the company will comply with the health protection provisions of DOE 5483.1A, DOE 5480.4, and DOE 5480.10, since management has not set the necessary requirements for an adequate industrial hygiene program
Hanford Site	IH.1-4	Pacific Northwest Laboratory has not established key elements of an industrial hygiene program as defined in DOE 5480.10 to help ensure worker health
Hanford Site	IH.1-5	Pacific Northwest Laboratory is not allocating adequate resources to effectively identify, evaluate, and control potential health hazards in the workplaces are not being used as required by DOE 5480.10

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Site Name	Concern #	Concern Title
Hanford Site	IH.1-6	Pacific Northwest Laboratory's management has not provided assurance that the company will comply with health protection provisions of DOE 5483.1A, DOE 5480.4, and DOE 5480.10, since management has not established the necessary requirements for an adequate industrial hygiene program
Hanford Site	IH.1-7	Kaiser Engineers Hanford is not allocating adequate resources to effectively identify, evaluate, and control potential health hazards in the workplace as required by DOE 5480.10
Hanford Site	IH.1-8	Hanford Environmental Health Foundation management did not ensure full compliance with DOE 5480.10 on their own internal industrial hygiene program requirements
Hanford Site	IH.1-9	Department of Energy-Richland Operations Office is not fully complying with DOE 5480.10, para. 8c, by assuring that Hanford contractors implement and maintain industrial hygiene programs
Hanford Site	IH.1-10	Department of Energy-Richland Operations Office is not conducting a representative number of surveillances of contractor worker health protection programs in accordance with DOE 5482.1A
Hanford Site	IH.1-11	Department of Energy-Richland Operations Office has not clearly established provisions that assure that contractor employees are systematically being protected and informed of potential health hazards when they are assigned to other than their employer's work areas, as required by DOE 5480.10

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Site Name	Concern #	Concern Title
Hanford Site	IH.2-1	Westinghouse Hanford Company procedures and documentation do not provide appropriate direction, recordkeeping, and review of health issues for their industrial hygiene program as required by DOE 5480.10, DOE 5480.4, and DOE 5483.1A
Hanford Site	IH.2-2	Pacific Northwest Laboratory's procedures and documentation do not provide appropriate direction, recordkeeping, and review of health issues for the industrial hygiene program as required by
Hanford Site	IH.2-3	Kaiser Engineers Hanford procedures and documentation do not provide appropriate direction, recordkeeping, and support for the industrial hygiene program, as required by DOE 5480.10, DOE 5480.4, and DOE 5483.1A
Hanford Site	IH.2-4	Hanford Environmental Health Foundation procedures and documentation do not provide appropriate direction, recordkeeping and review of health issues for the Hanford Environmental Health Foundation industrial hygiene program, as required by
Hanford Site	IH.3-2	Westinghouse Hanford Company workers are not systematically being protected due to the lack of trained supervisors as required by DOE 5480.10
Hanford Site	IH.3-3	Pacific Northwest Laboratory does not have a systematic approach for identifying existing and potential occupational health concerns as required in DOE 5480.10 and DOE 5480.4

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Site Name	Concern #	Concern Title
Hanford Site	IH.3-4	Kaiser Engineers Hanford does not have a systematic approach for identifying existing and potential occupational health concerns as required by DOE 5480.10
Hanford Site	IH.4-1	Westinghouse Hanford Company does not conduct adequate surveillances of work activities to measure industrial hygiene performance to ensure the continued effectiveness of workplace health controls as required by DOE 5480.10
Hanford Site	IH.4-2	Westinghouse Hanford Company is not complying with DOE 5480.10 by not providing a fully implemented hearing conservation program as required by DOE 5480.4, DOE 5480.10, and 29 CFR 1910.95
Hanford Site	IH.4-3	Westinghouse Hanford Company is not providing acceptable protection in the areas of eye, face, and respiratory for its employees as required by DOE 5480.10 and DOE 5480.4
Hanford Site	IH.4-4	Westinghouse Hanford Company does not perform audits and surveillances on their subcontractors to ensure compliance with DOE 5480.10 and DOE 5480.4
Hanford Site	IH.4-5	Pacific Northwest Laboratory does not conduct adequate surveillance of work activities to measure industrial hygiene performance and to ensure the continued effectiveness of controls as required by DOE 5480.10

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Site Name	Concern #	Concern Title
Hanford Site	IH.4-6	Pacific Northwest Laboratory does not provide audits and surveillances on their subcontractors to ensure compliance with DOE 5480.10 and DOE 5480.4
Hanford Site	IH.4-7	Pacific Northwest Laboratory's hearing conservation programs are not in compliance with DOE 5480.10 and 29 CFR 1910.95
Hanford Site	IH.4-8	Kaiser Engineer Hanford does not conduct adequate surveillances of work activities to measure industrial hygiene performance and to ensure the continued effectiveness of controls as required by DOE 5480.10
Hanford Site	IH.4-9	Hanford Environmental Health Foundation does not provide audits and surveillance on their subcontractors to ensure compliances with DOE 5480.10 and DOE 5480.4
Hanford Site	IH.4-10	Department of Energy-Richland Operations Office does not ensure that subcontractors were implementing the requirements of DOE 5480.10
Hanford Site	IH.5-1	Westinghouse Hanford Company site/facility personnel were not adequately informed of chemical and biological stresses that may be encountered in their work environment as required in DOE 5480.10
Hanford Site	IH.5-2	Pacific Northwest Laboratory's site/facility personnel were not adequately informed of chemical and biological stresses that may be encountered in their work environment as required in DOE 5480.10 and DOE 5480.4

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Site Name	Concern #	Concern Title
Hanford Site	IH.5-3	Kaiser Engineers Hanford personnel are not uniformly provided the opportunity to participate in the identification and education of work hazards that may be encountered in their work environment
Hanford Site	IH.5-4	Hanford Environmental Health Foundation's Hazards Communication Program and training is not being adequately documented for their employees
Hanford Site	OS.1-1	Westinghouse Hanford Company has not established a comprehensive program to prevent the recurrence of Occupational Safety and Health Administration deficiencies
Hanford Site	OS.1-2	The responsibility for the health and safety function with PNL is not separate from line management as required by SEN-6A
Hanford Site	OS.1-3	Authority and responsibility for safety implementation at PNL are diffused through the presence of multiline organizations within the same facility
Hanford Site	OS.1-4	Kaiser Engineers Hanford has not established a comprehensive program to effectively prevent the recurrence of compliance deficiencies relating to 29 CFR 1910 and 29 CFR 1926
Hanford Site	OS.1-5	Hanford Environmental Health Foundation safety program does not address all requirements in DOE 5483.1A

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Site Name	Concern #	Concern Title
Hanford Site	OS.1-6	Department of Energy-Richland Operations Office has not established guidelines which ensure compatibility between the major contractors on common safety issues to assure compliance with DOE 5480.4 mandatory requirements
Hanford Site	OS.2-1	Westinghouse Hanford Company has not prepared an operating procedure for changing multipiece rim wheels as required by the Occupational Safety and Health Administration standard
Hanford Site	OS.2-2	Pacific Northwest Laboratory has not defined and implemented an internal audit program covering the occupational safety program in accordance with DOE 5700.6B
Hanford Site	OS.2-3	Pacific Northwest Laboratory has established some safety programs, such as the eye protection program, in a manner which has resulted in substandard levels of personnel protection
Hanford Site	OS.2-4	Pacific Northwest Laboratory has not implemented an effective program to control vehicle accidents
Hanford Site	OS.2-5	Kaiser Engineers Hanford has not prepared an operating procedure for changing multipiece rim wheels as required by Occupational Safety and Health Administration Act
Hanford Site	OS.4-1	Westinghouse Hanford Company has not implemented a surveillance program which assures compliance with Occupational Safety and Health Administration hoisting and rigging requirements or all requirements of the <u>Hanford Hoisting and Rigging Manual</u>

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Site Name	Concern #	Concern Title
Hanford Site	OS.4-2	Pacific Northwest Laboratory has not implemented a program which assures compliance with Occupational Safety and Health Administration hoisting requirements or all portions of the <u>Hanford Hoisting and Rigging Manual</u>
Hanford Site	FP.1-1	At Westinghouse Hanford Company, Fire Protection Engineering work is behind schedule
Hanford Site	FP.2-1	At Westinghouse Hanford Company, coal dust in Power House 284E is allowed to accumulate, creating both potential explosive and nonexplosive safety hazards
Hanford Site	FP.2-2	Westinghouse Hanford Company is not in full compliance with NFPA 101, "Life Safety Code," as required by DOE 5480.4
Hanford Site	FP.2-3	Westinghouse Hanford Company Building Managers or their representatives are not trained to identify common life safety deficiencies within their own building
Hanford Site	FP.7-1	Fire protection systems and equipment are not being inspected and tested in full compliance with NFPA codes and standards and "improve risk level of fire protection as required by DOE 5480.4 and DOE 5480.7
Hanford Site	FP.7-2	At Westinghouse Hanford Company, some fire protection equipment is not in reliable operating condition or is out of service for longer than expected periods

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Site Name	Concern #	Concern Title
Hanford Site	FP.7-3	At Pacific Northwest Laboratory, some fire protection equipment is not in reliable operating condition or is out of service for longer than expected periods
Hanford Site	FP.7-4	At Pacific Northwest Laboratory, fire protection systems are not being inspected and tested in full compliance with NFPA codes as required by DOE 5480.4
Hanford Site	AS.1-1	Westinghouse Hanford Company implementation and control of the safety program for the helicopter support service does not comply with DOE 5480.13
Hanford Site	AS.1-2	Responsibilities of the Westinghouse Hanford Company aviation organization staff do not comply with DOE 5480.13 and Federal Aviation Administration requirements
Hanford Site	AS.1-3	Department of Energy-Richland Operations Office does not assure that aircraft charter contracts by Hanford Site contractors comply with DOE 5480.13
Hanford Site	AS.2-1	Westinghouse Hanford Company jet fuel storage and dispensing system is not maintained, checked for water contamination, and operated in accordance with Federal Aviation Administration requirements
Hanford Site	AS.3-1	Westinghouse Hanford Company aircraft maintenance procedures do not comply with Federal Aviation Administration and Westinghouse Hanford Company procedures

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Site Name	Concern #	Concern Title
Hanford Site	MS.1-1	Hanford Environmental Health Foundation medical staff is not proactive in all issues concerning the Hanford contractors on health and safety issues.
Hanford Site	MS.1-2	Department of Energy-Richland Operations Office has not effectively assured that a sitewide program is in place to assure the fitness of workers to perform work in potentially hazardous areas
Hanford Site	MS.3-1	The Hanford Environmental Health Foundation clinical laboratory is not a suitable location for drug abuse testing
Hanford Site	MS.3-2	Need for employee medical surveillance examination by Hanford Environmental Health Foundation staff is not determined by appropriate professionals in medical, industrial hygiene, and safety disciplines
Hanford Site	FS.1-1	At Westinghouse Hanford Company, systems to address high-risk activities, such as loading, unloading, and exchanging weapons, are not subjected to continual scrutinizing review once they are established
Hanford Site	FS.1-2	At Pacific Northwest Laboratory, policies, procedures, and responsibilities for the firearm safety program are incomplete and inadequate to ensure an effective program
Hanford Site	FS.1-3	At Department of Energy-Richland Operations Office, safety is not considered in the planning and review of Master Safeguards and Security agreements

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Site Name	Concern #	Concern Title
Hanford Site	FS.1-4	At Department of Energy-Headquarters, DOE 5480.16, Firearms Safety, has not been referenced in appropriate Safeguards and Security Orders and safety input or consideration of firearms safety is ;not ensured at all levels of safeguards and security planning
Hanford Site	FS.2-1	At Pacific Northwest Laboratory, policies and procedures do not exist for high-risk activities such as loading and unloading or field operations
Hanford Site	FS.2-2	At Department of Energy-Richland Operations Office, the firearms safety program for armed Federal employees does not meet the documentation requirements of DOE 5480.16
Hanford Site	FS.3-1	At Westinghouse Hanford Company, annual internal firearms safety appraisals are not done as required by DOE 5480.16
Hanford Site	FS.3-2	At Westinghouse Hanford Company, when a potentially serious firearms safety problem was identified, counter measures were not taken
Hanford Site	FS.3-3	At Westinghouse Hanford Company, in violation of DOE 5480.16, emphasis has not been placed on used securing mechanisms (or containers) for transporting firearms in all vehicles when they cannot, or should not, be held by individuals
Hanford Site	FS.3-4	At Westinghouse Hanford Company, a potentially hazardous procedure and configuration of equipment was not identified and corrected

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Site Name	Concern #	Concern Title
Hanford Site	FS.3-5	At Department of Energy-Richland Operations Office, annual firearms safety appraisals are not done as required by DOE 5480.16
Hanford Site	FS.4-1	At Westinghouse Hanford Company, special heavy weapons have high level associated hazards, and a complete training program with operational procedures has not been developed
Hanford Site	FS.4-2	Pacific Northwest Laboratory's firearms training program needs are not adequately developed, documented, and clarified in order to fully address the applicable requirements of DOE 5480.16
Hanford Site	FS.6-1	Some equipment used by security personnel does not meet mandated standards
Hanford Site	FS.6-2	At Westinghouse Hanford Company, training equipment could be mistaken for operational equipment in an actual response or operational equipment could be mistaken for training equipment
Hanford Site	FS.7-1	At Westinghouse Hanford Company, contrary to a recommended practice in DOE 5632.7, Protective Forces, operational firearms and the main supply of ammunition are stored together
Hanford Site	WS.3-1	Westinghouse Hanford Company has noncompliances with 29 CFR 1910, Subpart I (Personnel Protective Equipment

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Site Name	Concern #	Concern Title
Hanford Site	WS.3-2	Westinghouse Hanford Company has noncompliances with 29 CFR 1910, Subpart G (Occupational Noise)
Hanford Site	WS.3-3	Pacific Northwest Laboratory has noncompliances with 29 CFR 1910, Subparts I (Personnel Protective Equipment) and Z (Toxic and Hazardous Substances)
Hanford Site	WS.3-4	Pacific Northwest Laboratory has noncompliances with 29 CFR 1910, Subparts G (Occupational Noise) and I (Personnel Protective Equipment)
Hanford Site	WS.4-1	Westinghouse Hanford Company has noncompliances with 29 CFR 1910, Subparts D (Walking Surfaces), E (Egress), H (Hazardous Materials), L (Fire Protection), M (Cranes and Forklifts), O (Machinery), P (Hand Tools), and S (Electrical)
Hanford Site	WS.4-2	Westinghouse Hanford Company reviews of incident records do not assure compliance with Occupational Safety and Health Administration requirements for recordable incidents
Hanford Site	WS.4-3	Pacific Northwest Laboratory has noncompliances with 29 CFR 1910, Subparts D (Walking surfaces), E (Egress), M (Cranes), O (Machinery), and S (Electrical)
Hanford Site	WS.4-4	Kaiser Engineers Hanford has noncompliances with 29 CFR 1910, Subpart I (Personnel Protective Equipment)

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Site Name	Concern #	Concern Title
Hanford Site	WS.4-5	Kaiser Engineers Hanford has noncompliances with 29 CFR 1910, Subparts D (Walking Surfaces), E (Egress), J (Housekeeping), L (Fire Protection), O (Machinery), P (Hand Tools), Q (Welding), and S (Electrical)
Hanford Site	WS.4-6	Hanford Environmental Health Foundation has noncompliances with 29 CFR 1910, Subparts D (Walking Surfaces), and S (Electrical)
Hanford Site	WS.6-1	Westinghouse Hanford Company has noncompliances with 29 CFR 1910, Subpart Z (Hazard Communication)
Hanford Site	WS.6-2	Pacific Northwest Laboratories has noncompliances with 29 CFR 1910, Subparts G (Occupational Noise), H (Hazardous Materials), and Z (Hazard Communication)
Hanford Site	WS.6-3	Kaiser Engineers Hanford has noncompliances with 29 CFR 1910, Subpart Z (Hazard Communication)
Paducah Gaseous Diffusion Plant	OA.3-1	Paducah Gaseous Diffusion Plant management has not established an integrated set of annual goals that support the environmental, safety, and health program for the site
Paducah Gaseous Diffusion Plant	OA.5-1	The present system to monitor and assess facility operations does not provide management with all the necessary information to track and correct identified deficiencies
Paducah Gaseous Diffusion Plant	OA.6-1	Formal performance appraisals are not given to all exempt and nonexempt site employees

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	OA.7-1	Vital records storage does not meet the requirements of DOE 5500.7A, DOE 5700.6B, ANSI/ASME NQA-1, and NFPA 232
Paducah Gaseous Diffusion Plant	OA.7-2	The document control system does not provide adequate control of important safety- and health-related documents as required by DOE 5480.5
Paducah Gaseous Diffusion Plant	OA.7-3	Operational Safety Requirements for the Paducah Gaseous Diffusion Plant do not meet the good management practices of draft DOE N5480.ZZ with respect to document control, the documented bases for safety limits, and documented response to violation of safety limits
Paducah Gaseous Diffusion Plant	OA.7-4	Revisions to the Final Safety Analysis Report for the Paducah Gaseous Diffusion Plant have not been approved by the Department of Energy
Paducah Gaseous Diffusion Plant	OA.8-1	The Paducah Gaseous Diffusion Plant procedure P-PER-17, concerning drug control, does not adequately address the other types of substance abuse and does not provide for appropriate supervisory training
Paducah Gaseous Diffusion Plant	QV.1-1	The quality program at Paducah Gaseous Diffusion Plant does not adequately address the requirements of the Department of Energy recommended standard, ANSI/ASME NQA-1, 1989 Edition, "Quality Assurance Program Requirements for Nuclear Facilities"

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	QV.2-1	Items and their related documents being processed through the receiving and shipping area of Bldg. C-720 are not identified, stored, and controlled as required by NQA-1
Paducah Gaseous Diffusion Plant	QV.2-2	Procurement specifications and subsequent documents do not contain information necessary to meet the requirements of NQA-1
Paducah Gaseous Diffusion Plant	QV.3-1	Quality Evaluation acceptance tagging practices do not result in clear identification of the status of items
Paducah Gaseous Diffusion Plant	QV.4-1	Aspects of the calibration programs at Paducah Gaseous Diffusion Plant are not administered in compliance with the requirements of NQA-1, Element 12, as set forth in P-GP-32, <u>Control of Measuring and Test Equipment</u>
Paducah Gaseous Diffusion Plant	QV.5-1	Storage practices as implemented at Paducah Gaseous Diffusion Plant do not meet the basic and supplementary requirements of NQA-1, Section 13, as required by P-GP-33
Paducah Gaseous Diffusion Plant	QV.6-1	The Quality Evaluation inspection program is not in compliance with NQA-1, Basic Requirement 10 and Supplement 10S-1, as required by P-GP-30, <u>Inspection</u>
Paducah Gaseous Diffusion Plant	OP.1-1	A system is not in place to ensure that cascade control room operators are formally qualified

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	OP.2-1	Cascade control rooms in Bldgs. C-333 and C-337 are not adequately separated from noncontrol activities occurring in adjacent areas
Paducah Gaseous Diffusion Plant	OP.3-1	Operating procedures and their associated Job Hazard Analyses are not all reviewed and reissued at least every 3 years as required by Paducah Gaseous Diffusion Plant policy
Paducah Gaseous Diffusion Plant	OP.3-2	Standard Operating Procedures are not sufficiently clear to permit effective and prompt usage
Paducah Gaseous Diffusion Plant	OP.4-1	Adequate awareness of facility status is not maintained in cascade building control rooms
Paducah Gaseous Diffusion Plant	OP.4-2	An effective long-range plan for safe long-term storage of depleted uranium does not exist
Paducah Gaseous Diffusion Plant	OP.7-1	Adequate shift turnover is not being conducted in cascade operations between control room operators or between the specially qualified operators in adjacent sampling, feed introduction, or product and tails withdrawal buildings
Paducah Gaseous Diffusion Plant	OP.8-1	The cascade building control room alarm systems are not configured to permit adequate recognition of and response to alarms
Paducah Gaseous Diffusion Plant	OP.8-2	Use of actual physical units to convey instructions and information is not consistently employed in Cascade Operations

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	MA.1-1	The Paducah Gaseous Diffusion Plant organization does not identify a specific person or organization with responsibility for real property management and maintenance
Paducah Gaseous Diffusion Plant	MA.3-1	Many of the maintenance facilities, shops, and equipment items at Paducah Gaseous Diffusion Plant do not comply with the requirements of DOE 4330.4, DOE 5700.6B, INPO 85-038 ("Guidelines for the Conduct of Maintenance at Nuclear Power Stations, Revision 1," December 1988), or 29 CFR 1910 ("Occupational Safety and Health Administration, Labor"), or with good industrial safety practices
Paducah Gaseous Diffusion Plant	MA.4-1	The pilot Work Order job control system requires excessive documentation, extends the time required for preparation of maintenance request packages, and increases maintenance backlog
Paducah Gaseous Diffusion Plant	MA.5-1	Crowded conditions in some of the facilities due to the presence of unused equipment contributes to unsafe work conditions
Paducah Gaseous Diffusion Plant	MA.6-1	The large number of past-due preventive maintenance orders and lack of feedback information results in reduced reliability and operational performance
Paducah Gaseous Diffusion Plant	MA.7-1	A maintenance history program does not exist to assist in identifying age-related degradation of systems and equipment, or assist in root cause analysis and evaluation of equipment failures

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	MA.8-1	Personnel performing maintenance activities are not provided adequate information and/or appropriate documentation to ensure safe and effective maintenance
Paducah Gaseous Diffusion Plant	TC.1-1	Several aspects of the administration of an effective training program at Paducah Gaseous Diffusion Plant are deficient
Paducah Gaseous Diffusion Plant	TC.3-1	Performance-based training for initial and ongoing qualification and certification of operators and supervisors has not been fully implemented
Paducah Gaseous Diffusion Plant	TC.4-1	Personnel protection training programs at Paducah Gaseous Diffusion Plant are not fully developed and implemented
Paducah Gaseous Diffusion Plant	TC.5-1	Performance-based training for initial and ongoing qualification and certification of maintenance technicians and supervisors has not been fully implemented
Paducah Gaseous Diffusion Plant	TC.7-1	Training classrooms and facilities generally do not provide an effective learning environment to support training activities
Paducah Gaseous Diffusion Plant	TC.8-1	Programs have not been implemented for initial and continuing training of quality inspectors
Paducah Gaseous Diffusion Plant	AX.2-1	Instrumentation to monitor and quantify releases to the environment are not provided for all effluent paths

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	AX.5-1	Paducah Gaseous Diffusion Plant has not taken measures to correct the longstanding fire hazard from oil residue in the ventilation ducts
Paducah Gaseous Diffusion Plant	AX.5-2	High Efficiency Particulate Air filters that have not passed the required retention test are retained in service
Paducah Gaseous Diffusion Plant	AX.5-3	Design deficiencies exist in the Paducah Gaseous Diffusion Plant High Efficiency Particulate Air filter systems
Paducah Gaseous Diffusion Plant	AX.6-1	There is no assurance that backup generators will supply critical loads if site electrical power is lost
Paducah Gaseous Diffusion Plant	EP.2-1	The <u>Paducah Gaseous Diffusion Plant Emergency Plan</u> does not satisfy Department of Energy emergency planning requirements as specified in draft DOE 5500.3A
Paducah Gaseous Diffusion Plant	EP.2-2	The emergency plans do not identify credible emergencies for the analytical services laboratory, as required by DOE 5500.3, 3.a.(2), and draft DOE 5500.3A, 2.b.(1), Chap. I
Paducah Gaseous Diffusion Plant	EP.4-1	The planning and execution of the June 27, 1990, emergency preparedness drill demonstrated inadequacies in scenario preparation and control of the drill, and did not minimize the degree of simulation, as required by draft DOE 5500.3A, p. III-20. The drill did not provide an adequate demonstration of emergency response capability

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	EP.4-2	Health Physics is not adequately integrated into the emergency response plans
Paducah Gaseous Diffusion Plant	EP.4-3	Some deficiencies identified in drill critiques are not being corrected, which is contrary to DOE N 5500.3 at paragraph 8.d
Paducah Gaseous Diffusion Plant	EP.5-1	The Emergency Operations Center physical facilities do not comply with all the requirements of draft DOE 5500.3A, Chapter IV
Paducah Gaseous Diffusion Plant	EP.5-2	Hazardous materials threats to the control room and the Emergency Operations Center personnel have not been adequately scoped
Paducah Gaseous Diffusion Plant	EP.5-3	The limited number of official vehicles available onsite could impede timely transportation of E-squad personnel and their equipment to the scene of an emergency
Paducah Gaseous Diffusion Plant	EP.5-4	Extremes of heat and cold could void the calibration of unprotected toxic gas detectors during an emergency
Paducah Gaseous Diffusion Plant	EP.6-1	Scoping and analysis of a spectrum of credible threats due to simultaneous chemical, physical (for example, thermal), and radiological hazards likely to be encountered at the site are not provided in the emergency plans

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	EP.6-2	Emergency action levels are not stated in the plans nor are plans for corresponding protective actions, emergency classifications, and initial responses given in the emergency response plans
Paducah Gaseous Diffusion Plant	EP.6-3	The relative merits of offsite evacuation and sheltering have not been analyzed or compared for design basis accidents or for longer duration releases
Paducah Gaseous Diffusion Plant	EP.7-1	Site are evacuation and/or sheltering instructions are contradictory
Paducah Gaseous Diffusion Plant	TS.1-1	Technical support organizational responsibilities and authorities are not completely documented
Paducah Gaseous Diffusion Plant	TS.2-1	The involvement of the plant's independent technical support organization in the preparation and approval of Operational Safety Requirements is limited to input through a review committee representative
Paducah Gaseous Diffusion Plant	TS.3-1	The Plant Engineering Division program for making as-built drawings current has not been completed
Paducah Gaseous Diffusion Plant	TS.3-2	A configuration management system to assure proper control over equipment and facility changes in not in place

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	PT.1-1	Paducah Gaseous Diffusion Plant packaging and transportation policies, directives, plans, and procedures do not meet all of the requirements of DOE 5480.3, DOE 1540.1, DOE 1540.2, and DOE 5700.6B
Paducah Gaseous Diffusion Plant	PT.2-1	Training programs to qualify packaging and transportation personnel are not fully implemented and thus do not meet the requirements of DOE 3410.1B or 40 CFR
Paducah Gaseous Diffusion Plant	PT.3-1	Packaging and transportation quality assurance programs do not meet all of the requirements of DOE-OR 5480.3 and DOE 5700.6B
Paducah Gaseous Diffusion Plant	PT.6-1	Some Paducah Gaseous Diffusion Plant packaging, handling, and transportation operations do not follow good operations practices
Paducah Gaseous Diffusion Plant	PT.8-1	Paducah Gaseous Diffusion Plant's ability to develop comprehensive policies for onsite transportation are limited by lack of definitive guidance from DOE. Some aspects of onsite transfers do not conform to good transportation safety practices.
Paducah Gaseous Diffusion Plant	PT.11-1	Paducah Gaseous Diffusion Plant has not corrected some packaging and transportation deficiencies identified in prior appraisals

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	PT.12-1	Some Paducah Gaseous Diffusion Plant packaging and storage practices are not governed by procedures, or do not conform to existing procedures
Paducah Gaseous Diffusion Plant	CS.1-1	Paducah Gaseous Diffusion Plant does not have a staff of qualified and experienced Nuclear Criticality Safety specialists to furnish technical guidance appropriate to the scope of operations as specified in ANSI/ANS-8.19-1984
Paducah Gaseous Diffusion Plant	CS.3-1	Nuclear criticality safety analyses are not documented with sufficient detail and clarity to facilitate independent review
Paducah Gaseous Diffusion Plant	CS.5-1	Tests, calibrations, and emergency exercises for nuclear criticality alarm systems do not meet all requirements of DOE 6430.1A and ANSI/ANS-8.3-1986
Paducah Gaseous Diffusion Plant	SS.4-1	Safety assessments of tactical training drills do not conform to the requirements of DOE 5480.16
Paducah Gaseous Diffusion Plant	FR.1-1	The Health and Safety Review Committee does not meet all the requirements of DOE 5480.5
Paducah Gaseous Diffusion Plant	FR.5-1	The present Paducah Gaseous Diffusion Plant triennial appraisal system does not meet the contractor independent review requirements of DOE 5480.5

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	RP.1-1	Neither the Health Physics Department nor Energy Systems Health Physics staff possesses the resources, either in experience or training, to ensure effective implementation and control of radiological protection activities
Paducah Gaseous Diffusion Plant	RP.1-2	Audits and reviews of the Radiological Protection Program by the Health Physics Department and Health and Safety management are not conducted as is required by DOE 5482.1B, Sec. 10
Paducah Gaseous Diffusion Plant	RP.1-3	Department of Energy-Oak Ridge has not provided effective oversight of the Paducah Gaseous Diffusion Plant Contamination Control or Radiological Protection Programs
Paducah Gaseous Diffusion Plant	RP.3-1	Health Physics Department procedures are not in compliance with DOE 5480.11
Paducah Gaseous Diffusion Plant	RP.3-2	Radiological posting of contamination areas of the plant is not in compliance with DOE 5480.11
Paducah Gaseous Diffusion Plant	RP.3-3	Sealed sources and X-ray generating devices are not being inspected and audited as required by DOE 5480.11
Paducah Gaseous Diffusion Plant	RP.5-1	Extremity exposures cannot be determined as required by DOE 5480.11
Paducah Gaseous Diffusion Plant	RP.6-1	Paducah Gaseous Diffusion Plant does not have an internal radiation control program that is in compliance with DOE 5480.11

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	RP.7-1	The bioassay program at Paducah Gaseous Diffusion Plant is not in compliance with the requirements of DOE 5480.11
Paducah Gaseous Diffusion Plant	RP.7-2	The whole body counting system is not capable of providing internal exposure data as required by DOE 5480.11
Paducah Gaseous Diffusion Plant	RP.8-1	The fixed and portable instrument program does not meet the requirements of DOE 5480.11 and ANSI N323, N42.17, N320, and N43.1
Paducah Gaseous Diffusion Plant	RP.9-1	The airborne radioactivity monitoring program is not in compliance with DOE 5480.11, Sec. 3a
Paducah Gaseous Diffusion Plant	RP.10-1	The Contamination Control Program is not in compliance with DOE 5480.11 or Department of Energy-Oak Ridge Contamination Control Policy
Paducah Gaseous Diffusion Plant	RP.11-1	The Paducah Gaseous Diffusion Plant As Low As Reasonably Achievable Program is not in compliance with the requirements of DOE 5480.11
Paducah Gaseous Diffusion Plant	RP.12-1	Occupational, radiological survey, and other records are not being maintained as required by Health Physics Procedure HP-17 or as required by DOE 5480.1B, DOE 5484.1A, and DOE 1324.2 and the retention records are not systematically generated and maintained consistent with ANSI N13.6

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	PP.1-1	Paducah Gaseous Diffusion Plant has failed to recruit and/or retain an adequate number of experienced professionals with demonstrated technical competence in Industrial Hygiene and Industrial Safety
Paducah Gaseous Diffusion Plant	PP.2-1	Safety record keeping and analysis have failed to provide adequate direction and support for the Personnel Protection Program
Paducah Gaseous Diffusion Plant	PP.2-2	Air and biological samples are not always submitted to laboratories which have achieved accreditation by the appropriate independent certification institution
Paducah Gaseous Diffusion Plant	PP.3-1	Paducah Gaseous Diffusion Plant is not in compliance with 29 CFR 1910.95, Occupational Noise Exposure
Paducah Gaseous Diffusion Plant	PP.3-3	A program of exhaust ventilation system testing, in compliance with ANSI Z 9.2, has not been fully implemented
Paducah Gaseous Diffusion Plant	PP.3-4	A Carcinogen Control Program as mandated by DOE 5480.10 has not been fully implemented
Paducah Gaseous Diffusion Plant	PP.5-1	Paducah Gaseous Diffusion Plant is not in compliance with the training provisions of 29 CFR 1910.1200 ("Hazard Communication Standard")
Paducah Gaseous Diffusion Plant	WS.1-1	Paducah Gaseous Diffusion Plant does not fully comply with all aspects of 29 CFR 1910.1001, Asbestos Standard

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	WS.3-1	Paducah Gaseous Diffusion Plant does not fully comply with all aspects of 29 CFR 1910.1001, Asbestos and Polychlorinated Biphenyls Programs
Paducah Gaseous Diffusion Plant	WS.3-2	Paducah Gaseous Diffusion Plant does not fully comply with all aspects of 29 CFR 1910.1200, Hazard Communication Standard
Paducah Gaseous Diffusion Plant	WS.4-1	Paducah Gaseous Diffusion Plant does not comply with 29 CFR 1910.36(b)(6), Means of Egress - General Requirements
Paducah Gaseous Diffusion Plant	WS.4-2	Paducah Gaseous Diffusion Plant does not fully comply with 29 CFR 1910.23(c), Guarding Floors and Wall Openings
Paducah Gaseous Diffusion Plant	WS.4-3	Paducah Gaseous Diffusion Plant does not fully comply with 29 CFR 1910.212, General Requirements for All Machines
Paducah Gaseous Diffusion Plant	WS.4-4	Paducah Gaseous Diffusion Plant does not fully comply with 29 CFR 1910.184, Slings
Paducah Gaseous Diffusion Plant	WS.4-5	Paducah Gaseous Diffusion Plant does not fully comply with 29 CFR 1910.101, Compressed Gases
Paducah Gaseous Diffusion Plant	WS.4-6	Paducah Gaseous Diffusion Plant does not fully comply with 29 CFR 1910.303, 304, 305, 307, and 308, Electrical Standard
Paducah Gaseous Diffusion Plant	WS.4-7	Paducah Gaseous Diffusion Plant does not fully comply with 29 CFR 1910.36, Means of Egress - General Requirements

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Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	WS.4-8	There is risk of electrocution in the Paducah Gaseous Diffusion Plant Cafeteria serving line
Paducah Gaseous Diffusion Plant	WS.5-1	Fall protection is inadequately addressed at the Paducah Gaseous Diffusion Plant. This does not fully comply with 29 CFR 1926.500(b)(8), Guarding Floor and Wall Openings
Paducah Gaseous Diffusion Plant	WS.6-1	29 CFR 1910.1200, Hazard Communication Standard, is not fully implemented
Paducah Gaseous Diffusion Plant	FP.1-1	The organization and administration of the Fire Protection Engineering and Inspection Group does not ensure implementation of an effective Fire Protection Program
Paducah Gaseous Diffusion Plant	FP.2-1	Paducah Gaseous Diffusion Plant is not in compliance with the National Fire Protection Association Life Safety Code
Paducah Gaseous Diffusion Plant	FP.3-1	The potential for releasing hazardous materials beyond the site boundary in the event of a credible fire has not been sufficiently evaluated nor have mitigation features been implemented, as required by DOE 5480.7
Paducah Gaseous Diffusion Plant	FP.5-1	Automatic sprinklers and redundant fire protection are not provided as specified by DOE 5480.7 to reduce property loss and/or appropriate exemptions have not been filed
Paducah Gaseous Diffusion Plant	FP.6-1	Paducah Gaseous Diffusion Plant does not have a properly equipped, trained, organized, and managed fire department to ensure prompt termination and mitigation of the effects of fire

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
		in a safe and effective manner
Paducah Gaseous Diffusion Plant	FP.7-1	The Fire Protection Program does not adequately meet the "improved risk" level of fire protection that is required by DOE 5480.7
Paducah Gaseous Diffusion Plant	MS.1-1	Continuing education, training, and information communication cannot be assured
Paducah Gaseous Diffusion Plant	MS.1-2	Medical Services is viewed as a reactive service and is not proactively involved in planning and decision making
Paducah Gaseous Diffusion Plant	MS.3-1	Medical Services does not have an up-to-date decontamination facility and prompt appropriate medical care is not assured
Paducah Gaseous Diffusion Plant	MS.3-2	Optimal response to emergencies is not assured
Paducah Gaseous Diffusion Plant	MS.3-3	The facility lacks a professional and dignified appearance and privacy is not assured as required by DOE 5480.8
Paducah Gaseous Diffusion Plant	MS.3-4	There is failure to conform to DOE 5480.8, which requires frequent and regular plant visits (i.e., at least one plant site monthly)
Paducah Gaseous Diffusion Plant	MS.3-5	Equipment is not calibrated and checked as required by FDA, state, and Paducah Gaseous Diffusion Plant standards and by standards of good medical practice

**CONCERN TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
SAFETY AND HEALTH**

Site Name	Concern #	Concern Title
Paducah Gaseous Diffusion Plant	MS.3-6	Inappropriate unsupervised exercise does not assure fitness and may result in coronary events without resuscitation capability in close proximity
Paducah Gaseous Diffusion Plant	MS.3-7	Fitness for duty cannot be assured because early reporting of substance abuse is discouraged by DOE security clearance procedures

Appendix E
OSHA Findings Locations
First Sixteen Tiger Team Reports

The following pages identify the OSHA 1B Summary Violations by Subpart and location at the facility. Multiple locations (e.g., buildings) identified for a single 1B Summary Violation, greater than one line in length, are indented. The page numbers from the Tiger Team assessment report are included. The Hanford OSHA findings were placed on microfiche, therefore, the Hanford findings are identified by contractor rather than page number.

Y-12 Tiger Team OSHA Finding Location(s) by Subpart

OSHA 1910

Finding location(s) for OSHA 1910 Subpart A

The total number of findings for OSHA Section 1910 Subpart A is 0

Finding location(s) for OSHA 1910 Subpart B

The total number of findings for OSHA Section 1910 Subpart B is 0

Finding location(s) for OSHA 1910 Subpart C

The total number of findings for OSHA Section 1910 Subpart C is 0

Finding location(s) for OSHA 1910 Subpart D

Page #

Guardhouse 27	B-113
Building 9401-2, Plating Shop, NW Corner	B-114
Open pits	B-114
Building 9215	B-122
Building 9204-4, West End	B-123
Building 9201-1	B-127
Building 9201-1	B-127
Building 9201-1, Chip Discard Area	B-128
Building 9204-4	B-135
Building 9215	B-135
Building 9204-4, West End	B-136
Building 9204-4	B-137
Alpha 1 Bullard	B-141
Building 9201-4	B-145
Building 9204-4	B-146
Building 9404-4 - 7500-Ton Press	B-151
Building 9401-2 - Main Plating Shop	B-152
Building 9401-2 - Main Plating Shop	B-152
Building 9818	B-153
Building 9401-2 - Main Plating Shop	B-153
Building 9712	B-154
Building 9818	B-154
Building 9808 - Carpenter Paint Shop	B-156
Alpha 1 Shipping & Delivery and Corridor Separating	B-175

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Building 9201-5E	B-201
Building 9712, Outside at SE Corner	B-202
Building 9720-6, Carpentry Shop	B-202
Building 9212, Metal Preparation Foundry	B-203
Building 9404-4	B-224
Building 9404-4, Metal Preparation	B-225
Building 9206	B-225
West Tank Farm	B-226
West Tank Farm	B-226
Building 9818, Outside	B-227
Building 9204-2, Electrolytic Cell Area	B-227
Building 9204-2, Electrolytic Cell Area	B-228
Building 9206, Rooms 28 & 29	B-228

The total number of findings for OSHA Section 1910 Subpart D is 37

Finding location(s) for OSHA 1910 Subpart E	Page #
Building 9737, 1st Floor	B-203
Building 9737, Electrical Standards Lab	B-204

The total number of findings for OSHA Section 1910 Subpart E is 2

Finding location(s) for OSHA 1910 Subpart F

The total number of findings for OSHA Section 1910 Subpart F is 0

Finding location(s) for OSHA 1910 Subpart G	Page #
Building 9401-2, plating shop	B-122
Building 9201-1	B-131
Building 9201-1	B-131
Alpha 1, Graphite Shop Saw Area	B-143
Building 9201-5E, Applications Area	B-229

The total number of findings for OSHA Section 1910 Subpart G is 5

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Finding location(s) for OSHA 1910 Subpart H	Page #
Bear Creek Burial Ground	B-59
Bear Creek Burial Grounds - RCRA site	B-59
Bear Creek Burial Grounds - Y-12 Oil Retention Ponds closure	B-60
Bear Creek Burial Grounds	B-60
Bear Creek Burial Grounds	B-61
Bear Creek Burial Grounds	B-62
Building 9204-4	B-129
Building 9204-4	B-130
Building 9204-4	B-130
Building 9201-4, Second Floor Assembly Spray Paint	B-146
Building 4404-5 Paint Shop	B-157
Building 9404-5	B-158
Building 9808 - Carpenter Paint Shop	B-159
Building 9808 - Carpenter Paint Shop	B-161
Building 9808 - Carpenter Paint Shop, Outside	B-162
Building 9808 - Carpenter Paint Shop	B-162
Building 9201-5	B-229
Building 9201-5	B-230
Building 9737	B-230
Building 9720-6, Paint Shop	B-231
Building 9720-6, Paint Shop	B-231
Building 9737, PC Lab	B-232
Building 9737, PC Lab	B-232
See Hazard Information	B-233

The total number of findings for OSHA Section 1910 Subpart H is 24

Finding location(s) for OSHA 1910 Subpart I	Page #
Building 9201-1	B-134
Health Care Services, Building 9706-2	B-148
West of Garage 9712	B-150
Building 9616-7, West End Treatment Facility	B-163
Alpha 1, Basement Area	B-175
Building 9204-4, Beta-4	B-233
Building 9212, C-1 Wing Mezzanine	B-234
Metal Chip Disposal Area, Alpha 1, Building 9201-1	B-260
Alpha 1, Building 9201-1, Chip Disposal Area	B-261
Alpha 1, Building 9201-2, G&L 7" & 6" horizontal	B-261

The total number of findings for OSHA Section 1910 Subpart I is 10

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Finding location(s) for OSHA 1910 Subpart J

The total number of findings for OSHA Section 1910 Subpart J is 0

Finding location(s) for OSHA 1910 Subpart K

Page #

Bear Creek Burial Grounds	B-61
Building 9402-2	B-150
Building 9212, Reduction Area	B-234
Building 9201-5, PHB-1E, product Management Div.	B-235

The total number of findings for OSHA Section 1910 Subpart K is 4

Finding location(s) for OSHA 1910 Subpart L

Page #

Guardhouse 27	B-113
Y-12 Plant	B-155
Y-12 Plant	B-155
Y-12 Plant	B-156
Building 9204-2, Maintenance Shop	B-204

The total number of findings for OSHA Section 1910 Subpart L is 5

Finding location(s) for OSHA 1910 Subpart M

Page #

The total number of findings for OSHA Section 1910 Subpart M is 0

Finding location(s) for OSHA 1910 Subpart N

Page #

Building 9201-1, Special Materials Shop	B-125
Building 9201-1, Metal Fab and outside welding	B-125
Building 9201-1, Metal Fab and outside welding clean room	B-126
Building 9201-1, NE Bay Machine Shop	B-126
Building 9401-2, Plating	B-149
Building 9737	B-205
Building 9998, "Z" Area Bridge	B-205
Building 9201-2E, Main Shop Area	B-206

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Building 9404-4, Metal Preparation	B-235
Building 9201-5, Scrap Reclamation	B-236
Building 9212, Foundry, Metal Preparation	B-236

The total number of findings for OSHA Section 1910 Subpart N is 11

Finding location(s) for OSHA 1910 Subpart O	Page #
Alpha 1, Shop 12	B-139
Alpha 1 Graphite Saw Area	B-142
Alpha 1, Transformer Vault, Graphite Area	B-144
Alpha 1, Graphite Area, Transformer Vault	B-144
Alpha 1, Can Fabrication	B-145
TSD Maint. Facility 9714	B-157
Building 9808 - Carpenter Paint Shop	B-160
Building 9808 - Carpenter Paint Shop	B-160
Building 9616-7 Maintenance Shop	B-161
9808 Carpenter Paint Shop	B-164
Alpha 1 Can Press	B-165
Alpha 1 Can Press Area	B-165
Alpha 1 Can Press Area	B-166
Alpha 1 Can Press Area	B-166
Alpha 1 Can Press Area	B-167
Alpha 1 Can Press Area	B-167
Alpha 1 Can Press Area	B-168
Alpha 1 Can Press Area	B-168
Alpha 1 Can Press Area	B-169
Alpha 1 Can Press Area	B-169
Alpha 1 Can Press Area	B-170
Alpha 1 Can Press Area	B-170
Alpha 1 Can Press Area	B-171
Alpha 1 Can Press Area	B-171
Alpha 1 Can Press Area	B-172
Alpha 1 Can Press Area	B-172
Alpha 1 Can Press Area	B-173
Alpha 1 Can Press Area	B-173
Alpha 1 Can Press Area	B-174
Building 9720-6 Metal Fabrication	B-176
Building 9720-6 Metal Fabrication	B-176
Building 9404-4 Basement	B-177
Building 9206 Maintenance Shop	B-178
Building 9201-5 Arc Melt Carbon Storage Area	B-178
Building 9737 Fab shop	B-199
Building 9712 South bend	B-200

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Building 9720-6, Carpentry Shop	B-206
Building 9712	B-207
Building 9712	B-207
Building 9737, Fab Shop	B-208
Building 9712	B-208
Building 9720-6, Carpentry Shop	B-210
Building 9712	B-237
Building 9737, Temperature Standards Lab	B-237
Building 9737, Motor Shop	B-238
Building 9712	B-238
Building 9212, Fabrication Division	B-239
Building 9720-5E, Maintenance Shop, East Bay	B-240
Building 9201-5E, Maintenance Shop, East Bay	B-240
Building 9204-2, Comet Star Vacuum Rubber Strip	B-240
Building 9737, Motor Shop	B-241
Building 9720-6, Metal Fabrication	B-241
Building 9404-4, Reclamation Area	B-242
Building 9720-6, Iron Working Shop	B-242
Building 9720-6, Iron Working Shop	B-243
Building 9201-5W	B-243
Building 9201-5W, Lap Area	B-244
Building 9201-5E, Maintenance Shop, East Bay	B-244
Building 9212, A2-Wing, Machine Shop	B-245
Building 9212, A2-Wing, Machine Shop	B-245
Building 9201-5, Scrap Reclamation	B-246
Building 9737, Microelectronics Lab	B-246
Building 9201-5N	B-247
Building 9712	B-247
Building 9212, Fabrication Division Equip. Services	B-248
Building 9212, E-Wing	B-248
Building 9712	B-249
Building 9201-5, Maintenance Shop	B-249
Building 9215, Third Mill	B-250
Building 9215, P-Wing	B-250
Building 9204-2, Metal Preparation	B-251
Building 9206	B-251
Building 9206	B-252
Building 9206	B-252
Building 9206	B-253
Building 9201-5, Arc Melt, Carbon Storage Area	B-253
Building 9201-5	B-254
Building 9720-6, Carpentry Shop	B-254
Building 9212, Fabrication Division	B-255
Building 9212, Maintenance Division	B-255
Building 9404-4, Maintenance Shop	B-256

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Building 9737, Fabrication Shop	B-256
Building 9737, Fabrication Shop	B-257
Building 9737, Coil Shop	B-257
Building 9737, Coil Shop	B-258
Building 9212, Reduction Area	B-258
Building 9212, Reduction Area	B-259
Building 9737, Scales & Balances Area	B-259
Building 9737, Scales & Balances Area	B-260
Building 9201-1, Alpha 1	B-265
Alpha 1, Building 9201-1, Metal Fab	B-266
Alpha 1, Building 9201-1 Metal Fab	B-266
Alpha 1, Building 9201-1 Metal Fab	B-267
Alpha 1 Building 9201-1 Metal Fab	B-267
Alpha 1, Building 9201-1, Metal Fab	B-268

The total number of findings for OSHA Section 1910 Subpart O is 95

Finding location(s) for OSHA 1910 Subpart P	Page #
Building 9201-SW	B-179
Building 9404-4, Basement Maintenance Shop	B-179
Building 9720-6, Metal Fabrication	B-209
Building 9712	B-209

The total number of findings for OSHA Section 1910 Subpart P is 4

Finding location(s) for OSHA 1910 Subpart Q	Page #
Building 9401-2, plating shop	B-121
Alpha 1, General Maintenance Heliarc Area	B-139
Alpha 1, General Maintenance, Helic Arc Area	B-140
TSD Maintenance Facility - Building 9714	B-163
Building 9201-5 Maintenance Shop	B-180
East Side of 9204-2	B-180
South side of Building 9204-2	B-181
Building 9206 East side dock	B-181
Building 9201-5, North Side	B-212
Building 9720-6	B-212

The total number of findings for OSHA Section 1910 Subpart Q is 10

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Finding location(s) for OSHA 1910 Subpart S	Page #
Guardhouse 27	B-115
Guardhouse 27	B-115
Guardhouse 27	B-116
Guardhouse 27	B-116
Building 9201-1, Special Service Shop	B-123
Building 9201-1, Special Service Shop, Welding Shop	B-124
Building 9201-1, Welding Shop Milk Cup	B-124
Building 9201-1, Welding Shop, Milk Cup Area	B-128
Building 9201-1	B-129
Dimensional Inspection out Going Area, Alpha 1	B-138
Dimensional Inspection, Main Floor Outside North	B-138
Alpha 1, Shop 12, First floor Bullard 46	B-140
Alpha 1, Building 9201-1, Bullard 76 VTL	B-141
Alpha 1, Graphite Area Transformer Vault	B-143
9808 Carpenter Paint Shop	B-158
TSD Maintenance Facility - Building 9414	B-159
TSD Maintenance Facility - Building 9714	B-164
Building 9996 Hydraulics Lab	B-182
Building 9204-2 Electrolytic Cell Area	B-182
Building 9201-5 Northside	B-183
Building 9205	B-183
9201-5	B-184
Building 9201-5	B-184
Building 9201-SE	B-185
Building 9201-SE	B-185
Building 9201-5	B-186
Building 9201-5	B-186
Building 9404-4	B-187
Building 9404-4 Metal Prep	B-187
9737 Photo Metal Room	B-188
Building 9404-9 Rubber Shop	B-188
Building 9712	B-189
Building 9712	B-189
Building 9712	B-190
Building 9712	B-190
Building 9712	B-191
Building 9201-5N	B-213
Building 9201-5, NC Repair Shop	B-213
Building 9201-5, Computer Training Room	B-214
Building 9720-6, Metal Fabrication	B-214
Building 9201-5, Arc Melt	B-215
Beta-2E, Dimensional Inspection	B-215
Building 9212, A2-Wing machine Shop	B-216

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Building 9201-5E, Electrolytic Area	B-216
Building 9201-5, Arc Melt	B-217
Building 9404-4, Basement, NDT Area	B-217
Building 9404-4, Metal Preparation, Press Area	B-218
Building 9404-4, Metal Preparation, Maintenance Area	B-218
Building 9215	B-219
Building 9712, West Wall, Center	B-219
Building 9737, Photo Metal Room, Room 24	B-220

The total number of findings for OSHA Section 1910 Subpart S is 51

Finding location(s) for OSHA 1910 Subpart Z	Page #
Building 9401-2, Plating Shop Annex	B-111
Building 9401-2, Plating Shop	B-112
Building 9401-2, Plating Shop Annex	B-112
Plantwide	B-132
Beta-4	B-132
Building 9201-1	B-133
Alpha-5 West Machine Shop	B-133
Building 9206	B-134
Health Care Services, Building 9706-2	B-147
Health Care Serices, Building 9706-2	B-147
Laboratory of Heath Care Services, Building 9706-2	B-148
Maintenance, Utililites, Waste management	B-191
Buildig 9712	B-192
Building 9737	B-192
Building 9204-2	B-193
Building 9204-2	B-193
Building 9204-2 Maintenance Shop	B-194
Building 9404-4 Basement Room 001B	B-194
Building 9204-2 Rubber Shop	B-195
Building 9204-2 Rubber Shop	B-195
Building 9204-2 Rubber Shop	B-196
Building 9204-2 Rubber Shop	B-196
Building 9204-2 Rubber Shop	B-197
Building 9204-2E, 9204-2, 9404-11, & 9201-5	B-197
Building 9204-2E, 9204-2, 9404-11 & 9201-5	B-198
Building 9404-4 Metal Prep	B-198
Building 9404-4 Metal Prep	B-199
Building 9737	B-210
Building 9204-2	B-211
Building 9204-2	B-211
Building 9737	B-220

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Building 9204-2	B-221
Maintenance, Utilities, Waste management	B-221
Building 9201-5	B-222
Building 9737, PC Lab, Room 26	B-222
Alpha 5 West, 9201-5W, Oil Room	B-223
Building 9737, Metal Fab, South Wall	B-223
Building 9212, Kearney & Traker Machine	B-224
Building No. 9737, Metal Fab	B-262
Building 9737, Metal Fab	B-262
Building 9212	B-263
Building 9204-2	B-263

The total number of findings for OSHA Section 1910 Subpart Z is 42

General Duty Clause (Section 5(a)(1) of PL 91-596	Page #
Alpha 1, Shop 12 Column Line K-1	B-142
Building 9706-2	B-149
Building 9996 - Hydraulics Lab	B-151
Y-12 Plant	B-174
Y-12 Steam Plant	B-264
Chip Disposal Area	B-268
Plantwide	B-269
Roof Area (High) East Side	B-300

The total number of findings for OSHA Section 5(a)(1) is 8

29 CFR 1904 (Reporting Injuries and Recording Illnesses)	Page #
Jobsite	B-98
The OSHA 200 for 1988	B-108
Building 9116	B-200
Building 9116	B-201
The OSHA 200 for 1988	B-298

The total number of findings for OSHA Section 29 CFR 1904 is 5

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Y-12 Tiger Team OSHA Finding Location(s) by Subpart

OSHA 1926

Finding location(s) for OSHA 1926 Subpart A

The total number of findings for OSHA Section 1926 Subpart is 0

Finding location(s) for OSHA 1926 Subpart B

The total number of findings for OSHA Section 1926 Subpart B is 0

Finding location(s) for OSHA 1926 Subpart C

Page #

Building 9119 Jobsite	B-84
Building 9201-3 North Side	B-89
Building 9201-3 North Side	B-89
Building 9201 Grove manlift	B-95
Building 9204-2 Fan Room Gang Box	B-100
Outside Bldg. 9201-4 Roadway side	B-108
Bldg 9201-4 Roadway side	B-109
Parking lot area, North Post 7, Excavation	B-117
Bldg 9119 jobsite	B-270
Building 9929-1 Carpenter Shop and Building 9204-1	B-276
Building 9204-4, High Roof Beta-4	B-297

The total number of findings for OSHA Section 1926 Subpart C is 11

Finding location(s) for OSHA 1926 Subpart D

Page #

9401-3 steam plant boiler #2	B-55
9401-3 steam plant boiler #2	B-55
9401-3 boiler #2 steam plant	B-56
9401-3 steam plant boiler #2	B-56
Building 9401-3, Steam plant	B-57
Building 9401-3, steam plant	B-57
Building 9401-3, steam plant	B-58
Building 9401-3, steam plant	B-58
Jobsite	B-64
Building 9204-2 Fan Room	B-78

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Jobsite	B-79
Office Trailer at Steam Plant	B-83
Office Trailer at Steam Plant	B-84
Jobsite 9119 Bldg.	B-87
Jobsite	B-88
Building 9201-3 Work Area and Trailer	B-90
Steam lines north of old steam plant	B-96
North of 9401-1	B-97
North of old steam plant	B-97
Steam lines north of old steam plant	B-98
Beta-2 Fan Room Building 9204-2	B-107
Jobsite	B-107
Jobsite	B-111
9401-3 steam plant boiler #2	B-120
Y-12 Plant, observed at Beta-4	B-136
Building 9204-4	B-137
Bldg 9119 Worksite	B-271
Jobsite	B-275
Building 9204-2, Fan Room	B-295
Jobsite	B-296
Jobsite	B-300

The total number of findings for OSHA Section 1926 Subpart D is 31

Finding location(s) for OSHA 1926 Subpart E	Page #
Building 9201-3 North Side	B-88
Building 9929-1 Carpenter Shop	B-276

The total number of findings for OSHA Section 1926 Subpart E is 2

Finding location(s) for OSHA 1926 Subpart F

The total number of findings for OSHA Section 1926 Subpart F is 0

Finding location(s) for OSHA 1926 Subpart G

The total number of findings for OSHA Section 1926 Subpart G is 0

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Finding location(s) for OSHA 1926 Subpart H

Page #

Building 9204-2 Fan Room Gang Box	B-99
Truck crane cab outside Building 9204-2	B-99
Outside Building 9204-2, truck	B-100
Roehl Storage Trailer	B-272
Blaine-Hayes yard Area	B-272
Building 9204-4, southwest corner, outside area	B-277
Building 9204-4, southwest corner, outside area	B-277
Building 9204-4, High Roof East Side	B-298

The total number of findings for OSHA Section 1926 Subpart H is 8

Finding location(s) for OSHA 1926 Subpart I

Page #

Building 9929-1 Carpenter Shop	B-278
Building 9929-1 Carpenter Shop	B-278
Building 9929-1 Carpenter Shop	B-279
Building 9929-1 carpenter Shop	B-279
Building 9929-1 carpenter Shop	B-280

The total number of findings for OSHA Section 1926 Subpart I is 5

Finding location(s) for OSHA 1926 Subpart J

Page #

Building 9201-3 North Side	B-90

The total number of findings for OSHA Section 1926 Subpart J is 1

Finding location(s) for OSHA 1926 Subpart K

Page #

Steam plant Boiler Room 2, ground floor	B-53
Steam power plant Boiler Room 2, ground floor	B-53
Steam plant - ground floor	B-54
Inside Boiler Room 2, lower North Dead Zone	B-54
B&D Equipment Trailer Storage Area	B-62
B&D Storage, Trailer	B-63
B&D Equipment Storage Trailer	B-63
Blaine-Hayes office trailer	B-65
Blaine-Hayes Office Trailer	B-66
Building 9204-2 Stairwell	B-69
Broadway Trailer	B-70

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Broadway Office and Storage Trailer	B-70
Broadway Office and Storage Trailer	B-71
Broadway Office Storage Trailer	B-71
Building 9204-2, South wall near Kathabar	B-72
Broadway Trailer	B-72
Storage Trailer #2	B-73
Broadway Trailer No. 2 (storage)	B-73
Broadway Storage Trailer	B-74
Building 9204-2 Stairway and Fan Room	B-74
Building 9204-2 Fan Room	B-75
Building 9204-2 Fan Room	B-75
9204-2 Stairway and Fan Room	B-76
Building 9204-2, Fan Room area South wall near Kathabar East side	B-76
Storage Trailer #2	B-77
Storage Trailer #2	B-77
Steam plant, Outside Between Plant and Trailer	B-79
Storage Trailer near Office Trailer Steam Plant	B-80
Storage Trailer near Office Trailer Steam Plant	B-80
Storage Trailer near Office Trailer Steam Plant	B-81
Storage Trailer near Steam Plant	B-81
Steam Power Plant and Storage Trailer Hazard	B-82
Storage Trailer and Steam Power Plant	B-82
Storage Trailer near Office Trailer Steam Plant	B-83
Bldg. 9119, Temporary Service (Electrical)	B-85
Temporary Electric Service	B-85
Jobsite back of pickup truck	B-86
Office - Trailer side of jobsite roadway edge	B-86
Back of pickup truck	B-87
Building 9204-2 Stairwell	B-101
Building 9204-2 South Wall near Kathabar East Side	B-101
Beta-2 Stairway and Fan Room	B-102
Beta-2 Fan Room, Building 9204-2	B-102
Building 9204-2 - Beta-2, Stairway and Fan Room	B-103
Beta 2 Fan Room, Building 9204-2	B-103
Building 9204-2 south wall near Kathabar eastside	B-104
Entrance to Storage Trailer	B-273
Roehl Storage Trailer	B-273
Storage Trailer	B-274
Storage Trailer	B-274
Roehl Storage Trailer	B-275
Southwest corner steam plant (outside)	B-280
Building 9204-2, Stairwell	B-281
Building 9929-1 Carpenter Shop, Break Room	B-281
Southwest corner steam plant	B-282

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Building 9929-1 Carpenter Shop	B-282
Building 9929-1, Carpenter Shop	B-283
Building 9929-1 Carpenter Shop, Nail Bin Storage	B-283
Building 9204-2, Stairway and Fan Room	B-284
Building 9204-2	B-284
Building 9204-2, Stairway and Fan Room	B-285
Southwest corner, doorway	B-285
Building 9204-2, Fan Room	B-286
Southwest corner steam plant	B-286
Building 9929-1 Carpenter Shop, Break Room	B-287
Building 9204-2, South side wall	B-287
Southwest corner steam plant (outside)	B-288
Building 9929-1 Carpenter Shop, Saw Filing Room	B-288
Building 9929-1 Carpenter Shop, Break Room	B-289
Southwest corner steam plant	B-296
Building 9929-1 Carpenter Shop, Nail Bin Storage	B-297
Building 9204-4, High Roof Center	B-299
Building 9204-4 Low Roof North Side	B-299

The total number of findings for OSHA Section 1926 Subpart K is 73

Finding location(s) for OSHA 1926 Subpart L	Page #
Building 9616-7 - Groundwater Treatment Facility	B-91
Building 9616-7 - Groundwater Treatment Facility	B-91
Building 9616-7 - Groundwater Treatment Facility	B-92
Building 9616-7 - Groundwater Treatment Facility	B-92
Building 9616-7 - Groundwater Treatment Facility	B-93
Building 9616 - Groundwater Treatment Facility	B-93
Building 9616 -7 - Groundwater Treatment Facility	B-94
Building 9616 - Groundwater Treatment Facility	B-94
Building 9201-2	B-95
Building 9201-2	B-96
Building 9201-2	B-95
Building 9201-2	B-95
Building 9204-2, Fan Room (Kathabar)	B-104
Building 9204-2 Fan Room (Kathabar)	B-105
Building 9204-2 Fan Room (Kathabar)	B-105

The total number of findings for OSHA Section 1926 Subpart L is 13

Y-12 Plant

Finding location(s) for OSHA 1926 Subpart M

Page #

9204-2 Fan Room Area	B-78
Building 9204-2 Fan Room area outside west and north sides	B-106
Building 9204-2, Fan Area	B-289
Building 9204-2, Fan Room Area Outside West and North	B-290

The total number of findings for OSHA Section 1926 Subpart M is 4

Finding location(s) for OSHA 1926 Subpart N

Page #

Blaine-Hayes Yard	B-66
Bantam Hydraulic Crane, S/N 856	B-67
Blaine-Hayes Yard	B-67
Blaine-Hayes Yard	B-68
Blaine-Hayes Yard	B-68
Blaine-Hayes Yard	B-69
Building 9204-2 outside west side	B-106
Bldg 9201-4 Roadway Side	B-109
Outside Bldg 9201-4 Roadway side	B-110
Bldg 9201-4 Roadway Side	B-110
Off Bear Creek Road, Loraine Hydraulic Crane	B-117
Building 9204-4, southwest corner outside area	B-118
Off Bear Creek Road, Lorain LRT230	B-118
Building 9204-4, southwest corner outside area	B-119
All crane areas - specifically Building 9204-4	B-119
Building 9204-4, Lorain 9115 crane	B-290
Off Bear Creek Road, Lorain Hydraulic Crane	B-291
Building 9204-4 southwest corner outside area	B-291
Building 9204-4 southwest corner outside area	B-292
Building 9204-4, southwest corner outside area	B-292
Building 9204-4, southwest outside area	B-293
Off Bear Creek Road, Lorain Hydraulic Crane,	B-293
Building 9204-4, southwest corner outside area	B-294
Building 9204-4 southwest corner outside area	B-294
Building 9204-4, southwest corner outside area	B-295

The total number of findings for OSHA Section 1926 Subpart N is 25

Y-12 Plant

Finding location(s) for OSHA 1926 Subpart O

Page #

DARA Facility

B-64

DARA Facility Bear Creek Road

B-65

Parking Lot, North Post 7, Excavation

B-120

Bldg 9119 Jobsite

B-271

The total number of findings for OSHA Section 1926 Subpart O is 4

Finding location(s) for OSHA 1926 Subpart P

Page #

Parking Lot Area, North Post 7

B-121

The total number of findings for OSHA Section 1926 Subpart P is 1

Finding location(s) for OSHA 1926 Subpart Q

The total number of findings for OSHA Section 1926 Subpart Q is 0

Finding location(s) for OSHA 1926 Subpart S

The total number of findings for OSHA Section 1926 Subpart S is 0

Finding location(s) for OSHA 1926 Subpart W

Page #

Bldg 9119 jobsite

B-270

The total number of findings for OSHA Section 1926 Subpart W is 1

Finding location(s) for OSHA 1926 Subpart Z

The total number of findings for OSHA Section 1926 Subpart Z is 0

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Pantex Tiger Team OSHA Finding Tiles by Subpart

OSHA 1910

Finding location(s) for OSHA 1910 Subpart A

The total number of findings for OSHA 1910 Subpart A is 0

Finding location(s) for OSHA 1910 Subpart B

The total number of findings for OSHA 1910 Subpart B is 0

Finding location(s) for OSHA 1910 Subpart C

Page #

Bldg. 12-26	F-34
Pantex Facility	F-35
Pantex Facility	F-36
Pantex Facility	F-37
Pantex Facility	F-38

The total number of findings for OSHA 1910 Subpart C is 5

Finding location(s) for OSHA 1910 Subpart D

Page #

Bldg. 12-2	F-39
Bldg. 16-4; Bldg. 12-4	F-40
Bldg. 11-15; Bldg. 11-36	F-41
Bldg. 11-36	F-42
Bldg. 16-4	F-43

The total number of findings for OSHA 1910 Subpart D is 5

Finding location(s) for OSHA 1910 Subpart E

The total number of findings for OSHA 1910 Subpart E is 0

Finding location(s) for OSHA 1910 Subpart F

Page #

Bldg. 16-1	F-44

The total number of findings for OSHA 1910 Subpart is 1

Pantex Plant

Finding location(s) for OSHA 1910 Subpart G	Page #
Shot Blast Bldg. 16-4	F-45
Bldg. 12-111	F-46
Pantex Facility	F-47
Pantex Facility	F-48
Firing Range	F-49
Firing Range	F-50
Pantex Facility	F-51

The total number of findings for OSHA 1910 Subpart is 7

Finding location(s) for OSHA 1910 Subpart H	Page #
Bldg. 12-25; Bldg. 12-34	F-52
Bldg. 16-1; Bldg. 12-4	F-53
Bldg. 11-36	F-54
Bldg. 11-36	F-55
Bldg. 12-110	F-56
Bldg. 12-5	F-57
Bldg. 12-110	F-58
Pantex Facility	F-59
Pantex Facility	F-60
Pantex Facility	F-61

The total number of findings for OSHA 1910 Subpart H is 10

Finding location(s) for OSHA 1910 Subpart I	Page #
Bldg. 12-68; Bldg. 12-5B	F-62
Bldg. 12-2; Bldg. 12-5; Bldg. 12-25	F-63
Bldg. 12-1; Bldg. 12-41; Bldg. 12-59, Bldg. FS-24, Bldg. 11-17	F-64
Bldg. 12-41; Bldg. 12-41A and 12-25; Bldg. 12-110	F-66
Bldg. 12-41; Bldg. 16-4	F-67
Bldg. 12-41	F-68
Pantex Facility	F-69
Bldg. 12-41; Bldg. 12-110	F-70
Pantex Facility; Bldg. 11-36	F-71
Bldg. 12-41 and 12-41A; Bldg. 12-25	F-72
Bldg. 12-41; Bldg. 12-25	F-73
Bldg. 12-41; Bldg. 12-25 and 12-41A	F-74

The total number of findings for OSHA 1910 Subpart I is 12

Pantex Plant

Finding location(s) for OSHA 1910 Subpart J	Page #
Bldg. 12-5; Bldg. 12-112	F-75
Bldg. 12-2; Bldg. 12-39; Bldg. 12-39	F-76
The total number of findings for OSHA 1910 Subpart J is 2	
Finding location(s) for OSHA 1910 Subpart K	Page #
Bldg. 11-17; Bldg. FS-24; Bldg. 11-376; Bldg. 12-5B; Bldg. 12-16A; Bldg. FS-24	F-77
The total number of findings for OSHA 1910 Subpart K is 1	
Finding location(s) for OSHA 1910 Subpart L	Page #
Pantex Facility	F-79
The total number of findings for OSHA 1910 Subpart L is 1	
Finding location(s) for OSHA 1910 Subpart M	
The total number of findings for OSHA 1910 Subpart M is 0	
Finding location(s) for OSHA 1910 Subpart N	Page #
Throughout the Pantex Plant	F-80
Throughout the Pantex Plant	F-81
Bldg. 16-4	F-82
Bldg. 16-4	F-83
The total number of findings for OSHA 1910 Subpart N is 4	
Finding location(s) for OSHA 1910 Subpart O	Page #
Bldg. 12-19; Bldg. 12-1A; Bldg. 12-70;	F-84
Bldg. 12-9A; Bldg. 12-62; Bldg. 12-24; Bldg. 11-50; Bldg. 11-20; Bldg. 12-5C; Bldg. 12-8; Bldg. 11-20;	F-88
Bldg. 12-17; Bldg. 11-20; Bldg. 11-17; Bldg. 12-19; Bldg. 11-1A; Bldg. 12-16; Bldg. 11-20	F-89

Pantex Plant

Bldg. 16-1; Bldg. 12-35; Bldg. 12-112;	
Bldg. 12-68; Bldg. 12-5C	F-90
Bldg. 16-1; Bldg. 12-1A; Bldg. 12-98	F-92
Bldg. 12-16	F-93
Bldg. 16-1; Bldg. 12-1A; Bldg. 12-98	F-94

The total number of findings for OSHA 1910 Subpart O is 7

Finding location(s) for OSHA 1910 Subpart P	Page #
Bldg. 12-68, Bldg. 12-5C	F-95
Bldg. 16-1, Bldg. 16-1	F-96

The total number of findings for OSHA 1910 Subpart P is 2

Finding location(s) for OSHA 1910 Subpart Q	Page #
Bldg. 16-1	F-97
Bldg. 12-5C	F-98

The total number of findings for OSHA 1910 Subpart Q is 2

Finding location(s) for OSHA 1910 Subpart R

The total number of findings for OSHA 1910 Subpart R is 0

Finding location(s) for OSHA 1910 Subpart S	Page #
Bldg. 12-68	F-99
Bldg. 12-68, Bldg. 12-81	F-100
Bldg. 12-70, Bldg. 12-70	F-101
Bldg. 12-112, Bldg. 12-17, Bldg. 11-50, Bldg. 12-21	F-102
Bldg. 16-1, Bldg. 12-N2, Bldg. 12-5, Bldg. 12-5C, Bldg. 12-111, Bldg. 12-49, Bldg. 12-70, Bldg. 12-1A, Bldg. 12-9A, Bldg. 12-4, Bldg. 12-5, Bldg. 12-52C, Bldg., 12-52A, Bldg. 12-52, Bldg. 12-59, Bldg. 12-59, Bldg. 12-59, Bldg. 12-59, Bldg. 12-59, Bldg. 11-17, Bldg. 12-32, Bldg. 11-20, Bldg. 11-20	F-103

Pantex Plant

Bldg. 12-35, Bldg. 12-35, Bldg. 12-35, Bldg. 12-68, Bldg. 11-48, Bldg. 12-70	F-107
Bldg. 12-4	F-109
Bldg. 11-42	F-110

The total number of findings for OSHA 1910 Subpart S is 8

Finding location(s) for OSHA 1910 Subpart Z	Page #
Bldg. 16-1	F-111
Bldg. 16-1	F-112
Bldg. 12-16A, Bldg. 12-16A	F-113
Bldg. 12-16A, Bldg. 12-16A	F-114
Bldg. 16-4, Bldg. 12-110, Bldg. 12-110, Bldg. 12-41	F-115
Pantex Facility	F-116
Pantex Facility	F-117
Pantex Facility	F-118
Bldg. 16-4, Bldg. 12-110, Bldg. 12-110, Bldg. 12-41	F-119
Bldg. 16-4, Bldg. 12-110, Bldg. 12-110, Bldg. 12-41	F-120
Pantex Facility	F-121
Pantex Facility	F-122
Pantex Facility	F-123
Bldg. 16-4, Bldg. 12-110, Bldg. 12-110, Bldg. FS-24, Bldg. FS-24, Bldg. FS-24, Bldg. 11-39	F-125
Bldg. 16-1, Bldg. 11-14	F-126
Bldg. 16-4, Bldg. 13-47 and 15-29, Bldg. 11-39, Bldg. 11-39, Bldg. 11-39, Bldg. 11-39, Bldg. 11-17, Bldg. 11-5, Bldg. 11-16, Bldg. 11-36, Bldg. 11-51	F-127
Bldg. 12-68	F-129
Bldg. 16-4, Bldg. 12-111, Bldg. 12-5C, Bldg. FS-24, Bldg. FS-24	F-131
Bldg. 16-4	F-132
Bldg. 16-4, Bldg. 16-4, Bldg. 12-16A, Bldg. 12-16A, Bldg. 12-110, Bldg. 12-16A, Bldg. 12-16A, Bldg. 13-47, Bldg. FS-24, Bldg. 12-41, Bldg. 12-41A	F-134

The total number of findings for OSHA 1910 Subpart Z is 20

General Duty Clause (Section 5(a)(1) of PL 91-596	Page #
Bldg. 12-025; Bldg. 12-19 and ramp, Bldg. 12-17	F-1
Bldg. 11-36; Bldg. 11-51; Bldg. 11-5	F-4
Bldg. 12-10	
Bldg. 12-19	F-6

Pantex Plant

Bldg. 12-73	F-8
Bldg. 12-2; Bldg. 12-39, and Bldg. 12-1A	F-10
Bldg. 12-41	F-12
Bldg. 12-70	F-13
Bldg. 12-25; Bldg. 12-10; Bldg. 11-17	F-14
Bldg. 11-36	F-16
Bldg. 12-2	F-19
Bldg. 12-2	F-20
Bldg. 12-9; Bldg. 12-59; Bldg. 11-34	F-22
Bldg. 12-5A; Bldg. 12-5A; Bldg. 12-63	F-24
Bldg. 12-1A	F-26
Bldg. 12-10; Bldg. 12-79	F-27

The total number of findings for OSHA General Duty Clause is 15

29 CFR 1904 (Reporting Injuries and Recording Illnesses) Page #

Pantex Facility	F-29
Pantex Facility	F-30

The total number of findings for OSHA 29 CFR 1904 is 2

Pantex Plant

Pantex Tiger Team OSHA Finding Location(s) by Subpart

OSHA 1926

Finding location(s) for OSHA 1926 Subpart A

The total number of findings for OSHA 1926 Subpart A is 0

Finding location(s) for OSHA 1926 Subpart B

The total number of findings for OSHA 1926 Subpart B is 0

Finding location(s) for OSHA 1926 Subpart C

Page #

Igloo 27; Igloo 27

F-144

Igloo 31-B

F-150

The total number of findings for OSHA 1926 Subpart C is 2

Finding location(s) for OSHA 1926 Subpart D

Page #

Bldg. 12-17

F-135

Bldg. 12-17

F-136

Bldg. 12R-19

F-137

Bldg. 12R-19

F-138

Bldg. 12R-19

F-139

Bldg. 12R-19

F-140

Bldg. 12R-19

F-141

Bldg. 16-13

F-153

Bldg. 16-13

F-160

Bldg. 16-13

F-161

Bldg. 16-13

F-162

Bldg. 16-13

F-163

Bldg. 16-13

F-164

The total number of findings for OSHA 1926 Subpart D is 13

Pantex Plant

Finding location(s) for OSHA 1926 Subpart E

The total number of findings for OSHA 1926 Subpart E is 0

Finding location(s) for OSHA 1926 Subpart F

Page #

Bldg. 16-13

F-154

Bldg. 16-13

F-165

The total number of findings for OSHA 1926 Subpart F is 2

Finding location(s) for OSHA 1926 Subpart G

The total number of findings for OSHA 1926 Subpart G is 0

Finding location(s) for OSHA 1926 Subpart H

Page #

Bldg. 16-13

F-155

The total number of findings for OSHA 1926 Subpart H is 1

Finding location(s) for OSHA 1926 Subpart I

Page #

Bldg. 16-13

F-166

The total number of findings for OSHA 1926 Subpart I is 1

Finding location(s) for OSHA 1926 Subpart J

Page #

Bldg. 16-13

F-156

The total number of findings for OSHA 1926 Subpart J is 1

Finding location(s) for OSHA 1926 Subpart K

Page #

Bldg. 12R-17

F-142

Bldg. 12R-17

F-143

Bldg. 16-13

F-157

Bldg. 16-13

F-158

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Bldg. 16-13, Bldg. 16-13

F-159

The total number of findings for OSHA 1926 Subpart K is 5

Finding location(s) for OSHA 1926 Subpart L

Page #

Bldg. 11-39

F-145

The total number of findings for OSHA 1926 Subpart L is 1

Finding location(s) for OSHA 1926 Subpart M

Page #

Bldg. 11-36

F-146

Bldg. 11-36

F-147

Bldg. 11-39

F-148

Bldg. 11-36 and 11-39

F-149

The total number of findings for OSHA 1926 Subpart M is 4

Finding location(s) for OSHA 1926 Subpart N

The total number of findings for OSHA 1926 Subpart N is 0

Finding location(s) for OSHA 1926 Subpart O

Page #

Zone 4

F-151

Zone 4, West

F-152

The total number of findings for OSHA 1926 Subpart O is 2

Finding location(s) for OSHA 1926 Subpart P

The total number of findings for OSHA 1926 Subpart P is 0

Finding location(s) for OSHA 1926 Subpart Q

The total number of findings for OSHA 1926 Subpart Q is 0

Pantex Plant

Finding location(s) for OSHA 1926 Subpart R

The total number of findings for OSHA 1926 Subpart R is 0

Finding location(s) for OSHA 1926 Subpart S

The total number of findings for OSHA 1926 Subpart S is 0

Finding location(s) for OSHA 1926 Subpart T

The total number of findings for OSHA 1926 Subpart T is 0

Finding location(s) for OSHA 1926 Subpart U

The total number of findings for OSHA 1926 Subpart U is 0

Finding location(s) for OSHA 1926 Subpart V

The total number of findings for OSHA 1926 Subpart V is 0

Finding location(s) for OSHA 1926 Subpart W

The total number of findings for OSHA 1926 Subpart W is 0

Finding location(s) for OSHA 1926 Subpart Z

The total number of findings for OSHA 1926 Subpart Z is 0

Mound Tiger Team Finding Location(s) by Subpart

OSHA 1910

Finding location(s) for OSHA 1910 Subpart D	Page #
Building 022	D-31
WD Building	D-31
COS Building	D-31
WD Building	D-31
HH Building	D-31
COS Building	D-31
DS Building	D-31
Building 42	D-31
WD Building	D-32
P Building	D-32
WD Building	D-32
B Building dock	D-32
P Building, Power House	D-32
WD Building	D-32
P Building	D-32
WD Building	D-32
WD Building	D-32
WD Building	D-33
WD Building	D-33
WD Building	D-33
WD Building	D-33
M Building	D-33

The total number of findings for OSHA Section 1910 Subpart D is 22

Finding location(s) for OSHA 1910 Subpart E	Page #
HH Building	D-34
Building 27	D-34
I Building, Room 121	D-34
I Building, Room 121	D-34
Emergency Exit door	D-34
Building 37, Room 5	D-34
WD Building, Room 110	D-34
I Building	D-34
I Building	D-34

The total number of findings for OSHA Section 1910 Subpart E is 9

Mound Plant

Finding location(s) for OSHA 1910 Subpart H	Page #

Loading Dock 022	D-35
Area behind R Building dock 22	D-35
Building 42, Room 101A	D-35

The total number of findings for OSHA Section 1910 Subpart H is 3

Finding location(s) for OSHA 1910 Subpart I	Page #

DS Building, Room 124

The total number of findings for OSHA Section 1910 Subpart I is 1

Finding title for OSHA 1910 Subpart J	Page #

WD Building	D-35

The total number of findings for OSHA Section 1910 Subpart J is 1

Finding title for OSHA 1910 Subpart K	Page #

WD Building, Room WD1	D-35
WD Building, WD1	D-36
M Building, Room 38	D-36
DS Building, Room DS124	D-36
Building 72	D-36
PS Building	D-36
Building 38	D-36

The total number of findings for OSHA Section 1910 Subpart K is 7

Finding title for OSHA 1910 Subpart O	Page #

HH Building	D-37
Building 105, Room 120	D-37
HH Building	D-37
Building 37, Room 4	D-37

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Building 37, Room 4	D-37
Building 27	D-37

The total number of findings for OSHA Section 1910 Subpart O is 6

Finding title for OSHA 1910 Subpart Q	Page #
Building 73	D-37
Area behind R building dock 22	D-37
WD Building	D-38
Building 022 dock	D-38

The total number of findings for OSHA Section 1910 Subpart Q is 4

Finding title for OSHA 1910 Subpart S	Page #
Building P	D-36
WD Building, Room 101	D-36
Building 42, Penthouse	D-36
Building 42	D-36
Building 42, Room 103	D-36
WD Building, WDA Room 110	D-36
HH Building	D-36
Building P, Power House	D-38
WD Building, Room 101	D-38
WD Building, Room 101	D-38
WD Building, Room 102	D-38
M Building, high bay area 8	D-38
WD Building, sub-basement level	D-38
WD Building, WDA Room 118	D-39
Building 105	D-39
WD Building, Room 101	D-39
WD Building, Room 102	D-39
WDA Room 118	D-39
WD Room 101	D-39

The total number of findings for OSHA Section 1910 Subpart S is 19

Mound Plant

Finding title for OSHA 1910 Subpart Z	Page #
Paint shop	D-39
Company's interval history	D-39
Company's initial medical	D-40
GP-1	D-40
GP-1	D-40
GP-1	D-40
GP-1	D-40
GP-1	D-41
DS Building, Room 119A	D-41
DS Building, Room 119	D-41
Ds Building, Room 119	D-41
Building 37, Room 4	D-41
WD Building, Room WD8	D-41
WD Building, WDA control room	D-42
P Building, Powerhouse	D-42
Building 72	D-42
Building 72	D-42
Throughout the facility	D-42
WD Building, Room WD 8	D-42
WD Building, WDA control room	D-42
M Building, Room 12	D-42
P Building, Powerhouse	D-42
P Building, Powerhouse	D-42
P Building, Powerhouse	D-42
Building 28	D-43
WD Building	D-43
P Building, Powerhouse	D-43
Building 37, Room 4	D-43
Building M Plating Shop	D-43
HH Building	D-43
Building WD	D-43
B Building	D-43

The total number of findings for OSHA Section 1910 Subpart Z is 32

Mound Plant

OSHA 1926

Finding location(s) for OSHA 1926 Subpart D

Page #

Joe Becks & Associates, COS Building	D-44
Zack Company, COS Building	D-44
Flanders Filters Company, COS Building basement	D-44
Flanders Filters Company, COS Building basement	D-44

The total number of findings for OSHA Section 1926 Subpart D is 4

Finding location(s) for OSHA 1926 Subpart F

Page #

Tops Roofing Company, Asphalt replacement	D-44

The total number of findings for OSHA Section 1926 Subpart is 1

General Duty Clause

Page #

Building 27 (4 findings)	D-29
DS Room 206 (8 findings)	D-29
DS Building, Room 124	D-31

The total number of findings for OSHA Section 1926 Subpart is 3

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Savannah River Site Tiger Team OSHA Finding Titles by Subpart

Occupational Safety and Health Act of 1970

1B Summary Violation Location(s) for Occupational Safety and Health Act of 1970 Section 5(a)(1)	Page #
Bldg. 210, WPF, Clean Maintenance Shop	D-83
Bldg. 221-H, Regulated Maintenance Shop	D-92
Bldg. 221-H, SWE Cold Shop Maintenance	D-94
Bldg. 247F, Cleaning Supply Shelves	D-114
Bldg. 247F, Containment Room	D-115
Bldg. 484, Area Powerhouse, E&I Shop	D-127
Bldg. 484, Area Powerhouse, Bunker Room, Safety Shutoff	D-128
Bldg. 484, Area Powerhouse, Bunker Room, Fire Wall	D-128
Bldg. 8317, Sheet Metal, Abrasive Blasting	D-179
Electrical Shop, WPF	D-193
Bldg. RT9, RTF, Clean Room	D-200
All Westinghouse Locations, Respiratory Protection File	D-213

The total number of findings for Occupational Safety and Health Act of 1970 Section 5(a)(1) is 12

OSHA 1904

1B Summary Violation Location(s) for OSHA 1904 Section 1904.12	Page #
All Westinghouse Locations	D-206

The total number of findings for OSHA 1904 Section 1904.12 is 1

OSHA 1910

1B Summary Violation Location(s) for OSHA 1910 Subpart	Page #
Bldg. 108K, Room 1081, Emergency Generator Room Ladder	D-77
Bldg. 484-, Crusher House, Hand Clearance	D-121
Bldg. 484-, Crusher House, Foot Clearance	D-121
Bldg. 484-, Crusher House, Head Clearance	D-122
Bldg. 484-, Bunker House Level, East Wall Opening for Hoist	D-123
Bldg. 484-, Bunker House Level, Conveyor Motor Platform	D-124
Bldg. 484-, Area Power House	D-136

Savannah River Site

Bldg. 713, Central Stores, Aisles and Passageways	D-148
Bldg. 713, Central Stores, Sanitary Condition	D-151
Bldg. 714A, Spare Parts	D-156
Bldg. 716A, Central Automotive Shop	D-161
Bldg. 8312, Wood Storage Area, Ladder	D-177

The total number of findings for OSHA 1910 Subpart is 12

1B Summary Violation Location(s) for OSHA 1910 Subpart E	Page #
Bldg. 108K, Room 1081, Emergency Exit Ladder	D-78
Bldg. 247F, ECR Room	D-113
Bldg. 707F, South West Exterior Exit	D-144
Bldg. 711K, Guard House	D-145
Bldg. 714A, Spare Parts, Exit Identification	D-155
Bldg. 714A, Spare Parts, Non-Exit Identification	D-158
Bldg. 8303, Receiving Warehouse, Mezzanine Level	D-176

The total number of findings for OSHA 1910 Subpart E is 7

1B Summary Violation Location(s) for OSHA 1910 Subpart G	Page #
Central Shops, Hearing Conservation Program	D-185
Central Shops, Noise Monitoring	D-186
Central Shops, Audiometric Testing Program	D-187
Central Shops, Baseline Audiograms	D-187
Central Shops, Annual Audiograms	D-188
Central Shops, Employee Training Program	D-188
Central Shops, Annual Training Program	D-189

The total number of findings for OSHA 1910 Subpart G is 7

1B Summary Violation Location(s) for OSHA 1910 Subpart H	Page #
Bldg. 108K, Room 1081, Basement	D-80
Bldg. 222H	D-104
Bldg. 247F, Containment Room, Grounding	D-107
Bldg. 247F, Containment Room, Ventilation	D-112
Bldg. 247F, Cement Room	D-114
Bldg. 247F, Unrestricted, Clean Side of Warehouse	D-116
Bldg. 704K, Maintenance, E&I Shop	D-143

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Bldg. 717A, Central Maintenance Shop, Welding Shop	D-165
Bldg. 717A, Central Maintenance Shop, Compressed Gas	D-167

The total number of findings for OSHA 1910 Subpart H is 9

1B Summary Violation Location(s) for OSHA 1910 Subpart I	Page #
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Finding Titles By Subpart**

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Bldg. 321C, Room 1318, Assembly, Hazard Labels	F-132
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Bldg. 611, Auto Fleet Maintenance, Room 1048, Content Label	F-190
Bldg. 611, Auto Fleet Maintenance, Room 1048, Hazard Label	F-191
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The total number of findings for OSHA 1910 Subpart Z is 18

OSHA 1926

1B Summary Violation Location(s) for OSHA 1926 Subpart D **Page #**

Bldg. 14, Plaza Location, Seismic Upgrade	F-36
Bldg. 153, South Side of Bldg., Room Addition, Painters Area	F-53
Bldg. 154, Nuclear Chemistry Lab	F-61
Bldg. 482, North Addition	F-159
Bldg. 490, Highbay, Concrete Modification	F-164

The total number of findings for OSHA 1926 Subpart D is 5

1B Summary Violation Location(s) for OSHA 1926 Subpart F **Page #**

Bldg. 111, Plaza Location, Seismic Upgrade	F-34
Bldg. 111, Plaza Location, Seismic Upgrade	F-37
Bldg. 153, East Side Mechanical Room Construction	F-50
Bldg. 153, South Side of Bldg., Room Addition, Painters Area	F-51
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Bldg. 154, Nuclear Chemistry Lab	F-55
Bldg. 154, Nuclear Chemistry Lab	F-57
Bldg. 323, Mezzanine Floor, Mechanical Room	F-134
Bldg. 391, Laser Bldg. Construction (391 Lanza Project)	F-147
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Bldg. 490, Highbay, Concrete Modification	F-162
Bldg. 490, Highbay, Concrete Modification	F-163

The total number of findings for OSHA 1926 Subpart F is 14

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1B Summary Violation Location(s) for OSHA 1926 I Subpart I **Page #**

Bldg. 111, Plaza Location, Seismic Upgrade	F-35
Bldg. 154, Nuclear Chemistry Lab	F-56
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Bldg. 482, North Addition	F-158
Bldg. 490, Highbay, Concrete Modification	F-161

The total number of findings for OSHA 1926 Subpart I is 7

1B Summary Violation Location(s) for OSHA 1926 J **Page #**

Bldg. 154, Nuclear Chemistry Lab	F-56
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The total number of findings for OSHA 1926 Subpart J is 2

1B Summary Violation Location(s) for OSHA 1926 Subpart K **Page #**

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Bldg. 154, Nuclear Chemistry Lab	F-57
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Bldg. 323, Mezzanine Floor, Mechanical Room	F-134
Bldg. 482, East Addition	F-156
Bldg. 4282, North Addition	F-158
Bldg. 490, Highbay, Concrete Modification	F-161
Bldg. 490, Highbay, Concrete Modification	F-164

The total number of findings for OSHA 1926 Subpart K is 11

**BNL Tiger Team OSHA Findings by Subpart
Occupational Safety and Health Act of 1970**

**1B Summary Violation Location(s) for Occupational Safety and Health Act
of 1970 Section 5(a)(1)**

Page #

Bldg. 912, Experiment 859	D-48
Bldg. 490, BMRR, Basement, mechanical area	D-51
Bldg. 820, ATF, floor of storage area above Clean Room	D-124
Bldg. 815, Molecular and Applied Sciences Department, Lab D-3	D-125

The total number of findings for Occupational Safety and Health Act of 1970
Section 5(a)(1) is 4.

OSHA 1904

1B Summary Violation Location(s) for OSHA 1904 Section 1904.2(a)(2)

Page #

Bldg. 535, S&EP Division Building	D-1

The total number of findings for OSHA 1904 Section 1904.2(a)(2) is 1.

OSHA 1910

1B Summary Violation Location(s) for OSHA 1910 Subpart D

Page #

Bldg. 913, AGS, stairs and walkways over beamline	D-40
Bldg. 820, ATF, storage area above Clean Room	D-41
Bldg. 490, BMRR, top of Reactor and Reactor Balcony area	D-41
Bldg. 912, AGS, "B" Line Power Separator	D-42
Bldg. 610, Steam Plant Compressor Room	D-74
Bldg. 912, Overhead Door #1	D-74
Bldg. 918, south side	D-75
Bldg. 922, AGS, NE entrance	D-75
Bldg. 912, near female restroom at east wall	D-76
Bldg. 725, NSLS, VUV, Experimental Area U16	D-76
Bldg. 901A, Room 124, NSLS, Machine Shop	D-77
Sewage Treatment Plant Clarifier Tank	D-77
Sewage Treatment Plant Settling Tank	D-78
Bldg. 912, walkway-near Overhead Door #2	D-78
Bldg. 912, Walkway, upper level 791 counting house	D-79
Bldg. 633, Steam Plant, Fuel Pump House	D-79
Bldg. 624, Water Treatment Plant, Loading Dock	D-80

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Bldg. 911, east stairs, between 1st and 2nd floors	D-80
Bldg. 912, Stairway near Overhead Door #2	D-81

The total number of findings for OSHA 1910 Subpart D is 19.

1B Summary Violation Location(s) for OSHA 1910 Subpart E	Page #
Bldg. 912, near Overhead Door #5	D-45
Bldg. 913, AGS, stairs and walkways over beamline	D-45
Bldg. 422, Plant Engineering	D-46
Bldg. 491, BMRR, entrance to Carcinogen Storage Room	D-46
Bldg. 912, East Experimental Building Addition Station Q-31	D-118

The total number of findings for OSHA 1910 Subpart E is 5.

1B Summary Violation Location(s) for OSHA 1910 Subpart G	Page #
Bldg. 462, Central Shops	D-118

The total number of findings for OSHA 1910 Subpart G is 1.

1B Summary Violation Location(s) for OSHA 1910 Subpart H	Page #
Bldg. 725, NSLS, Vacuum Shop, violation #1	D-3
Bldg. 725, NSLS, Vacuum Shop, violation #2	D-3
Bldg. 510, Physics Department, high bay area	D-5
Bldg. 902, Instrument Room, violation #1	D-6
Bldg. 902, Instrument Room, violation #2	D-6
Bldg. 445, HWM, north door, storage, shelf, violation #1	D-6
Bldg. 445, HWM, north door, storage, shelf, violation #2	D-6
Bldg. 610, Steam Powerhouse, 1st floor, west end	D-8
Bldg. 912 and 919C, AGS, throughout building	D-8
Bldg. 445, Hazardous Waste Management, safety personnel list	D-9
Bldg. 750, HFBR, Lab Room L14	D-30
Bldg. 912, AGS, Gas Mixing Room	D-49
Bldg. 510, Physics Department, Room 1-52	D-50
Bldg. 510, High Bay Flammable Liquids Storage Cabinet	D-50
Bldg. 912, outside near Overhead Door #1	D-51
Bldg. 912, AGS, North Vehicle Entrance	D-52
Bldg. 922, north side	D-52
Bldg. 912, AGS, Gas Mixing Room	D-53
Bldg. 919C, AGS, outside near old hydrogen line	D-53

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Bldg. 902, ADD, Flammable Liquids Storage Cabinet, violation #1	D-54
Bldg. 902, ADD, Flammable Liquids Storage Cabinet, violation #2	D-54
Bldg. 610, Steam Plant, tank farm area	D-55
Bldg. 326, Plant Engineering, Tool Crib	D-55
Bldg. 624, Water Treatment Plant, shop area	D-56
Bldg. 423, Transportation and Travel	D-56
Bldg. 922, AGS, north end, violation #1	D-57
Bldg. 922, AGS, north end, violation #2	D-57
Bldg. 610, Steam Plant, 1st floor center	D-58
Bldg. 555, Chemistry Department	D-58
Bldg. 815, Molecular and Applied Science Department	D-59
Bldg. 555, Chemistry Department, throughout building	D-59
Bldg. 912, outside of vehicle entrance east side	D-124
Bldg. 725, NSLS, Experiment Area U16A	D-127

The total number of findings for OSHA 1910 Subpart H is 33.

1B Summary Violation Location(s) for OSHA 1910 Subpart I	Page #
Bldg. 610, Steam Plant, Battery Room	D-25
Bldg. 624, Water Treatment Plant, laboratory	D-26
Bldg. 905, Magnet Factor	D-26
Bldg. 445, Hazardous Waste Management, lathe area	D-27
Bldg. 510, Physics Department, high bay area, protector equipment	D-27
Bldg. 815, Molecular and Applied Science Dept., basement	D-28
Bldg. 510, Physics Machine Shop, 1-56	D-28
Bldg. 510, Physics Department, high bay area, respirator	D-29
Bldg. 922, AGS, north/east door entrance	D-29
Bldg. 445, Hazardous Waste Management, east door entrance	D-30
Bldg. 491, BMRR, Basement	D-60
Bldg. 462 and 452, Central Shops Buildings	D-60
Bldg. 422, Plant Engineering	D-61
Bldg. 463, Biology Department, Room 261 and 182	D-61
Bldg. 462, Central Shops	D-62
Bldg. 422, Plant Engineering	D-62

The total number of findings for OSHA 1910 Subpart I is 16.

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1B Summary Violation Location(s) for OSHA 1910 Subpart J **Page #**

Bldg. 462, Central Shops	D-31
Bldg. 912, AGS, Gate 9	D-31

The total number of findings for OSHA 1910 Subpart J is 2.

1B Summary Violation Location(s) for OSHA 1910 Subpart K **Page #**

Bldg. 555, Chemistry Department, Room 265	D-32

The total number of findings for OSHA 1910 Subpart K is 1.

1B Summary Violation Location(s) for OSHA 1910 Subpart L **Page #**

Bldg. 491, Medical Reactor Bldg. Rm. 8-116, Library	D-32
Bldg. 912, East Experimental Building Addition	D-33
Bldg. 725, NSLS, Lobby	D-33
Bldg. 1005-S, Relativistic Heavy Ion Collider, Lobby	D-34
Bldg. 902, ADD, Lobby	D-34
Bldg. 902, ADD, work station E-7	D-35
Bldg. 445, Hazardous Waste Mgmt. Facility, violation #1	D-35
Bldg. 445, Hazardous Waste Mgmt. Facility, violation #2	D-36
Bldg. 912, AGS, several locations	D-36
Bldg. 610, Steam Plant	D-37
Bldg. 491, BMRR, Room 9-433	D-37
Bldg. 463, Biology Department, Room 251	D-38
Bldg. 490, Medical Clinic, Fire Extinguisher No. 12	D-38

The total number of findings for OSHA 1910 Subpart L is 13.

1B Summary Violation Location(s) for OSHA 1910 Subpart N **Page #**

Bldg. 446, Hazardous Waste Management Facility	D-39
Bldg. 462, Central Shops, violation 1	D-39
Bldg. 462, Central Shops, violation 2	D-40
Bldg. 905, 10-ton Crane	D-49
Bldg. 581, Sewage Treatment Plant, yard	D-63
Bldg. 902, South High Bays, Two Cranes, 15-tons Shepard-Niles	D-126

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Bldg. 919, AGS, High Bay, 40-ton Shepard-Niles Crane	D-126
Bldg. 924, ADO, 17-ton Crane	D-127

The total number of findings for OSHA 1910 Subpart N is 8.

1B Summary Violation Location(s) for OSHA 1910 Subpart O	Page #
Bldg. 326, Plant Engineering, tractor mower	D-63
Bldg. 815, Molecular and Applied Science Dept., Laboratory C-4	D-64
Bldg. 815, Molecular and Applied Science Dept., Laboratory D-4	D-64
Bldg. 815, Molecular and Applied Science Dept., Rm 1-21B	D-65
Bldg. 815, Molecular and Applied Science Dept., basement	D-65
Bldg. 624, Water Treatment Plant, Maintenance Shop	D-66
Bldg. 922, NW area of building, bench grinder	D-66
Bldg. 903, AGS, Machine Shop	D-67
Bldg. 452, Plant Engineering, Metal and Steam Shop	D-67
Bldg. 610, Steam Plant, work bench area, violation #1	D-68
Bldg. 610, Steam Plant, work bench area, violation #2	D-68
Bldg. 820, ATF, brown building at end of tunnel area	D-69
Bldg. 473, Transportation and Travel	D-69
Bldg. 912, AGS, Gas Mixing Room	D-70
Bldg. 919, AGS, Motor Control Room	D-70
Bldg. 815, Molecular and Applied Sciences Dept., Room 1-21B	D-71
Bldg. 510, Physics Department, Room 233, violation #1	D-71
Bldg. 510, Physics Department, Room 233, violation #2	D-78
Bldg. 510, Physics Department, Machine Shop, Guiding Rm.	D-79
Bldg. 600, Plant Engineering, Chilled Water Plant	D-80
Bldg. 610, Steam Plant	D-80

The total number of findings for OSHA 1910 Subpart O is 21.

1B Summary Violation Location(s) for OSHA 1910 Subpart P	Page #
Bldg. 815, Molecular and Applied Sciences Department, Lab C-4	D-81
Bldg. 815, Molecular and Applied Sciences Department, Rm. 1-21B	D-82
Bldg. 326, Plant Engineering, Store Room	D-82
Bldg. 815, Molecular and Applied Sciences Department, Room D-4	D-83
Bldg. 422, Plant Engineering, Steam Shop	D-83
Bldg. 452, Plant Engineering, Metal Shop	D-84

The total number of findings for OSHA 1910 Subpart P is 6.

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1B Summary Violation Location(s) for OSHA 1910 Subpart Q	Page #
Bldg. 510, Chemistry Department, cylinder storage area	D-42
Bldg. 912, Outside of Overhead Door #2	D-125

The total number of findings for OSHA 1910 Subpart Q is 2.

1B Summary Violation Location(s) for OSHA 1910 Subpart S	Page #
Bldg. 725, NSLS, corridor near X-1 and X-2 beam lines	D-43
Bldg. 510, Physics, high bay area	D-43
Bldg. 924, ADD, curing area	D-44
Bldg. 912, AGS, Gate ATF-23	D-44
Bldg. 422, Plant Engineering	D-84
Bldg. 326, Plant Engineering, Men's Room	D-85
Bldg. 422, Plant Engineering, Bathroom,	D-85
Bldg. 452, Plant Engineering, Storage area kitchen	D-86
Bldg. 610, Steam Plant, Men's Room	D-86
Bldg. 610, Steam Plant, work bench area	D-87
Bldg. 490, BMRR, Control Room, top of control panel	D-87
Bldg. 490, BMRR, Control Room area, electrical outlet near sink	D-88
Bldg. 490, BMRR, Basement	D-88
Bldg. 490, Medical Research Center	D-89
Bldg. 624, Water Treatment Plant, line pit	D-89
Bldg. 912, electrical outlet near sink outside female restroom	D-90
Bldg. 922, near emergency eyewash fountain/shower	D-90
Bldg. 490, Medical Services, laboratories	D-91
Bldg. 158, Supply and Materials Building, Lunch room	D-91
Bldg. 87, Supply and Materiel Division, T-87, Men's Room	D-92
Bldg. 89, Supply and Materiel Division, T-89, Men's Room	D-92
Bldg. 90, Supply and Materiel Division, T-90, Restroom	D-93
Bldg. 91, Supply and Materiel Division, T-91, Restroom	D-93
Bldg. 584, Sewage Treatment Plant, Screen House	D-94
Bldg. 725, NSLS, Mail Room	D-94
Bldg. 725, NSLS, Work Station U16	D-95
Bldg. 725, NSLS, Work Station U4	D-95
Bldg. 820, NSLS, Accelerator Test Facility	D-96
Bldg. 576, Chlorine House	D-96
Bldg. 555, Chemistry, all laboratories	D-97
Bldg. 902, ADD, building coordinates Q13	D-97
Bldg. 445, Hazardous Waste Management Facility, lathe area	D-98
Bldg. 510, Physics Department, all laboratories	D-98
Bldg. 815, Molecular and Applied Sciences Department	D-99
Bldg. 170, Compton House	D-99

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Bldg. 912, AGS, outside near Overhead Door #1	D-100
Bldg. 462 and 452, Central Shops Buildings	D-100
Bldg. 422, Plant Engineering	D-101
Bldg. 624, Water Treatment Plant, Maintenance Shop	D-101
Bldg. 912, East Experimental Building Addition	D-102
Bldg. 922	D-102
Bldg. 725, NSLS, Naval Research Laboratory area	D-103
Bldg. 725, NSLS, Work Station U16	D-103
Bldg. 820A, NSLS, DNE Experiment Modeling Group	D-104
Bldg. 902, ADD, Electrical Shop	D-104
Bldg. 902, Relativistic Heavy Ion Collider support Work Station E-9	D-105
Bldg. 445, Hazardous Waste Management Facility, Room 8	D-105
Bldg. 912 and 919C, AGS, Multiple Particle Spectrometer	D-106
Bldg. 510, Physics Department, Room 1-52	D-106
Bldg. 510, Central Shops	D-107
Bldg. 610, Steam Plant	D-107
Bldg. 624, Water Treatment Plant, Store Room	D-108
Bldg. 922, AGS, work bench at west end	D-108
Bldg. 725, NSLS, RF Tech Lab 725B	D-109
Bldg. 89, Supply and Materiel Division, T-89	D-109
Bldg. 750, HFBR, Manager's Office near wall	D-110
Bldg. 490, BMRR	D-110
Bldg. 491, BMRR, Control Room	D-111
Bldg. 912, East Experimental Bldg. Addition	D-111
Bldg. 922, AGS, interior west entrance and east wall	D-112
Bldg. 820, NSLS, Mezzanine, south wall	D-112
Bldg. 820A, NSLS, electrical connection box on west wall	D-113
Bldg. 902, Relativistic Heavy Ion Collider, Work Station N-21 & S-14	D-113
Bldg. 905, Relativistic Heavy Ion Collider, east wall	D-114
Bldg. 905, Relativistic Heavy Ion Collider, south end	D-114
Bldg. 445, Hazardous Waste Management Facility	D-115
Bldg. 1005-S, Relativistic Heavy Ion Collider, tunnel	D-115
Bldg. 641, Water Filter Building	D-116
Bldg. 815, Molecular and Applied Sciences Department, Basement	D-116
Bldg. 485, Supply and Materiel Division	D-117
Bldg. 244, Plant Engineering	D-117
Linac and Booster, Walk-in 13.8 kV Switchgear Unit #1	D-128

The total number of findings for OSHA 1910 Subpart S is 72.

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1B Summary Violation Location(s) for OSHA 1910 Subpart Z	Page #
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Bldg. 488, Berkner Hall, Cafeteria	D-2
Bldg. T-88, Supply and Materiel Division Warehouse, labels	D-2
Bldg. 153, Cavendish House, 2nd Floor, Kitchen and Men's Room	D-4
Bldg. 725, Room 2-152, Mail Room	D-4
Bldg. 919, AGS, Design Room	D-5
Bldg. 750, HFBR, Experimental Floor, Room L-9B, hazard label	D-9
Bldg. 750, HFBR, Experimental Floor, Room L-9B, content label	D-10
Bldg. 912, AGS, open shelf near Experiment 794	D-10
Bldg. 624, Water Treatment Plant	D-11
Bldg. 490, Medical Clinic, Machine Shop	D-11
Bldg. 494, Medical Clinic, dishwashing area	D-12
Bldg. 555, Chemistry Department, Room 308	D-12
Bldg. 555, Chemistry Department, Machine Shop	D-13
Bldg. 919, AGS, Motor Control Room, hazard label	D-13
Bldg. 610, Steam Plant, tank farm area	D-14
Bldg. 815, Molecular and Applied Sciences Department, Rm. 1-25	D-14
Bldg. 919, AGS, Motor Control Room, MSDS	D-15
Bldg. 208, Central Shops	D-15
Bldg. 750, HFBR	D-16
Bldg. 326, Plant Engineering	D-16
Bldg. 463, Biology Department, throughout building	D-17
Bldg. 490, Medical Clinic, Machine Shop	D-17
Bldg. 490, Medical Clinic, dishwasher area	D-18
Bldg. 490, Medical Clinic, throughout building	D-18
Bldg. 89, Supply and Materials, chemical receiving area	D-19
Bldg. 820, AGS, Flammable Storage Cabinet	D-19
Bldg. 725, NSLS, Flammable Storage Cabinet	D-20
Bldg. 725, NSLS, VUV experimental area U7 and U8	D-20
Bldg. 820, AGS	D-21
Bldg. 423, Transportation and Travel	D-21
Bldg. 555, Chemistry Department, Room 308	D-22
Bldg. 555, Chemistry Department, throughout building	D-22
Bldg. 905, Magnet Factory, south end	D-23
Bldg. 555, Chemistry Dept., Machine Shop, MSDS	D-23
Bldg. 555, Chemistry Dept., Machine Shop, training, violation 1	D-24
Bldg. 555, Chemistry Dept., Machine Shop, training, violation 2	D-24
Bldg. 555, Chemistry Dept., Machine Shop, training, violation 3	D-25

The total number of findings for OSHA 1910 Subpart Z is 38.

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1B Summary Violation Location(s) for OSHA 1926 Subpart D	Page #
Bldg. 535, S&EP Division	D-47
Bldg. 815, Molecular and Applied Sciences Department	D-47
Bldg. 494, Medical Department	D-48
Bldg. 815, Molecular and Applied Sciences Dept., violation #1	D-120
Bldg. 815, Molecular and Applied Sciences Dept., violation #2	D-120
Bldg. 815, Molecular and Applied Sciences Dept., violation #3	D-121
Bldg. 815, Molecular and Applied Sciences Dept., violation #4	D-121
Bldg. 815, Molecular and Applied Sciences Dept., violation #5	D-122
Bldg. 815, Molecular and Applied Sciences Dept., violation #6	D-122
Bldg. 815, Molecular and Applied Sciences Dept., violation #7	D-123
Bldg. 815, Molecular and Applied Sciences Dept., violation #8	D-123

The total number of findings for OSHA 1926 Subpart D is 11.

1B Summary Violation Location(s) for OSHA 1926 Subpart W	Page #
Sewage Treatment Plant, yard, tractor	D-119
Sewage Treatment Plant, yard, forklift	D-119

The total number of findings for OSHA 1926 Subpart W is 2.

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Tiger Team OSHA Findings by Subpart**

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1B Summary Violation Location(s) for OSHA 1910 Subpart D	Page #
Bldg. 906, Room 103	I-44
Bldg. 906, Room 130, Machine Shop/Modification Lab	I-46
Bldg. 906, Room 106	I-46
Bldg. 916, West Equipment Room	I-88
Bldg. 918, entire floor surface area	I-95
Bldg. 963, Maintenance Vehicle #6304-954	I-113
Bldg. 963, Maintenance Yard, Exterior Ladder Storage Area	I-114
Bldg. 963, Maintenance Yard, Exterior Ladder Storage Area	I-115
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Bldg. 963, entire floor surface area	I-134
Bldg. 968, Outside south dock at entrance to construction area	I-139
Bldg. 972, Room 114A east wall	I-143
Bldg. 972, East Equipment Room	I-144

The total number of findings for OSHA 1910 Subpart D is 14

1B Summary Violation Location(s) for OSHA 1910 Subpart E	Page #
Bldg. 906, Room 102, Laser Lab	I-43
Bldg. 907, Exit east wall	I-49
Bldg. 912	I-55
Bldg. 913, Room 120; Room 118	I-80
Bldg. 918, North and south exits from storage area to outside	I-44
Bldg. 963, Tool Crib, North exits from the Material Storage Area	I-120
Bldg. 963, Welding Shop, Arc Welder, West wall	I-120
Bldg. 973, Room 117	I-147

The total number of findings for OSHA 1910 Subpart E is 8

1B Summary Violation Location(s) for OSHA 1910 Subpart H	Page #
Trudell's Service Station location	I-35
Trudell's Service Station location	I-36
Trudell's Service Station location	I-37
Trudell's Service Station location	I-38

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Trudell's Service Station location	I-39
Bldg. 906, Outside Room 128	I-44
Bldg. 916, Room 104	I-89
Bldg. 916, outside near door 10 and 8	I-90
Bldg. 963	I-110
Bldg. 963, Metal Shop, Flammable Materials Storage Cabinet	I-117

The total number of findings for OSHA 1910 Subpart H is 10

1B Summary Violation Location(s) for OSHA 1910 Subpart I	Page #
Bldg. 906, Room 115	I-45
Bldg. 912, Room 094 and Room 097	I-66
Bldg. 913, Room 100B, Sample Shaping Room	I-78
Bldg. 916, Room 130 and 134	I-87
Bldg. 913, Room 124, Top of filing cabinet	I-84
Bldg. 916, Room 112A	I-86
Bldg. 918, Office area, Bulk Chemical Storage Yard	I-99
Bldg. 968, tritium Facility, breathing air garment	I-141

The total number of findings for OSHA 1910 Subpart I is 8

1B Summary Violation Location(s) for OSHA 1910 Subpart J	Page #
Bldg. 906, Room 109	I-45
Bldg. 912, Room 094	I-66
Bldg. 917	I-92
Bldg. 918, outside north side, cyclone collector	I-96
Bldg. 918	I-97

The total number of findings for OSHA 1910 Subpart J is 5

1B Summary Violation Location(s) for OSHA 1910 Subpart K	Page #
Bldg. 913, Room 118, Plating Lab	I-81

The total number of findings for OSHA 1910 Subpart K is 1

1B Summary Violation Location(s) for OSHA 1910 Subpart L	Page #
Bldg. 906, Room 103, Fire Extinguisher	I-43
Bldg. 916, West Equipment Room	I-87
Bldg. 917	I-92
Bldg. 927, Middle section, Reclamation section, about 8 feet north of southeast corner of middle section	I-104
Bldg. 963, at doorway by Stanley Vidmar Cabinets	I-119
Bldg. 966, Room 104, West wall near door to Room 102	I-137
Bldg. 968, Roof Fan Unit Room, right side of south exit to roof at floor level	I-140
Bldg. 913, Room 118, Plating Lab. Fire extinguisher property No. 5-034	I-82

The total number of findings for OSHA 1910 Subpart L is 8

1B Summary Violation Location(s) for OSHA 1910 Subpart N	Page #
Bldg. 927, West end Maintenance Storage area	I-103
Bldg. 928, Receiving overflow area	I-107
Bldg. 963, Tool Crib Materials/Parts Storage, Forklift #6305322 (Stacker hoist)	I-112
Bldg. 963, Tool Crib Storage, southwest corner of building. Work order No. 9071-2; 9071-12 shelf	I-133
Bldg. 972, Room 114A, Northwest corner of room, hoist crane	I-145

The total number of findings for OSHA 1910 Subpart N is 5

1B Summary Violation Location(s) for OSHA 1910 Subpart O	Page #
Bldg. 913, Room 106	I-79
Bldg. 963, Welding Shop, Pedestal Grinder, H-18, West Side	I-119
Bldg. 963, Sheet Metal Shop, Verson All Steel Power Press No. 03301	I-121
Bldg. 963, K.R. Wilson 100-Ton Press	I-127

The total number of findings for OSHA 1910 Subpart O is 4

1B Summary Violation Location(s) for OSHA 1910 Subpart P	Page #
Bldg. 963, Woodworking Shop, Tony Souza tool box	I-110
Bldg. 966, Room 105, Tool Box	I-136

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Bldg. 966, Room 102, Tool Box	I-136
Bldg. 972, Room 110C	I-144

The total number of findings for OSHA 1910 Subpart P is 4

1B Summary Violation Location(s) for OSHA 1910 Subpart Q	Page #
Bldg. 963, Welding Shop	I-111
Bldg. 963, Tool Crib Area	I-114

The total number of findings for OSHA 1910 Subpart Q is 2

1B Summary Violation Location(s) for OSHA 1910 Subpart S	Page #
Bldg. 905, Room 156	I-41
Bldg. 912 - North/South hallway, Breaker Box #9LC, located between Rooms 095B and 095C	I-53
Bldg. 912, Room 097. Console area approximately 40 feet west of southeast corner, electrical panels 9LL, 9LK, 9LJ	I-56
Bldg. 912, Room 097B. Dicomed Corporation cameras, Sandia Property Numbers 549793 and 669507	I-59
Bldg. 912	I-58
Bldg. 912, Old North Equipment Room, southwest corner, telephone wiring closet	I-60
Bldg. 912, first floor south wing, across from Room 18F	I-61
Bldg. 912, Room 112, Conference Room, Electrical panel box 2PF	I-63
Bldg. 913, Room 106	I-68
Bldg. 913, Room 106, Breaker panels #2PA, LA approximately 10 feet south of northeast corner of Room 106	I-69
Bldg. 913, Room 106A, northwest corner	I-70
Bldg. 913, Room 106C, Electrical Panel LCA	I-72
Bldg. 913, Room 106C 6-foot electrical extension cord stored along west wall top of red tool box	I-73
Bldg. 913, Room 119, Machine Shop, north end, approximately 24 feet east from northwest corner	I-73
Bldg. 913, Room 119, Maintenance Shop, north end, approximately 25 feet from west of northeast corner of Room 119	I-74
Bldg. 913, Room 119, Maintenance Shop. Bridgeport Mill, Machine No. 1307324, approximately 15 feet east of northeast corner of foreman's office	I-75
Bldg. 913, Room 119, Machine Shop east wall at A13 column line, electrical panel box 1PP	I-76
Bldg. 913, hallway just outside Room 115, electrical panel 1LT	I-76

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Bldg. 913, Room 100B, north wall	I-77
Bldg. 913, Room 120, Plating Lab	I-83
Bldg. 927, East end at west wall, electrical control panel	I-102
Bldg. 927, East end at west wall, both (2) electrical control panels	I-103
Bldg. 928, West wall northwest corner, warehouse lighting panel LB	I-106
Bldg. 928, General Storage Area at vertical carrousel work benches	I-108
Bldg. 963, Tool Crib Material Storage Area	I-113
Bldg. 963, Tool Crib	I-118

The total number of findings for OSHA 1910 Subpart S is 27

1B Summary Violation Location(s) for OSHA 1910 Subpart Z	Page #
Site-wide	
Bldg. 906, Room 115	I-47
Bldg. 910, Roof Penthouse	I-51
Bldg. 913, (A) Room 106, Machine Shop, approximately 6 feet north of northwest corner of Machine Shop	I-69
Bldg. 913	I-71
Bldg. 918	I-98
Bldg. 918, Supply Yard	I-100
Bldg. 928, General Storage Area - flammable storage cabinet C18	I-108

The total number of findings for OSHA 1910 Subpart Z is 8

OSHA 1926

1B Summary Violation Location(s) for OSHA 1926 Subpart F	Page #
Construction Site DEL, Tool Shed Trailer	I-23
Construction Site DEL, Tool Shed Trailer	I-24
Construction Site DEL, Tool Shed Trailer	I-25
Bldg. 968, Construction site, south side of building	I-139

The total number of findings for OSHA 1926 Subpart F is 4

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1B Summary Violation Location(s) for OSHA 1926 Subpart K	Page #

Construction Site DEL, Main Electrical Power Panel	I-26

Construction Site DEL, South side of Tool Shed Trailer	I-29

The total number of findings for OSHA 1926 Subpart K is 2

1B Summary Violation Location(s) for OSHA 1926 Subpart P	Page #

Trudell's Service Station location, now a RCRA/CERCLA waste site	I-33

The total number of findings for OSHA 1926 Subpart P is 1

OSHA 1904

1B Summary Violation Location(s) for OSHA 1904	Page #

Bldg. 912, west wing near door No. 3, on bulletin board	I-65

The total number of findings for OSHA 1904 is 1

Hanford Tiger Team OSHA Findings by Subpart

General Duty Clause, Public Law 91-596, Section 5(2)(1)

1B Summary Violation Location(s) for General Duty Clause, Public Law 91-596, Section 5(a) (1)

Bldg. 202A, Compressor Room	(Westinghouse)
Bldg. 202A, second floor AMU	(Westinghouse)
Bldg. 202A, srvc. blwr., room under fan duct	(Westinghouse)
Bldg. 211A, aisle	(Westinghouse)
Bldg. 284E, west wall "specialty ladder" behind #1 F.D. fan	(Westinghouse)
Bldg. 4790A, 4707, 4719, 4701A, 4701B, T100, and T102 (7)	(Westinghouse)
Bldg. 1171, Heavy Eqpmnt. Shop - south wall	(Westinghouse)
Bldg. 1171, Light Equipment Shop	(Westinghouse)
Bldg. 1806 - 1812, Posting of Chemical Lists	(Westinghouse)
Bldg. 2723W, monitoring eqpmnt. storage room	(Westinghouse)
Bldg. 3705, Room 26, shelf under sink	(Westinghouse)
Bldg. 3705, Room 8	(Westinghouse)
Bldg. 3705, Room 34, south wall next to sink	(Westinghouse)
Bldg. 6920E, Shop Area, south side	(Westinghouse)
Bldg. 6920E, Lorain Crane HO-17T-5784, shackles	(Westinghouse)
Bldg. 305B, Lunchroom	(PNL)
Bldg. 324, Room 309, AMU	(PNL)
Bldg. 329, Rooms 11A, 5B	(PNL)
Bldg. 1240, Overhead Crane - near electrician's loft	(Kaiser)
Bldg. 1240, Electrical Loft, repair area - 2nd floor	(Kaiser)
Bldg. N1515, east wall, portable water cooler (Gott 5-gal.) in use (2)	(Kaiser)
Bldg. N1515, west wall below table tool storage	(Kaiser)

The total number of findings for General Duty Clause, Public Law 91-596, Section 5(2)(1) is 22

OSHA 1903

1B Summary Violation Location(s) for OSHA 1903 Section 1903.2(a)(1)

Bldg. 1212	(Kaiser)
Bldg. 1226, Vehicle Maintenance	(Kaiser)

The total number of findings for OSHA 1903 Section 1903.2(2)(1) is 2

Hanford Site

OSHA 1904

1B Summary Violation Location(s) for OSHA 1904

Bldg. 1806-1812 (Westinghouse)

The total number of findings for OSHA 1904 is 1

OSHA 1910

1B Summary Violation Location(s) for OSHA 1910 Subpart B

Bldg. 2724W, New Filtration Room (2)	(Westinghouse)
WHC, site wide	(Westinghouse)
Bldg. 324, SMF Area	(PNL)
PNL, Site-wide	(PNL)
Bldg. 272 W, New Filtration Room	(Kaiser)
KEH, Site-wide	(Kaiser)

The total number of findings for OSHA 1910 Subpart B is 6

1B Summary Violation Locations(s) for OSHA 1910 Subpart D

Bldg. 202A, Sample Gallery Col. 12 ladder stations 26A and B	(Westinghouse)
Bldg. 202A, Sample Gallery, west end	(Westinghouse)
Bldg. 202A, Q stairwell sample gallery level	(Westinghouse)
Bldg. 211A, sidewalk at southwest entrance	(Westinghouse)
Bldg. 221T, W. side dock, center of building	(Westinghouse)
Bldg. 222S, Counting Room, Instrument Shop, Storage Room	(Westinghouse)
Bldg. 242A, Janitor Closet	(Westinghouse)
Bldg. 271T, AMU Room (2)	(Westinghouse)
Bldg. 271T, hallway outside Sign Shop, egress route	(Westinghouse)
Bldg. 272AW, Decon Room, east wall, ladder	(Westinghouse)
Bldg. 272AW, RAM Room	(Westinghouse)
Bldg. 272UA, Hot Shop	(Westinghouse)
Bldg. 272W, High Bay Area	(Westinghouse)
Bldg. 272W, High Bay Area worktables, west wall	(Westinghouse)
Bldg. 275E, Carpenter Shop	(Westinghouse)
Bldg. 275E, Carpenter Shop outside shed	(Westinghouse)
Bldg. 275E, Carpenter Shop Cargo Container 1	(Westinghouse)
Bldg. 275W, outside on north wall	(Westinghouse)
Bldg. 277W, mock-up cell, elevated platforms	(Westinghouse)

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Bldg. 277W, Boiler Shop, east wall ladder storage, 24 foot wood extension ladder	(Westinghouse)
Bldg. 277W, northwest corner of Mock-up Cell	(Westinghouse)
Bldg. 284E, General	(Westinghouse)
Bldg. 284E, west wall by roll-up door (#2 ash pump)	(Westinghouse)
Bldg. 284E, southeast wall of maintenance supervisor's office, small plywood floor area	(Westinghouse)
Bldg. 284E, outside of building	(Westinghouse)
Bldg. 284E, outside of building	(Westinghouse)
Bldg. 284E, F section high scaffolding at coal handling conveyor	(Westinghouse)
Bldg. 284E, southeast of maintenance supervisor's office, small plywood floor area	(Westinghouse)
Bldg. 284E, ash pits, approximately 300 x 300 x 30 feet deep	(Westinghouse)
Bldg. 284W, Fourth Level at #4 boiler (3)	(Westinghouse)
Bldg. 304, center of room floor hole	(Westinghouse)
Bldg. 306E, MTS Area, Hibay 2	(Westinghouse)
Bldg. 309, IEM TF Cell Level 503'3", N Maintenance Platform	(Westinghouse)
Bldg. 309, S. basement level wooden ladder	(Westinghouse)
Bldg. 309, M&M Equipment Room, 8' wood stepladder	(Westinghouse)
Bldg. 382, Power Plant #6 Boiler thermal tube level, NE portion of platform	(Westinghouse)
Bldg. 384, Level 1, Forced Draft Fan Room, East wall, wooden ladder	(Westinghouse)
Bldg. 384, main level coal transport tower, ladder way to transport tower	(Westinghouse)
Bldg. 401, outside, stairs to FFTF southwest of building	(Westinghouse)
Bldg. 405, job crane, top of CTASS	(Westinghouse)
Bldg. 405, Cell #555	(Westinghouse)
Bldg. 405, CLEM 1st Level	(Westinghouse)
Bldg. 408A, whole area	(Westinghouse)
Bldg. 408B, whole area	(Westinghouse)
Bldg. 408C, whole area	(Westinghouse)
Bldg. 491E, 570 level, Cell 449, north end, cable trap	(Westinghouse)
Bldg. 491E, 570 level, Cell 449, north end, pipe	(Westinghouse)
Bldg. 491E, 570 level, top of stairs, rail	(Westinghouse)
Bldg. 712, Print Shop, housekeeping	(Westinghouse)
Bldg. 712, Print Shop 100, aisle markings	(Westinghouse)
Bldg. 712, Receiving Area, 102 Area	(Westinghouse)
Bldg. 1154, Room 19	(Westinghouse)
Bldg. 1154, Room 11	(Westinghouse)
Bldg. 1163, entrance to roof-2nd floor	(Westinghouse)
Bldg. 1167, throughout warehouse	(Westinghouse)

Hanford Site

Bldg. 1167, exterior to building	(Westinghouse)
Bldg. 1171, General Area	(Westinghouse)
Bldg. 1171, E. wall of Bldg. Maint. Shop	(Westinghouse)
Bldg. 1171, Bus Shop, NE corner	(Westinghouse)
Bldg. 2317, south side of roof - ladder	(Westinghouse)
Bldg. 2590E, High Bay and Cable, Manufacturing Area	(Westinghouse)
Bldg. 2704S, Janitor's closet	(Westinghouse)
Bldg. 2704W, Janitor's closet	(Westinghouse)
Bldg. 2715EC, pain shop, Conex Box #2	(Westinghouse)
Bldg. 2721EA, Area	(Westinghouse)
Bldg. 2724W, Area	(Westinghouse)
Bldg. 2750E, south end	(Westinghouse)
Bldg. 2750E, Room C115	(Westinghouse)
Bldg. 2750E, hallway by Room 100	(Westinghouse)
Bldg. 2750E, hallway, second floor A wing hallway	(Westinghouse)
Bldg. 3701D, Battery Room B-7	(Westinghouse)
Bldg. 3707D, Boiler Room - Room 7	(Westinghouse)
Bldg. 4717, RSB, Cell 258, 550 Level, Isolation Valve, ladder access	(Westinghouse)
Bldg. 4717, RSB, Cell 258, 550 Level Isolation Valve, work platform (3)	(Westinghouse)
Bldg. 4734B, Overhead Storage platform	(Westinghouse)
Bldg. 329, basement	(PNL)
Bldg. 329, stairway to basement	(PNL)
Bldg. 350	(PNL)
Bldg. 350A	(PNL)
Bldg. 350B	(PNL)
Bldg. 350C	(PNL)
Bldg. 3720, Room 210	(PNL)
Bldg. 242A, Computer Room, construction area	(Kaiser)
Bldg. 1250, outdoors at the south end of the building	(Kaiser)
Bldg. 1250, stairs on north side of loading dock/west side of building (2)	(Kaiser)
Bldg. 1250, north side of building, west side of loading dock (2)	(Kaiser)
Bldg. 1250, fourth aisle north of south end of building	(Kaiser)
Bldg. 3722, Ironworkers Shop	(Kaiser)
Bldg. 3722, General, whole structure	(Kaiser)

The total member of findings for OSHA 1910 Subpart D is 90

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1B Summary Violation Location(s) for OSHA 1910 Subpart E

Bldg. 165KW, west wall of Switch Gear Room	(Westinghouse)
Bldg. 165KW, west wall of Switch Gear Room	(Westinghouse)
Bldg. 165KW, east wall of Switch Gear Room	(Westinghouse)
Bldg. 165KW, east wall of Switch Gear Room	(Westinghouse)
Bldg. 184N, southeast corner - 184N-CE-Annex	(Westinghouse)
Bldg. 184N, southeast corner - 184N-CE-Annex	(Westinghouse)
Bldg. 184N, North exit - Control Room Level	(Westinghouse)
Bldg. 184N, North stairwell - marked for/as emergency evacuation route	(Westinghouse)
Bldg. 202A, Sample Gallery, Col. 18, emergency exit	(Westinghouse)
Bldg. 202A, Lab area	(Westinghouse)
Bldg. 202A, Stairway at Col. 19, AMU stairwell storage gallery Bldg. 202A, PIV Room	(Westinghouse)
Bldg. 202A, Storage Gallery, mezzanine storage area, Col. 36	(Westinghouse)
Bldg. 202A, Service Room	(Westinghouse)
Bldg. 221T, Basement, east of fire door 15-2	(Westinghouse)
Bldg. 221T, Section 4, Basement	(Westinghouse)
Bldg. 221T, 1st Floor, next to fire door 5-4	(Westinghouse)
Bldg. 221T, 2nd Floor, next to fire door 5-6, Section 5	(Westinghouse)
Bldg. 221T, 2nd Floor, near fire door 3-6	(Westinghouse)
Bldg. 222S, east side of building near ladder station #11	(Westinghouse)
Bldg. 222S, main floor egress	(Westinghouse)
Bldg. 224U, main entry fire door #2	(Westinghouse)
Bldg. 225B, HVAC Room, aisle behind electrical panel	(Westinghouse)
Bldg. 242A, main entrance	(Westinghouse)
Bldg. 242A, whole building	(Westinghouse)
Bldg. 271B, 1st Floor AMU Janitorial Supply	(Westinghouse)
Bldg. 271T, Room 304	(Westinghouse)
Bldg. 271T, Fire Door 6	(Westinghouse)
Bldg. 271T, basement door to instrument Air Room	(Westinghouse)
Bldg. 272AW, Maintenance Office Bay, power office access	(Westinghouse)
Bldg. 272W, High Bay Area work area w. wall	(Westinghouse)
Bldg. 277W, #9 Emergency Light	(Westinghouse)
Bldg. 277W, northeast corner	(Westinghouse)
Bldg. 284W, second floor	(Westinghouse)
Bldg. 303M, Operations Room, SW corner of room exit door	(Westinghouse)
Bldg. 306E, Room 174A, southeast exit door	(Westinghouse)
Bldg. 309E, Room 174A, southwest corner	(Westinghouse)
Bldg. 315, Operating Deck-east wall, material access door	(Westinghouse)
Bldg. 328, Maintenance Room, west wall	(Westinghouse)
Bldg. 328, Hazardous Waste Accumulation Area, north wall	(Westinghouse)
Bldg. 335A, Room 2, south wall, exit door	(Westinghouse)
Bldg. 384, North side	(Westinghouse)

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Bldg. 405, entire reactor containment	(Westinghouse)
Bldg. 405, Mezzanine Level and reactor cell sub-levels	(Westinghouse)
Bldg. 408A, whole area	(Westinghouse)
Bldg. 408A, outside of building	(Westinghouse)
Bldg. 408B, south side	(Westinghouse)
Bldg. 408B, whole area	(Westinghouse)
Bldg. 408C, whole area	(Westinghouse)
Bldg. 427, Room 109	(Westinghouse)
Bldg. 427, General for building	(Westinghouse)
Bldg. 427, corridor 312	(Westinghouse)
Bldg. 427, Room 355 (2)	(Westinghouse)
Bldg. 427, total building	(Westinghouse)
Bldg. 436, throughout building	(Westinghouse)
Bldg. 436, Computer Room	(Westinghouse)
Bldg. 437, east wall near exterior exit	(Westinghouse)
Bldg. 437, east wall near exterior exit	(Westinghouse)
Bldg. 662, SW corner, exit door	(Westinghouse)
Bldg. 662, main entrance exit sign	(Westinghouse)
Bldg. 662A, Classroom #1, emergency illumination unit	(Westinghouse)
Bldg. 662A, north side, classroom #3, emergency illumination unit	(Westinghouse)
Bldg. 662A, classroom #3, near door #4, exit sign	(Westinghouse)
Bldg. 662A, classroom #3, near exit doorway #4, emergency illumination unit	(Westinghouse)
Bldg. 712, N. double doors, 100 - Printing	(Westinghouse)
Bldg. 712, Room 101	(Westinghouse)
Bldg. 712, north office exit, 102 Area	(Westinghouse)
Bldg. 712, north office exit, exit sign	(Westinghouse)
Bldg. 712, vault exit (entry) door	(Westinghouse)
Bldg. 1154 Radio/Fire Alarm Bay Area, Rm. 18	(Westinghouse)
Bldg. 1154, main entrance and hallway exit signs (2)	(Westinghouse)
Bldg. 1163, exit door, Door 14E	(Westinghouse)
Bldg. 1163, Door 3E	(Westinghouse)
Bldg. 1167, Throughout Building	(Westinghouse)
Bldg. 1169, both doors (north and east sides of bldg.) (2)	(Westinghouse)
Bldg. 1717, entire building	(Westinghouse)
Bldg. 1806-1812, Exit doors, 1806 - #516, 1808 - #728 (4)	(Westinghouse)
Bldg. 2317, Room 36	(Westinghouse)
Bldg. 2317, Room 40	(Westinghouse)
Bldg. 2317, Room 39	(Westinghouse)
Bldg. 2704S, south exist door	(Westinghouse)
Bldg. 2704W, all exit doors (3) (3)	(Westinghouse)
Bldg. 2709W, exit illumination on signs	(Westinghouse)
Bldg. 2709W, exit locations in storage area	(Westinghouse)
Bldg. 2709W, exit door north end of building on east side	(Westinghouse)

Hanford Site

Bldg. 2709W, emergency lighting	(Westinghouse)
Bldg. 2715UA, Insulating Shop	(Westinghouse)
Bldg. 2721EA, second floor, men's and women's locker rooms	(Westinghouse)
Bldg. 2727E, northwest corner (2)	(Westinghouse)
Bldg. 2750E, D Wing	(Westinghouse)
Bldg. 3721C, 1 and 2 Emergency Power Generator (2)	(Westinghouse)
Bldg. 3701D, hall outside ECC	(Westinghouse)
Bldg. 3701D, exit sign outside B6 (E stairwell)	(Westinghouse)
Bldg. 3705, Room 3	(Westinghouse)
Bldg. 3707C, Room 9	(Westinghouse)
Bldg. 3707D, Janitor Closet	(Westinghouse)
Bldg. 3707D, Blueprint Vault (2)	(Westinghouse)
Bldg. 3707D, outside exit from Room 2	(Westinghouse)
Bldg. 4707	(Westinghouse)
Bldg. 4710, north-south corridor, east	(Westinghouse)
Bldg. 4710, Room 636	(Westinghouse)
Bldg. 4713B, Electric Shop, Room 18, S. wall	(Westinghouse)
Bldg. 4713B, Room 34B	(Westinghouse)
Bldg. 4713B, Room 26B	(Westinghouse)
Bldg. 4713B, Room 14	(Westinghouse)
Bldg. 4713B, Room 30	(Westinghouse)
Bldg. 4717, RSB, Cell 258, 550 Level	(Westinghouse)
Bldg. 4717, RSB, Cell 258, 550 Level, north exit door 241	(Westinghouse)
Bldg. 4719, S.E. corner, doorway exit sign	(Westinghouse)
Bldg. 4732A, NE corner of small (spare) parts storage	(Westinghouse)
Bldg. M021	(Westinghouse)
Bldg. M042, throughout building	(Westinghouse)
Bldg. M042, exit signs	(Westinghouse)
Bldg. M043, illumination, exit signs	(Westinghouse)
Bldg. M043, lettering, exit signs	(Westinghouse)
Bldg. M047, center of trailer area	(Westinghouse)
Bldg. 303C, south exit door	(PNL)
Bldg. 305B, basement	(PNL)
Bldg. 318, basement, northwest corner	(PNL)
Bldg. 324, EDL 102, Second Floor	(PNL)
Bldg. 324, High Bay, Door 142	(PNL)
Bldg. 325, Corridor - intersect. of 5 and 7	(PNL)
Bldg. 326, front door	(PNL)
Bldg. 326, emergency light #28	(PNL)
Bldg. 326, Room 23A	(PNL)
Bldg. 329, A-section, generic for building	(PNL)
Bldg. 329, A-Section	(PNL)
Bldg. 329, near room 14B	(PNL)
Bldg. 329, Chemical Storage Annex	(PNL)
Bldg. 329, Lab Storage Area	(PNL)

Hanford Site

Bldg. 329, Door 3	(PNL)
Bldg. 329, Corridor at Room 8C	(PNL)
Bldg. 329, Equipment Room, center area (3)	(PNL)
Bldg. 331A, southeast door to exterior	(PNL)
Bldg. 331H, West exit door	(PNL)
Bldg. 747A, lobby, whole body count, door	(PNL)
Bldg. 747A, Trailer	(PNL)
Bldg. 3720, Room 109	(PNL)
Bldg. 3720, room 601	(PNL)
Bldg. 3746, N end exit door	(PNL)
Bldg. 3746, S. exit light 1st and 2nd floors	(PNL)
Bldg. 1208, the north exterior exit and the south exterior exit	(Kaiser)
Bldg. 1212 (3)	(Kaiser)
Bldg. 1212 (2)	(Kaiser)
Bldg. 1212, hallway - emergency lighting location, Exide (brand) lightguard emergency light unit	(Kaiser)
Bldg. 1240, in the office fast north of the Weld Test lab	(Kaiser)
Bldg. 1240, in the west wall (3)	(Kaiser)
Bldg. 1240, fire exit door - east wall (2)	(Kaiser)
Bldg. 1240, northwest corner	(Kaiser)
Bldg. 1250, southwest fire exit door	(Kaiser)
Bldg. 1250, southwest fire exit door	(Kaiser)
Bldg. 1252, Receiving Office exit door	(Kaiser)
Bldg. 1253, Flammable Storage - NE exit door	(Kaiser)
Bldg. 1256, South side exit sign	(Kaiser)
Bldg. 1256, Payroll office - door to outside	(Kaiser)
Bldg. 3722, exit door	(Kaiser)
Bldg. Trailer 1, office, 100 N area	(Kaiser)

The total of findings for OSHA Subpart E is 157.

1B Summary Violation Location(s) for OSHA 1910 Subpart G.

Bldg. 202A, Compressor Room	(Westinghouse)
Bldg. 271CR, Compressor Building	(Westinghouse)
Bldg. 405, personnel air lock	(Westinghouse)
Bldg. 1806-1812, Westinghouse Project Operations, Noise Program	(Westinghouse)
Bldg. 3709A, Air Compressor Room	(Westinghouse)
Bldg. 325, Lab areas	(PNL)
Bldg. 329, Utility Room, vacuum area	(PNL)
Entire PNL operation, PNL Hearing Conservation Program (2)	(PNL)
Entire PNL operation, PNL Hearing Conservation Program	(PNL)

Hanford Site

Entire PNL operation, PNL Hearing Conservation Program	(PNL)
Entire KEH operation, KEH Hearing Conservation Program (2)	(Kaiser)

The total number of findings for OSHA 1910 Subpart G is 11

1B Summary Violation Location(s) for OSHA 1910 Subpart H.

Bldg. 182N, northwest corner (3)	(Westinghouse)
Bldg. 202A, Sample Gallery, immediately West of Col. 24	(Westinghouse)
Bldg. 202A, Sample Gallery, west end	(Westinghouse)
Bldg. 202A, Q cell stairwell, storage gallery level	(Westinghouse)
Bldg. 271B, Gas Storage Area (Dock Area)	(Westinghouse)
Bldg. 272E, Jib No. 2	(Westinghouse)
Bldg. 272E, Burning Room, outside main building at southwest corner	(Westinghouse)
Bldg. 277W, Boiler Makers compressed gas cylinder storage racks outside west wall	(Westinghouse)
Bldg. 284E, outside diesel storage tank (30,000 gal)	(Westinghouse)
Bldg. 309E, Room 174B, south wall	(Westinghouse)
Bldg. 484, Chiller, west end	(Westinghouse)
Bldg. 1143N, east wall, NE corner, flammable storage cabinet	(Westinghouse)
Bldg. 1171, Sheet Metal Shop - south wall	(Westinghouse)
Bldg. 2723W, southwest corner of bldg. (2)	(Westinghouse)
Bldg. 3707C, Room 7B, Flammable Storage Cabinet	(Westinghouse)
Bldg. 4222C, change area	(Westinghouse)
Bldg. 329, Chemical Annex, flammable storage area	(PNL)
Bldg. 329, Chemical Annex Room, flammable storage room	(PNL)
Bldg. 3720, Room 501	(PNL)
Bldg. 1240, exterior to building, Gas Container Storage Area	(Kaiser)

The total number of findings for OSHA 1910 Subpart H is 20.

1B Summary Violations Location(s) for OSHA 1910 Subpart I.

Bldg. 202A, Sample Gallery, Col. 32	(Westinghouse)
Bldg. 211A, janitor supply cabinet beside "acid suit cabinet"	(Westinghouse)
Bldg. 221T, next to fire door 15-4	(Westinghouse)
Bldg. 271AB, Maintenance bottle dock, outside of Door 501	(Westinghouse)
Bldg. 271B, Men's Locker Room	(Westinghouse)
Bldg. 272, southeast corner in tool box at inspections machine #WB06085	(Westinghouse)
Bldg. 284E, Millwright Shop, stokes rebuild area - drill grinder	(Westinghouse)
Bldg. 284E, Maintenance Shop (2)	(Westinghouse)

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Bldg. 284E, boilermakers shop, upstairs	(Westinghouse)
Bldg. 306E, Receiving Rm. 157 supply cabinet	(Westinghouse)
Bldg. 315, Operating Deck, kitchen, south wall by door	(Westinghouse)
Bldg. 2715ED, Paint Storage Bldg.	(Westinghouse)
Bldg. 3705, Room 26, north wall C41 dispensing rack	(Westinghouse)
Bldg. 6920E IW/R Storage Shelves (2)	(Westinghouse)
Bldg. 325, lab areas and rooms, specifically Room 313	(PNL)
Bldg. 331, Room 345	(PNL)
Bldg. 350A, Paint Area	(PNL)
Bldg. 6920, General Area	(PNL)
Entire PNL operation, PNL Respiratory Protection Program	(PNL)
Entire PNL operation, PNL Respiratory Protection Program	(PNL)
Bldg. 427, Room 158	(Kaiser)
Bldg. 1253, Flammable Storage	(Kaiser)
Bldg. 4802, Office Area - grey storage cabinet, east wall	(Kaiser)
Bldg. 4802, Office Area - grey storage cabinet, east wall	(Kaiser)

The total number of findings for OSHA 1910 Subpart I is 24.

1B Summary Violation Location(s) for OSHA 1910 Subpart J.

Bldg. 272, tool box at work station milling machine, #WB10945	(Westinghouse)
Bldg. 272E, Burning Room, outside main building (same as 272E-55, 56)	(Westinghouse)
Bldg. 272W, tool box at work station near Monarch lathe, west wall, #WB10941	(Westinghouse)
Bldg. 309, Room 404A, north power rack to removed equipment	(Westinghouse)
Bldg. 384 Power Plant - 4th level, NE platform pipes	(Westinghouse)
Bldg. 384, Old Baghouse No. 4 and 5, top level, conduit arches	(Westinghouse)
Bldg. 1171, Sheet Metal, Carpenter, Paint Shops	(Westinghouse)
Bldg. 2317, Room 51 (6)	(Westinghouse)
Bldg. 2714A, Area	(Westinghouse)
Bldg. 2715EC, Conex 2, Area 200E	(Westinghouse)
Bldg. 2721EA, Maintenance Shop, lighting panel C (2)	(Westinghouse)
Bldg. 2723W, east side, Southern Corner	(Westinghouse)
Bldg. 2724w, MO412, PPE side	(Westinghouse)
Bldg. 324, ED102 East Wall, Module 7	(PNL)
Bldg. 1241, north central, north side of facility drinking fountain	(Kaiser)
Bldg. N1515, east wall, portable water container (Gott, 5-gal) in use	(Kaiser)

The total number of findings for OSHA 1910 Subpart J is 16.

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1B Summary Violation Location(s) for OSHA 1910 Subpart K

Bldg. 340, Decon, Eyewash	(Westinghouse)
Bldg. 1120N, outside wall - Room 5	(Westinghouse)

The total number of findings for OSHA 1910 Subpart K is 2.

1B Summary Violation Location(s) for OSHA 1910 Subpart L

Bldg. 222S, hallway by Door 16	(Westinghouse)
Bldg. 225B, Room 108, Office Area	(Westinghouse)
Bldg. 271B, Doorway 11, corridor	(Westinghouse)
Bldg. 271B, Corridor Fire Extinguisher #42	(Westinghouse)
Bldg. 284E, upstairs outside Battery Room	(Westinghouse)
Bldg. 315, Operating Deck, south wall near entrance	(Westinghouse)
Bldg. 315, Operating Deck, west wall near filter 3	(Westinghouse)
Bldg. 315, pump floor, north wall	(Westinghouse)
Bldg. 315, pump floor, east wall near door	(Westinghouse)
Bldg. 315, pump room floor, north wall	(Westinghouse)
Bldg. 315, pump floor, east wall	(Westinghouse)
Bldg. 401, conference room, NE corner (4)	(Westinghouse)
Bldg. 405, reactor containment HU7	(Westinghouse)
Bldg. 436, Room 2	(Westinghouse)
Bldg. 437, east wall near exterior exit	(Westinghouse)
Bldg. 661, Gun Cleaning Shop, fire extinguishers	(Westinghouse)
Bldg. 662, Explosives Magazine	(Westinghouse)
Bldg. 662A, Classroom #3, near exit door #4, fire extinguisher	(Westinghouse)
Bldg. 712, Station 4 - fire extinguisher, location indicators	(Westinghouse)
Bldg. 712, Station 4 - fire extinguisher, blockage	(Westinghouse)
Bldg. 712, Room 104, fire extinguisher #2	(Westinghouse)
Bldg. 712, Mechanical Room, 402 Area	(Westinghouse)
Bldg. 1101N, Fire extinguisher #6, between Rooms 200 and 202	(Westinghouse)
Bldg. 1154, Fire extinguisher #19	(Westinghouse)
Bldg. 1163, NW corner by Door #2W	(Westinghouse)
Bldg. 1163, Q.C. offices 2nd floor in warehouse	(Westinghouse)
Bldg. 1163, Room 267N, Fire Extinguisher	(Westinghouse)
Bldg. 1163, Fire Extinguisher #12, Room 267	(Westinghouse)
Bldg. 1163, SW corner of Room 267, Fire Extinguisher	(Westinghouse)
Bldg. 1212, Storage Area #10	(Westinghouse)
Bldg. 1212, Storage Area #1	(Westinghouse)
Bldg. 1212, Storage Area #7	(Westinghouse)
Bldg. 2101M, Warehouse, D Bay, near SE corner	(Westinghouse)
Bldg. 2690E, Cargo Container #2	(Westinghouse)
Bldg. 2704S, north exit door, fire extinguisher #2	(Westinghouse)

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Bldg. 2715W, Southeast Corner	(Westinghouse)
Bldg. 3701D, Room B-6	(Westinghouse)
Bldg. 3707D, Boiler Room - Room 7	(Westinghouse)
Bldg. 3768, east end, main hall, south wall near entrance	(Westinghouse)
Bldg. 3768, west end, main hall, south wall near entrance	(Westinghouse)
Bldg. 4722B, Carpenter Shop	(Westinghouse)
Bldg. 4843, Fire extinguisher #402, S. Wall	(Westinghouse)
Bldg. 6920E, IW/R Shop Welding area, NW Corner (2)	(Westinghouse)
Bldg. M042, Copy Room, fire extinguisher #4	(Westinghouse)
Bldg. M0302, Weapons shop fire extinguishers (4)	(Westinghouse)
Bldg. M01150, office hallway fire extinguisher	(Westinghouse)
Bldg. M01151, north end office hallway fire extinguisher	(Westinghouse)
Bldg. 318, Room 106	(PNL)
Bldg. 1208, north and south ends of building, fire extinguishers #110, 108 and 109	(Kaiser)
Bldg. 1209, southeast corner - fire extinguishers	(Kaiser)
Bldg. 1209, northeast corner - fire extinguishers #107	(Kaiser)
Bldg. 1212, Storage Area #6	(Kaiser)
Bldg. 1226, north side of building	(Kaiser)
Bldg. 1240, exterior to building Tank Storage Area, fire extinguishers #93	(Kaiser)
Bldg. 1240, Bench Stock Room, halls, welding rod storage, kitchen, jumper shop, by Panel "E", north end by door	(Kaiser)
Bldg. 1240, Lunchroom next to Boilermakers Office (Kaiser)	
Bldg. 1240, 6th Column - from southeast corner door	(Kaiser)
Bldg. 1241, east interior wall - middle section of building	(Kaiser)
Bldg. 1250, by S door, fire extinguisher #44	(Kaiser)
Bldg. N1517, south end - Painters Building	(Kaiser)

The total number of findings for OSHA 1910 Subpart L is 60.

1B Summary Violation Location(s) for OSHA 1910 Subpart N.

Bldg. 272E, overhead crane	(Westinghouse)
Bldg. 275E, Lower Carpenter Shop	(Westinghouse)
Bldg. 277W, Sheet Metal, 6 ft nylon web sling	(Westinghouse)
Bldg. 277W, 15 ton crane	(Westinghouse)
Bldg. 284W, west side of #4 boiler	(Westinghouse)
Bldg. 284W, General Area	(Westinghouse)
Bldg. 328, Battery Charging area	(Westinghouse)
Bldg. 382, battery charging station	(Westinghouse)
Bldg. 384, west end of main boiler area	(Westinghouse)
Bldg. 481, Emergency Generator Room	(Westinghouse)
Bldg. 481A, middle	(Westinghouse)

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Bldg. 1171, Tire Shop, job crane	(Westinghouse)
Bldg. 171, south wall storage room	(Westinghouse)
Bldg. 2690E, High Bay Area	(Westinghouse)
Bldg. 2715ED, Paint Storage Room, Area 200E	(Westinghouse)
Bldg. 2721 Electrical Equipment Room	(Westinghouse)
Bldg. 2721, Mechanical Room	(Westinghouse)
Bldg. 2721EA, roll around hoist, 1/2 ton A-frame	(Westinghouse)
Bldg. 2724W, Washing - Drying Area	(Westinghouse)
Bldg. 2724W, Washing - Drying Area - monorail cranes (Rad-Side)	(Westinghouse)
Bldg. 3709A, HVAC Room	(Westinghouse)
Bldg. 6920E, IW/R Shop, Monorail crane	(Westinghouse)
Bldg. 6920E, Lorain Mobile Crane HO-17T-5684, main block	(Westinghouse)
Bldg. 6920E, Lorain Crane, HO-17T-5684, crane boom	(Westinghouse)
Bldg. 6920E, Lorain Crane, HO-17T-5684, identification	(Westinghouse)
Bldg. 6920E, Lorain Crane, HO-17T-5684, cab glass	(Westinghouse)
Bldg. 6920E, Lorain Crane, HO-17T-5684, hook	(Westinghouse)
Bldg. 305B, Area	(PNL)
Bldg. 324, High Bay, 5 ton crane	(PNL)
Bldg. 350, Main Shops, monorail, jib, 2 ton, crane 003 and outdoor 3 ton 11 (5)	(PNL)
Bldg. 350B, S wall, Battery Charging Station	(PNL)

The total number of findings for OSHA 1910 Subpart N is 31.

1B Summary Violation Location(s) for OSHA 1910 Subpart O

Bldg. 202A, O cell, Maintenance Hood Room, northwest corner of room, pump	(Westinghouse)
Bldg. 222S, HVAC - duct - level	(Westinghouse)
Bldg. 224U, Compressor Room	(Westinghouse)
Bldg. 271AB, Maintenance/Weld Shop	(Westinghouse)
Bldg. 272, High Bay Area Black Diamond grinder, E427658	(Westinghouse)
Bldg. 272E, east wall, Black & Decker grinding wheel 352926	(Westinghouse)
Bldg. 272E, northeast corner of shop, Cincinnati Grinder SN 361821	(Westinghouse)
Bldg. 272E, southwest corner, bench grinder	(Westinghouse)
Bldg. 272U, 440V Bench Grinder	(Westinghouse)
Bldg. 272U, Belt Sander	(Westinghouse)
Bldg. 272W, Weld Booth Grinder	(Westinghouse)
Bldg. 272W, High Bay Area Pedestal Grinder #HEW 043190	(Westinghouse)
Bldg. 275E, Oliver #116 band saw	(Westinghouse)
Bldg. 275E, Rockwell Manufacturing Co. radial arm drill press	(Westinghouse)
Bldg. 275E, Carpenter Shop	(Westinghouse)

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Bldg. 277W, Boiler Shop, south wall, exhaust fan	(Westinghouse)
Bldg. 284W, Drill Press (WA 75812)	(Westinghouse)
Bldg. 304, NE corner heater fan guard	(Westinghouse)
Bldg. 306E, Room 184, N. area Baldor grinder	(Westinghouse)
Bldg. 328, Tool Guard Area, buffer next to 1-ton chain fall	(Westinghouse)
Bldg. 333, Maintenance Weld Shop - 7 inch grinder	(Westinghouse)
Bldg. 338, west wall (2)	(Westinghouse)
Bldg. 338, weld shop	(Westinghouse)
Bldg. 384, Boiler #3	(Westinghouse)
Bldg. 384, Level 1, Coal Fired Distributor, belt & pulley unit	(Westinghouse)
Bldg. 481A, near west wall	(Westinghouse)
Bldg. 491E, level 570 cell 450, secondary pump P-4, left pump No. PCS-D (3)	(Westinghouse)
Bldg. 1154, Room 4, Machine Shop	(Westinghouse)
Bldg. 1171, Somaca belt machine for edging glass	(Westinghouse)
Bldg. 1171, Somaca belt sander, Glass Shop	(Westinghouse)
Bldg. 1171, equipment restart	(Westinghouse)
Bldg. 2101M, Room 210, Soil Analysis Lab (2)	(Westinghouse)
Bldg. 2724W, Gentle Touch Survey Machines (Rad-Side)	(Westinghouse)
Bldg. 3506A, grinding area, Baldor pedestal grinder 300766	(Westinghouse)
Bldg. 3707C, Instrument Shop, very small drill press	(Westinghouse)
Bldg. 3707C, Instrument Shop "Craftsman" lathe	(Westinghouse)
Bldg. 3713, near east wall	(Westinghouse)
Bldg. 3713, center of shop "Craftman" sander	(Westinghouse)
Bldg. 3713, center of shop "Atlas" and Sander (2)	(Westinghouse)
Bldg. 4722B, Carpenter Shop	(Westinghouse)
Bldg. 4722C, Sign production area (2)	(Westinghouse)
Bldg. 4722C, north wall, Box S-5, Control K and Panel V	(Westinghouse)
Bldg. 4722C, Air compressor	(Westinghouse)
Bldg. 6920E, IW/R shop, swedging machine	(Westinghouse)
Bldg. 6920E, IW/R shop, adjacent to (north) of cable test framework	(Westinghouse)
Bldg. M0302, weapons shop, Black & Decker angle sander	(Westinghouse)
Bldg. M0302, Weapons Shop, Wilton drill	(Westinghouse)
Bldg. 314, Shop	(PNL)
Bldg. 314, Shop	(PNL)
Bldg. 314, Shop	(PNL)
Bldg. 324, Maintenance Shop	(PNL)
Bldg. 324, Maintenance Shop	(PNL)
Bldg. 325, Room 206, Mechanical Shop	(PNL)
Bldg. 325, Room 206, Hammond Belt Sander (SN 1856)	(PNL)
Bldg. 326, Room 48C, belt sander	(PNL)

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Bldg. 3745, Shop	(PNL)
Bldg. 3722, Ironworker Shop	(Kaiser)
Bldg. 3722, Carpenter Shop	(Kaiser)

The total number of findings for OSHA 1910 Subpart O is 59.

1B Summary Violation Location(s) for OSHA 1910 Subpart P

Bldg. 272, High Bay Area tool box at work station, Lebond lathe EWB10916	(Westinghouse)
Bldg. 272W, High Bay Area tool box at workstation at Mazak Mill	(Westinghouse)
Bldg. 272W, tool box at workstation west wall near lathe #WB10902	(Westinghouse)
Bldg. 272E, Carpenter Shop	(Westinghouse)
Bldg. 284E, Boilermakers Shop, upstairs	(Westinghouse)
Bldg. 328, Weld Room, Station No. 2, compressed air hose	(Westinghouse)
Bldg. 1171, Building Maintenance shop - east side	(Westinghouse)
Bldg. 2101M, south wall of Electrical Shop	(Westinghouse)
Bldg. 2317, Room 40	(Westinghouse)
Bldg. 2690E, Tool Crib	(Westinghouse)
Bldg. 2721, fire arms storage	(Westinghouse)
Bldg. 3506A, mechanical bench compressed air base	(Westinghouse)
Bldg. 3713, west side, near DeWalt radial arm saw	(Westinghouse)
Bldg. 3713, Tool Room (3)	(Westinghouse)
Bldg. 3713, east side near Delta lathe	(Westinghouse)
Bldg. 6920E, Rigger Tool Crib (Shelves) (2)	(Westinghouse)
Bldg. 6920E, IW/R Tool Crib, storage	(Westinghouse)
Bldg. M0302, Weapons Shop, workbench area jack	(Westinghouse)
Bldg. 1208, Paint Spray Building, blue metal tool box, east wall	(Kaiser)
Bldg. 1226, Tire Service Truck - Side Compartment	(Kaiser)
Bldg. 1226, Tire Service Truck - Truck Bed	(Kaiser)
Bldg. 1240, Electrical Shop, in the W. side	(Kaiser)
Bldg. 1240, corner southeast wall tool box #T574	(Kaiser)
Bldg. 1240, east wall - tool box #669	(Kaiser)
Bldg. 1241, center column - tool box - air powered hand held grinder #WB01882/HWX90079	(Kaiser)
Bldg. N1516, Carpenter Shop, north wall - tool cabinet, hydraulic jack	(Kaiser)
Bldg. 4802, Lunchroom, North wall - green tool box labeled "Heat Guns"	(Kaiser)

The total number of findings for OSHA 1910 Subpart P is 27.

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1B Summary Violation Location(s) for OSHA 1910 Subpart Q

Bldg. 712, exterior ammonia storage	(Westinghouse)
Bldg. 2722W, Welding qualification (hands-on training) (9)	(Westinghouse)
Bldg. 4713B, Room 28, Scott air compressor room, north way	(Westinghouse)
Bldg. 1240, south end - Load Center No. 11; right column line Welder #JAJ-73-18429	(Kaiser)
Bldg. 1241, center aisle, second column	(Kaiser)
Bldg. N1515, west wall, welding location #RA-28 foot pedal	(Kaiser)
Bldg. N1515, west wall, weld lead	(Kaiser)

The total number of findings for OSHA 1910 Subpart Q is 7.

1B Summary Violation Location(s) for OSHA 1910 Subpart S.

Bldg. 151KW, west wall of control room	(Westinghouse)
Bldg. 182N, south wall of Control Room	(Westinghouse)
Bldg. 182N, above pedestrian door adjacent to roll-up-door east side	(Westinghouse)
Bldg. 182N, above electrical disconnect #49 (440 volts)	(Westinghouse)
Bldg. 182N, "A"-buss fire pump control panel	(Westinghouse)
Bldg. 182N, electrical disconnect on supply fan #1 (HVAC mezzanine)	(Westinghouse)
Bldg. 182N, upper mezzanine level - lighting panel	(Westinghouse)
Bldg. 184N, 2nd level - Instrument/Electric Shop	(Westinghouse)
Bldg. 202A, Sample Gallery Col. 13, 480V PAN- Feeder F68, Position 2C	(Westinghouse)
Bldg. 202A, Sample Gallery, Col. 15 outlet LC 12	(Westinghouse)
Bldg. 202A, Sample Gallery, Col. 16 outlet LD 4	(Westinghouse)
Bldg. 202A, Sample Gallery, receptacles L6-5 and L65C between Col. 40 and 41	(Westinghouse)
Bldg. 202A, Sample Gallery, electrical panel immediately east of Col. 38	(Westinghouse)
Bldg. 202A, Sample Gallery, sample F-8, outlet from LF-7T	(Westinghouse)
Bldg. 202A, Sample Gallery, just west of Col. 27, electrical outlet GF-4T	(Westinghouse)
Bldg. 202A, Sample Gallery, clock wiring at sample H-2	(Westinghouse)
Bldg. 202A, Col. 9, receptacle LC-6	(Westinghouse)
Bldg. 202A, Sample Gallery, west end	(Westinghouse)
Bldg. 202A, West Crane Lab, east side of cab	(Westinghouse)
Bldg. 202A, West Crane Lab, west wall	(Westinghouse)
Bldg. 202A, West Crane Lab, east portion	(Westinghouse)
Bldg. 202A, West Crane Lab, west portion	(Westinghouse)

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Bldg. 202A, West Crane Lab, west wall	(Westinghouse)
Bldg. 202A, SWP Lobby, north wall	(Westinghouse)
Bldg. 202A, SWP Lobby, south end of table, electrical outlet LKT-IA-6	(Westinghouse)
Bldg. 202A, Q cell stairwell, storage gallery level	(Westinghouse)
Bldg. 202A, Q cell stairwell, storage gallery level	(Westinghouse)
Bldg. 202A, Door 125	(Westinghouse)
Bldg. 202A, Col. 21, panel F224. 746	(Westinghouse)
Bldg. 202A, Col. line 25, storage gallery	(Westinghouse)
Bldg. 202A, Compressor Room, behind and to left of tank 202 ATK6110D	(Westinghouse)
Bldg. 202A, Compressor Room	(Westinghouse)
Bldg. 211A, Tank Farm	(Westinghouse)
Bldg. 211A, Tank Farm	(Westinghouse)
Bldg. 221T, North end of men's locker room, first floor	(Westinghouse)
Bldg. 221T, 2nd Floor - Canyon ventilation fan selector panel	(Westinghouse)
Bldg. 221T, 2nd Floor - Section 13, disconnect for Partek pump	(Westinghouse)
Bldg. 221T, 2nd Floor - Section 13, PWR pool control panel	(Westinghouse)
Bldg. 221T, 2nd Floor - Head end, Control Room	(Westinghouse)
Bldg. 221T, 2nd Floor - Head end - Control Room	(Westinghouse)
Bldg. 221T, Panel (electrical) "1", adjacent to fire door 17-5, second floor	(Westinghouse)
Bldg. 221T, Electrical panel, adjacent to fire door 17-5	(Westinghouse)
Bldg. 221T, SW of MCC CE, basement level	(Westinghouse)
Bldg. 221T, Section 4, Basement	(Westinghouse)
Bldg. 221T, Section 4, Basement	(Westinghouse)
Bldg. 221T, 2nd Floor, RPT office, Sect. 20	(Westinghouse)
Bldg. 221T, 2nd Floor, Room 213	(Westinghouse)
Bldg. 221T, 2nd Floor, Zone 13/14, East side	(Westinghouse)
Bldg. 221T, GE Motor Control Center L2	(Westinghouse)
Bldg. 221T, First Floor, Section 3	(Westinghouse)
Bldg. 222S, Room 5G	(Westinghouse)
Bldg. 222S, Room 5G	(Westinghouse)
Bldg. 222S, Second Floor	(Westinghouse)
Bldg. 222S, Old Counting Room	(Westinghouse)
Bldg. 222S, New Counting Room	(Westinghouse)
Bldg. 222S, Hallway by Door 16	(Westinghouse)
Bldg. 222S, Room 1E	(Westinghouse)
Bldg. 222S, Counting Room	(Westinghouse)
Bldg. 222S, New Counting Room	(Westinghouse)
Bldg. 222S, New Counting Room, Gamma Energy Analysis System	(Westinghouse)
Bldg. 222S, New Counting Room, Gamma Energy Analysis System	(Westinghouse)
Bldg. 224U, main entry, north side, Panel A	(Westinghouse)
Bldg. 224U, Panel N inside hall by Fire Door 8	(Westinghouse)
Bldg. 224U, Second floor, north end compressor room	(Westinghouse)

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Bldg. 224U, North Side compressor room	(Westinghouse)
Bldg. 224U, Lunchroom, second floor	(Westinghouse)
Bldg. 224U, Lunchroom, second floor	(Westinghouse)
Bldg. 224U, Control Room, east panel, south side	(Westinghouse)
Bldg. 224U, Control Room, north end of east board	(Westinghouse)
Bldg. 224U, Outside "Mens" SWP change room	(Westinghouse)
Bldg. 224U, F Cell	(Westinghouse)
Bldg. 224U, Outside of D cell on exterior of building	(Westinghouse)
Bldg. 224UA, Load Out Room	(Westinghouse)
Bldg. 224UA, Electrical Equipment Room	(Westinghouse)
Bldg. 224UA, Load-Out Room	(Westinghouse)
Bldg. 224Y, Exterior of building, south side substation C8-517, 2 transformers	(Westinghouse)
Bldg. 225B, HVAC Room, Panel Board D	(Westinghouse)
Bldg. 225B, HVAC Room Work Desk	(Westinghouse)
Bldg. 225B, HVAC Room, northwest corner	(Westinghouse)
Bldg. 241AZ, AZ vent header	(Westinghouse)
Bldg. 241AZ, 01-AZ pump pit	(Westinghouse)
Bldg. 241AZ, 01-AZ pump pit	(Westinghouse)
Bldg. 242A, Outside main entrance, "bug zapper"	(Westinghouse)
Bldg. 252Y, Perimeter chain link fence	(Westinghouse)
Bldg. 271AB, Maintenance Storage Room, southeast corner	(Westinghouse)
Bldg. 271CR, Control Room	(Westinghouse)
Bldg. 271T, Adjacent to fire door 12	(Westinghouse)
Bldg. 271T, Lunchroom	(Westinghouse)
Bldg. 271T, Store Room - AMU Room	(Westinghouse)
Bldg. 271T, Maintenance Shop Lunchroom	(Westinghouse)
Bldg. 271T, Instrument Shop & Sign Shop (2)	(Westinghouse)
Bldg. 271T, Electrical Room, west of fire door 2 and next to fire door 1	(Westinghouse)
Bldg. 272, High Bay Area Lodge and Shipley lathe, #HW463954	(Westinghouse)
Bldg. 272, High Bay Area, Lebond 20 inch lathe, HW#413304	(Westinghouse)
Bldg. 272, High Bay Area at weld receptacle #2, 110 volt outlet next to box (2)	(Westinghouse)
Bldg. 272, Tool box at milling machine #WB10945	(Westinghouse)
Bldg. 272, High Bay Area 110 volt outlets (2) at bridge - port milling machine #WB97917	(Westinghouse)
Bldg. 272, Southeast corner finishing machine #WB10922	(Westinghouse)
Bldg. 272, Jib Bore Room	(Westinghouse)
Bldg. 272, Office area call bell system	(Westinghouse)
Bldg. 272AW, Southwest corner of building, panel board B	(Westinghouse)
Bldg. 272AW, Shift Office, drop light extension cord	(Westinghouse)
Bldg. 272AW, Lunchroom, north wall, ice machine	(Westinghouse)
Bldg. 272AW, Lunchroom, south wall, receptacle behind candy	(Westinghouse)
Bldg. 272AW, Decon Rm, last wall receptacle	(Westinghouse)

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Bldg. 272AW, Tool Crib	(Westinghouse)
Bldg. 272AW, Tool Crib	(Westinghouse)
Bldg. B272AW, Weld Shop, north wall, flexcord to hot water heater	(Westinghouse)
Bldg. 272AW, Outside west wall, block flexible power cord to cargo container	(Westinghouse)
Bldg. 272AW, West wall, south HVAC unit	(Westinghouse)
Bldg. 272E, Southeast corner of shop, Delta Rockwell Drill Press, SN1346622	(Westinghouse)
Bldg. 272E, Westwall, top receptacle going to panel A-7	(Westinghouse)
Bldg. 272E, Lights above phone booth just north of tool crib	(Westinghouse)
Bldg. 272E, Northeast portion of building, east wall behind QA office, receptacle No. 24 to Panel LB	(Westinghouse)
Bldg. 272E, Near Pipe Shop water fountain, 120V electrical outlet No. 24 to panel LB	(Westinghouse)
Bldg. 272E, Jumper Jig No. 2, Electrical box next to motor	(Westinghouse)
Bldg. 272E, north corner	(Westinghouse)
Bldg. 272E, Southeast corner, bench grinder (same as 272E-50)	(Westinghouse)
Bldg. 272E, SW., electrical disconnect	(Westinghouse)
Bldg. 272E, SW. corner, Bench Grinder 864401	(Westinghouse)
Bldg. 272E, Burning Room, outside main building on southwest corner, electrical disconnect (same room as 272E-55)	(Westinghouse)
Bldg. 272E, Southwest corner, bench grinder	(Westinghouse)
Bldg. 272U, Break Area	(Westinghouse)
Bldg. 272U, Belt Sander	(Westinghouse)
Bldg. 272U, Outside of building	(Westinghouse)
Bldg. 272UA, Hot shop	(Westinghouse)
Bldg. 272W, Word Booth Load Furnace	(Westinghouse)
Bldg. 272W, Weld Booth Grinder	(Westinghouse)
Bldg. 272W, Weld Shop	(Westinghouse)
Bldg. 272W, Weld Shop	(Westinghouse)
Bldg. 272W, Cincinnati Milling Machine #CWB 04754	(Westinghouse)
Bldg. 272W, High Bay Area Telephone Box	(Westinghouse)
Bldg. 272W, Weld Shop	(Westinghouse)
Bldg. 272W, High Bay Area milling machine, #WB10939	(Westinghouse)
Bldg. 274W, Room 10A	(Westinghouse)
Bldg. 274W, Lunchroom 12	(Westinghouse)
Bldg. 275E, West wall	(Westinghouse)
Bldg. 275E, Yates M31, jointer	(Westinghouse)
Bldg. 275E, Hallidie Machinery Co. belt sander	(Westinghouse)
Bldg. 275E, Covell-Hanchett Co. #4733	(Westinghouse)
Bldg. 275E, Rockwell Manufacturing Co. radial arm drill	(Westinghouse)
Bldg. 275E, Lunchroom water cooler	(Westinghouse)
Bldg. 275E, Shop in general	(Westinghouse)
Bldg. 275E, Lunchroom water cooler	(Westinghouse)

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Bldg. 275E, Carpenter Shop Tool Crib	(Westinghouse)
Bldg. 275E, Carpenter Shop Tool Crib	(Westinghouse)
Bldg. 275EA, Battery Charging Area	(Westinghouse)
Bldg. 275W, East wall near exit door	(Westinghouse)
Bldg. 275W, East wall near exit door	(Westinghouse)
Bldg. 275W, East wall near exit door	(Westinghouse)
Bldg. 275W, East wall near exit door	(Westinghouse)
Bldg. 275W, Center of building	(Westinghouse)
Bldg. 277W, Immediately west of tool crib Panel A	(Westinghouse)
Bldg. 277W, Sheet Metal, east wall, electrical outlet just south of sheet storage	(Westinghouse)
Bldg. 277W, Sheet Metal, south wall crane service 480V box	(Westinghouse)
Bldg. 277W, Sheet Metal Shop electrical Panel C	(Westinghouse)
Bldg. 277W, East wall Boiler Shop, Power Panel A 440V	(Westinghouse)
Bldg. 277W, Boiler Makers, northeast corner, auxiliary light stand power cord	(Westinghouse)
Bldg. 277W, Sheet Metal - outside building south exterior wall	(Westinghouse)
Bldg. 277W, Southeast corner	(Westinghouse)
Bldg. 277W, Southeast corner, Bench Grinder	(Westinghouse)
Bldg. 277W, South wall, "Sander", "Saw" 440 disconnect box	(Westinghouse)
Bldg. 277W, SW. corner, 440V disconnect	(Westinghouse)
Bldg. 277W, South wall, Bench Grinder	(Westinghouse)
Bldg. 277W, Boiler Shop, southwest corner, drill press 80105	(Westinghouse)
Bldg. 277W, Boiler Shop, South wall, Disconnect boxes from hoist, Belt Sander and Hot Water Heater	(Westinghouse)
Bldg. 277W, Boiler Shop, South wall, Compressor Room, backup compressor disconnect box	(Westinghouse)
Bldg. 277W, Boiler Shop, south wall, two, 4 foil light fixtures on gantries	(Westinghouse)
Bldg. 277W, Boiler Shop, south wall, Bench Grinder SN F976	(Westinghouse)
Bldg. 277W, Boiler Shop, northeast corner, steam heater electric fan	(Westinghouse)
Bldg. 284E, Whole building	(Westinghouse)
Bldg. 284E, Boilermaker Shop	(Westinghouse)
Bldg. 284E, Chargehouse - steam heated fan motor	(Westinghouse)
Bldg. 284E, Welder Shop, bench grinder	(Westinghouse)
Bldg. 284E, Welder Shop, 440 disconnect box	(Westinghouse)
Bldg. 284E, West wall, lighting panel "D", (very old - snap-in fuses, not breakers)	(Westinghouse)
Bldg. 284E, West wall, light panel "D"	(Westinghouse)
Bldg. 284W, Auxiliary #4 SW. corner (2)	(Westinghouse)
Bldg. 284W, Maintenance Shop (2)	(Westinghouse)
Bldg. 284W, east side of #1 Softeaer Tank	(Westinghouse)
Bldg. 284W, Lighting Panel A, north wall, across from #1 boiler (2)	(Westinghouse)

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Bldg. 303F, tank farm area, east wall, outside caustic puny #1	(Westinghouse)
Bldg. 303F, tank farm area, east wall, outside heat & vent cooler	(Westinghouse)
Bldg. 303F, tank farm area, east wall, outside NWAT agitator motor	(Westinghouse)
Bldg. 303M, Filter Room, S. wall panel "EB"	(Westinghouse)
Bldg. 303M, Operations Room electrical extension cord	(Westinghouse)
Bldg. 304, west wall electrical panels (3)	(Westinghouse)
Bldg. 306E, Room 183, south work bench, con saw	(Westinghouse)
Bldg. 306E, 2nd floor equipment room, 2&3 supply unit control panel (2)	(Westinghouse)
Bldg. 306E, Room 161, south wall switch box	(Westinghouse)
Bldg. 306E, Room 166, north wall receptacle hooked to isolation transformer	(Westinghouse)
Bldg. 306E, Receiving Room 157 supply cabinet extension cord	(Westinghouse)
Bldg. 306E, Receiving Room 157, east wall junction box	(Westinghouse)
Bldg. 306E, room 183, Blast Chamber	(Westinghouse)
Bldg. 306E, A-2 Hibay, DuPont Leak Detector SN 1492	(Westinghouse)
Bldg. 309, Blue Change Room, emergency lighting panel EC (3)	(Westinghouse)
Bldg. 309, Lunchroom Panel	(Westinghouse)
Bldg. 309, Supply Fan Room, electric motor conduit	(Westinghouse)
Bldg. 309, Construction Change Room, lowest electrical receptacle H-20	(Westinghouse)
Bldg. 309, Construction Change Room, electrical outlet box F-7	(Westinghouse)
Bldg. 309, Room 404, West wall electrical outlet R-11	(Westinghouse)
Bldg. 309, Room 214 East wall electrical outlet D-2	(Westinghouse)
Bldg. 309, Office Wing N-S Hall, refrigerator extension cord	(Westinghouse)
Bldg. 309, Containment Level Zero, NE portion next to hoist ladder	(Westinghouse)
Bldg. 309E, Room 174A, north wall power strip CKT6 to Panel L-L	(Westinghouse)
Bldg. 309E, Room 173, northwest corner, Panel N	(Westinghouse)
Bldg. 315, outside, south end, #4 sedimentation basin	(Westinghouse)
Bldg. 324C, Room	(Westinghouse)
Bldg. 328, Grinding Room, east wall, Panels "F" and "G" (2)	(Westinghouse)
Bldg. 328, Mill Section, Cabinet next to EDU	(Westinghouse)
Bldg. 328, Maintenance Room outlet B-32, flexible cord	(Westinghouse)
Bldg. 328, Maintenance Room, lamp wire	(Westinghouse)
Bldg. 328, Weld Room, Weld Station No. 1, frayed cord	(Westinghouse)
Bldg. 328, Weld Room, Weld Station No. 1, electrical outlet	(Westinghouse)
Bldg. 328, Tool Grind, south end of Madison Grinder	(Westinghouse)
Bldg. 328, Hazardous Waste Accumulation Area Old sheet metal shop light	(Westinghouse)
Bldg. 333, Maintenance Weld Shop, cable insulation	(Westinghouse)

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Bldg. 333, Maintenance Weld Shop, open ground	(Westinghouse)
Bldg. 333, south end of West Mezzanine	(Westinghouse)
Bldg. 334A, south wall	(Westinghouse)
Bldg. 335, East wall, breaker panel, # lighting panel P	(Westinghouse)
Bldg. 335, East wall, breaker panel, "Lighting Panel" LP	(Westinghouse)
Bldg. 335A, Room 2, east wall, breaker panel, distribution panel 2	(Westinghouse)
Bldg. 338, south wall, flexible cord	(Westinghouse)
Bldg. 338, west wall (2)	(Westinghouse)
Bldg. 338, south wall, welding disconnect	(Westinghouse)
Bldg. 338, Compressor Room	(Westinghouse)
Bldg. 338, north wall	(Westinghouse)
Bldg. 338, middle-Sheet Metal Shop, flexible cords	(Westinghouse)
Bldg. 338, middle, working clearance	(Westinghouse)
Bldg. 338, Lunchroom	(Westinghouse)
Bldg. 382, north wall near switch for water pump No. 2	(Westinghouse)
Bldg. 382, switch gear enclosure for water pump No. 1	(Westinghouse)
Bldg. 382, switch gear enclosure for water pump No. 3	(Westinghouse)
Bldg. 384, Switch Gear Room, motor control center No. 1	(Westinghouse)
Bldg. 384, Switch Gear Room, electrical distribution panel (2)	(Westinghouse)
Bldg. 384, behind Motor Control Center #6	(Westinghouse)
Bldg. 384, Power Plant - 3rd level, NE platform, electrical receptacle N3-14	(Westinghouse)
Bldg. 384, Level 1, electrical receptacle N3-13 lower right	(Westinghouse)
Bldg. 384, Level 1, south wall of Power Plant behind No. 6 boiler central panel	(Westinghouse)
Bldg. 384, Lower Level, North old Maintenance Shop	(Westinghouse)
Bldg. 401, SE section, hex display electrical switch on SE corner	(Westinghouse)
Bldg. 401, Conference Room, NE corner floor outlet	(Westinghouse)
Bldg. 401, Conference Room, west wall outlet above 5' south of TV	(Westinghouse)
Bldg. 401, Projection Room, temporary wiring	(Westinghouse)
Bldg. 401, Projection Room, flexible cord	(Westinghouse)
Bldg. 405, Mezzanine Area 502 at various locations (3)	(Westinghouse)
Bldg. 405, Mezzanine at panel B169	(Westinghouse)
Bldg. 405, reactor floor Liberty Industries shoe scrubber, plug	(Westinghouse)
Bldg. 405, Mezzanine at electrical outlet LPN4-24, Area 503, Power C850	(Westinghouse)
Bldg. 405, Mezzanine clock by C513	(Westinghouse)
Bldg. 405, reactor floor Liberty Industries shoe scrubber, extension cord	(Westinghouse)
Bldg. 405, reactor main floor, temporary continuous air monitor	(Westinghouse)

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Bldg. 405, Cell 555 at T/C 88816	(Westinghouse)
Bldg. 405, entry to 553 Cell	(Westinghouse)
Bldg. 405, IEM Cell, damaged electrical cord	(Westinghouse)
Bldg. 405, IEM Cell, temporary wiring	(Westinghouse)
Bldg. 408A, north side, lower level	(Westinghouse)
Bldg. 408A, N. side, covers or conduit BES10	(Westinghouse)
Bldg. 408B, Lower level	(Westinghouse)
Bldg. 427, Room 404	(Westinghouse)
Bldg. 436, Secretary's Office, Panel B	(Westinghouse)
Bldg. 436, Secretary's Office, Panel B, breaker labeling	(Westinghouse)
Bldg. 437, west side of high bag	(Westinghouse)
Bldg. 437, near NE corner of high bay	(Westinghouse)
Bldg. 481, SE corner, working clearances	(Westinghouse)
Bldg 481, SE corner, electrical panel TB-103	(Westinghouse)
Bldg. 481A, east wall, electrical panel #LP-27	(Westinghouse)
Bldg. 481A, east wall, electrical panel #CAB-62	(Westinghouse)
Bldg. 481A, east wall, temporary wiring	(Westinghouse)
Bldg. 484, north wall of Bldg. 621, west side electrical box	(Westinghouse)
Bldg. 484, north wall of Bldg. 621, center electrical box	(Westinghouse)
Bldg. 484, north wall of Bldg. 621, east side electrical box	(Westinghouse)
Bldg. 484, south wall of Bldg. 621, Breaker Panel #LPN-64	(Westinghouse)
Bldg. 484, Chiller #E144, electrical conduit for oil pump	(Westinghouse)
Bldg. 491E, Panel LPN-44	(Westinghouse)
Bldg. 491E, light box immediately behind C611A	(Westinghouse)
Bldg. 491E, extension cord to C866	(Westinghouse)
Bldg. 491E, HTS Watch Station area power cord to Coppus blower	(Westinghouse)
Bldg. 491E, HTS East, B23	(Westinghouse)
Bldg. 662, Lunchroom, snack machine center	(Westinghouse)
Bldg. 662, Mechanical Telephone Center	(Westinghouse)
Bldg. 662A, SE corner of bldg. HVAC unit (2)	(Westinghouse)
Bldg. 712, box behind Challenge paper cutter	(Westinghouse)
Bldg. 712, Panel E Box, room 101	(Westinghouse)
Bldg. 712, Camera Room, hot water heater box	(Westinghouse)
Bldg. 712, Room 104, Panel C	(Westinghouse)
Bldg. 712, Room 104, SW corner disconnect box, Panel #6	(Westinghouse)
Bldg. 712, Main Panel, Room 104, broken circuit	(Westinghouse)
Bldg. 712, Main Panel, Room 104, labeling	(Westinghouse)
Bldg. 712, 102 Area, outlet L24	(Westinghouse)
Bldg. 712, Panel L-1, Mechanical Room, 102 Area	(Westinghouse)
Bldg. 712, north office, lighting, 102 Area	(Westinghouse)
Bldg. 712, Mechanical Room, exterior to building	(Westinghouse)
Bldg. 1101N, south wing, Room 333	(Westinghouse)
Bldg, 1101N, Room 316	(Westinghouse)
Bldg, 1101N, Room 223	(Westinghouse)
Bldg, 1101N, Room 201, the fan room	(Westinghouse)

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Bldg. 1120N, south wall, electrical panel #PP-2 (2)	(Westinghouse)
Bldg. 1120N, south wall, electrical panel #PP-1 (2)	(Westinghouse)
Bldg. 1120N, south wall, electrical panel #LP-1 (2)	(Westinghouse)
Bldg. 1120N, south side, electrical panel #PP-1, wiring	(Westinghouse)
Bldg. 1143N, Carpenter Shop, Rockwell Sander, Serial No. A208327/#WB94180	(Westinghouse)
Bldg. 1143N, West wall - Tool Board	(Westinghouse)
Bldg. 1143N, Carpenter Shop, fixed grinder	(Westinghouse)
Bldg. 1143N, east wall - Radial Arm Saw #W318094	(Westinghouse)
Bldg. 1143N, NE corner, wiring	(Westinghouse)
Bldg. 1143N, south wall - NE corner, breaker box	(Westinghouse)
Bldg. 1154, Shielded Room - Lighting	(Westinghouse)
Bldg. 1154, Copy Room	(Westinghouse)
Bldg. 1154, Machine Shop Area, Room	(Westinghouse)
Bldg. 1154, Room 6	(Westinghouse)
Bldg. 1154, West end of hallway	(Westinghouse)
Bldg. 1161, east wall outlet	(Westinghouse)
Bldg. 1163, Room 274, 2nd floor offices	(Westinghouse)
Bldg. 1163, Panel 4-J, Room 270	(Westinghouse)
Bldg. 1163, Panel 2J, Room 270	(Westinghouse)
Bldg. 1163, Panel UPS, Room 401	(Westinghouse)
Bldg. 1167, 480 Panel at Shipping Office	(Westinghouse)
Bldg. 1167, craftsman area, east wall socket (Carpenter Shop)	(Westinghouse)
Bldg. 1167, Section H-3 Outlet	(Westinghouse)
Bldg. 1171, South Lunchroom	(Westinghouse)
Bldg. 1171, Somaca belt sander, Upholstery Shop	(Westinghouse)
Bldg. 1171, Glass Shop - Clausing circle cutter	(Westinghouse)
Bldg. 1171, Bldg. Maintenance Shop, NE corner of Electric Shop	(Westinghouse)
Bldg. 1171, Bldg. Maintenance Shop, paint shaker	(Westinghouse)
Bldg. 1171, Bldg. Maintenance Shop, extension cord	(Westinghouse)
Bldg. 1171, south wall of Sheet Metal Shop	(Westinghouse)
Bldg. 1171, Light Equipment Shop, Northwall	(Westinghouse)
Bldg. 1212, Storage Area #10	(Westinghouse)
Bldg. 1212, Storage Area #7	(Westinghouse)
Bldg. 1212, Storage Area #1 (4)	(Westinghouse)
Bldg. 1702N, junction box	(Westinghouse)
Bldg. 1702N, breaker switches (3)	(Westinghouse)
Bldg. 1702N, flexible wiring	(Westinghouse)
Bldg. 1714N, south side, substation area	(Westinghouse)
Bldg. 1714N, Storage Area	(Westinghouse)
Bldg. 1717, center of bldg. near Rockwell planes	(Westinghouse)
Bldg. 1717, Ice Machine Room, disconnect panel	(Westinghouse)
Bldg. 1734N, SW corner (6)	(Westinghouse)
Bldg. 1806-1812, office #15	(Westinghouse)

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Bldg. 1806-1812, Room #3, word processing/computer based training	(Westinghouse)
Bldg. 1806-1812, SW corner of bldg. breaker panel D	(Westinghouse)
Bldg. 2101M, south wall of Electrical Shop (2)	(Westinghouse)
Bldg. 2101M, Room 218	(Westinghouse)
Bldg. 2101M, Insulator's Shop	(Westinghouse)
Bldg. 2101M, Room 210, Soil Analysis Lab, working clearance (3)	(Westinghouse)
Bldg. 2101M, Room 210, Soil Analysis Lab, wiring	(Westinghouse)
Bldg. 2101M, west wall of Room 212, Soil Analysis Lab	(Westinghouse)
Bldg. 2101M, Room 212, office area of lab	(Westinghouse)
Bldg. 2101M, north wall of warehouse - Bay F	(Westinghouse)
Bldg. 2101M, Warehouse, Bay E, northwall	(Westinghouse)
Bldg. 2101M, Warehouse, A Bay	(Westinghouse)
Bldg. 2317, Room 36 (2)	(Westinghouse)
Bldg. 2317, Room 51, 4" x 5" opening in emergency lighting enclosure	(Westinghouse)
Bldg. 2317, Room 51, 3/4" opening in electrical junction box	(Westinghouse)
Bldg. 2690E, High Bay Area	(Westinghouse)
Bldg. 2704S, light fixture by Room 220 (2)	(Westinghouse)
Bldg. 2704S, kitchen area outlet by sink (2)	(Westinghouse)
Bldg. 2704S, Room 30	(Westinghouse)
Bldg. 2704S, Panel A, Room 30 (2)	(Westinghouse)
Bldg. 2704W, North side-440 V controls	(Westinghouse)
Bldg. 2709W, Panel A and B, Women's Change room (2)	(Westinghouse)
Bldg. 2709W, Panel A	(Westinghouse)
Bldg. 2709W, drinking fountain near restroom	(Westinghouse)
Bldg. 2709W, near carpet storage area,outlet	(Westinghouse)
Bldg. 2709W, near carpet storage area, face plate (2)	(Westinghouse)
Bldg. 2715EC, Paint Spray Area, Paint Storage Area, Area 200	(Westinghouse)
Bldg. 2715EC, Conex Shipping Container Storage Room, Area 200	(Westinghouse)
Bldg. 2715EC, Conex I, Area 200E	(Westinghouse)
Bldg. 2715EW, Main electrical supply to building	(Westinghouse)
Bldg. 2716, Maintenance storage shed	(Westinghouse)
Bldg. 2719, maintenance, outlet by doors	(Westinghouse)
Bldg. 2721, Electrical Equipment Room	(Westinghouse)
Bldg. 2721, Mechanical Room	(Westinghouse)
Bldg. 2721E, Garage	(Westinghouse)
Bldg. 2721EA, Maintenance Shop, northwall	(Westinghouse)
Bldg. 2722W, Weld Shop, next to north exit door	(Westinghouse)
Bldg. 2722W, General Area (2)	(Westinghouse)
Bldg. 2722W, yard north of Weld Lab (3)	(Westinghouse)
Bldg. 2722W, north storage room	(Westinghouse)
Bldg. 2723W, electrical panel #2723-W-001	(Westinghouse)

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Bldg. 2723W, 004	(Westinghouse)
Bldg. 2723W, Lunch/Break room, north wall, near #3 sign	(Westinghouse)
Bldg. 2724W, dirty clothes storage room, substitute for wiring	(Westinghouse)
Bldg. 2724W, dirty clothes storage room, extension cord run through door	(Westinghouse)
Bldg. 2750E, C Wing Hall, Panel R Outside Room C-131	(Westinghouse)
Bldg. 2750E, Transformer Vault outside Room C-129 (3)	(Westinghouse)
Bldg. 2750E, Mailroom	(Westinghouse)
Bldg. 2750E, across from A-125, Emergency Power Pack #2	(Westinghouse)
Bldg. 2750E, Panel N and LN, Room A111 (2)	(Westinghouse)
Bldg. 2750E, loading bay between A & D wing	(Westinghouse)
Bldg. 2750E, C wing, 200 Area, ECC	(Westinghouse)
Bldg. 3506A, Mechanical bench extension cord	(Westinghouse)
Bldg. 3506A, Mechanical area, drill press No. WA43412	(Westinghouse)
Bldg. 3506A, Mechanical area, portable tool locker, extension cord	(Westinghouse)
Bldg. 3506A, grinding area, north wall lighting panel, circuits	(Westinghouse)
Bldg. 3506A, grinding area, north wall lighting panel, clearances	(Westinghouse)
Bldg. 3506A, grinding area, stanley grinder No. 40285Y	(Westinghouse)
Bldg. 3506A, vacuum cleaner stored next to trahe air handling unit	(Westinghouse)
Bldg. 3621C, land 2 Emergency Power Generator (2)	(Westinghouse)
Bldg. 3701D, 300 Area ECC	(Westinghouse)
Bldg. 3701D, Room B-6	(Westinghouse)
Bldg. 3701D, Control Room	(Westinghouse)
Bldg. 3705, Room 29, and Room 8 (2)	(Westinghouse)
Bldg. 3705, Room 13, electrical outlet	(Westinghouse)
Bldg. 3705, Room 4, outlets (2)	(Westinghouse)
Bldg. 3705 Room 2, power strip	(Westinghouse)
Bldg. 3706, receptacle and switch boxes (8)	(Westinghouse)
Bldg. 3706, throughout building	(Westinghouse)
Bldg. 3706, Room 29, north wall, near northeast corner	(Westinghouse)
Bldg. 3706, 12 panel boxes (12)	(Westinghouse)
Bldg. 3706, Room 5, south wall near doorway	(Westinghouse)
Bldg. 3706, 5 locations (5)	(Westinghouse)
Bldg. 3706, Room 131, north side of room, stapler machine	(Westinghouse)
Bldg. 3706, Room 131, north side of room, hole punch machine	(Westinghouse)
Bldg. 3706, outside SW corner south wall near roof	(Westinghouse)
Bldg. 3706, outside, north wall near roof	(Westinghouse)
Bldg. 3706, Room 101, west wall - socket	(Westinghouse)
Bldg. 3707B, Room 1	(Westinghouse)
Bldg. 3707C, Room 1	(Westinghouse)
Bldg. 3707C, Electrical Shop, Room 6	(Westinghouse)
Bldg. 3707C, Electrical Shop, Room 6B (2)	(Westinghouse)

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Bldg. 3707D, Duplicating Room 19	(Westinghouse)
Bldg. 3707D, janitor closet	(Westinghouse)
Bldg. 3707D, Blue print room, junction box (2)	(Westinghouse)
Bldg. 3707D, Blue print Room, clear space	(Westinghouse)
Bldg. 3707D, Room 2	(Westinghouse)
Bldg. 3707D, Lunchroom 4	(Westinghouse)
Bldg. 3707F, Southeast Corner outside	(Westinghouse)
Bldg. 3709, Photo Lab	(Westinghouse)
Bldg. 3709, Lunchroom	(Westinghouse)
Bldg. 3709A, west wall of HVAC Room near SW corner	(Westinghouse)
Bldg. 3713, West wall, north of sliding door, ground connection	(Westinghouse)
Bldg. 3713, West wall, north of sliding door, temporary wiring	(Westinghouse)
Bldg. 3768, Room 12, east wall, near NE corner	(Westinghouse)
Bldg. 4701A, Security Checkpoint, Strip Corel	(Westinghouse)
Bldg. 4701A, Security Checkpoint, near male receptacle	(Westinghouse)
Bldg. 4701A, Guard station, west wall, electrical switch boxes (4)	(Westinghouse)
Bldg. 4701A, Security Checkpoint, Southwall	(Westinghouse)
Bldg. 4702, Panels D, B, CE and C (4)	(Westinghouse)
Bldg. 4702, Room 1, South Wall Outlet	(Westinghouse)
Bldg. 4702, Room 5	(Westinghouse)
Bldg. 4706, Offices (3)	(Westinghouse)
Bldg. 4706, Room 400B	(Westinghouse)
Bldg. 4707, Room 6, maintenance supervisor's office	(Westinghouse)
Bldg. 4707, Room 4, South wall, electrical switch receptacle	(Westinghouse)
Bldg. 4707, Room 2 #1	(Westinghouse)
Bldg. 4707, Room 2 #2	(Westinghouse)
Bldg. 4707, Room 4, east wall, kitchen appliances	(Westinghouse)
Bldg. 4707, Room 7, Engineering	(Westinghouse)
Bldg. 4710, Room 636, Panel B	(Westinghouse)
Bldg. 4710, Room 702, Panel T	(Westinghouse)
Bldg. 4713B, Emergency Contingency Plan	(Westinghouse)
Bldg. 4713B, Mechanical Shop, Fosdick drill press	(Westinghouse)
Bldg. 4713B, Southend, Machine Shop, Monarch Lathe	(Westinghouse)
Bldg. 4713B, westwall, Room 117, Grinding Room	(Westinghouse)
Bldg. 4713B, Mechanical Shop, Fosdick Drill Press	(Westinghouse)
Bldg. 4713B, Room 114, Weld Shop, north wall	(Westinghouse)
Bldg. 4713B, South end, Column Post 1	(Westinghouse)
Bldg. 4713B, Room 116, Mechanical Shop, Mubea Punch Press	(Westinghouse)
Bldg. 4713B, southend, machine shop, Monarch Lathe	(Westinghouse)
Bldg. 4713B, breaker panel outside room 110 (2)	(Westinghouse)
Bldg. 4713B, Machine Shop, northwall, Clausen Drill Press	(Westinghouse)
Bldg. 4713B, Room 116, west wall Mechanical Shop	(Westinghouse)
Bldg. 4713B, Door 480 electrical receptacle	(Westinghouse)
Bldg. 4713B, Breaker Box #4713B-1 (8)	(Westinghouse)

Hanford Site

Bldg. 4713B, Machinists area, west wall	(Westinghouse)
Bldg. 4713B, Machinists room, west wall (3)	(Westinghouse)
Bldg. 4713B, Machinists area, Monarch #WA54512 lathe	(Westinghouse)
Bldg. 4713B, Grinding room, Baldor grinder #WA 08204	(Westinghouse)
Bldg. 4713B, Grinding room, Grinder #WB 97147	(Westinghouse)
Bldg. 4713B, Grinding room, Grinder/Buffer #WA60779	(Westinghouse)
Bldg. 4713B, Grinding shop Grinder #WA 67167	(Westinghouse)
Bldg. 4713B, Valve Shop	(Westinghouse)
Bldg. 4713B, Room 116, Marvel saw # WB 97426	(Westinghouse)
Bldg. 4713B, Marvel saw #WB97	(Westinghouse)
Bldg. 4713B, Room 27, Motor Repair Room	(Westinghouse)
Bldg. 4713B, Room 18, Wilson Drill Press	(Westinghouse)
Bldg. 4713B, Room 11, Electrical Repair Shop	(Westinghouse)
Bldg. 4713B, Room 26, Spare parts repair/holding area, computer area	(Westinghouse)
Bldg. 4713B, Room 26, work station/computer station work area	(Westinghouse)
Bldg. 4713B, Room 27, Motor Repair Room, Electrical Magnifier	(Westinghouse)
Bldg. 4713B, Valve Shop, eastwall, pressure test bench	(Westinghouse)
Bldg. 4713B, South end, Machinists area, Bridgeport drill #W700900	(Westinghouse)
Bldg. 4713B, Room 210, cubicle in northwest corner	(Westinghouse)
Bldg. 4713B, Room 114, Weld Shop	(Westinghouse)
Bldg. 4713B, Valve Shop, pressure test bench, Drop cord	(Westinghouse)
Bldg. 4713B, Room 16, SW corner, work shop for computer	(Westinghouse)
Bldg. 4713B, Room 27, Motor Repair Room, electrical engraver #WA82998	(Westinghouse)
Bldg. 4717, RSB, Cell 258, 550 Level Cask loading CAM station	(Westinghouse)
Bldg. 4717 RSB, Cell 258, 550 Level, east wall, RE96100A, crit. alarm	(Westinghouse)
Bldg. 4717, RSB, Cell 258, 550 Level, eastwall, RE96100A, crit. alarm wiring	(Westinghouse)
Bldg. 4722B, Carpenter Shop, Tool box	(Westinghouse)
Bldg. 4722B, Carpenter Shop, flexible cord and plugs	(Westinghouse)
Bldg. 4722B, Carpenter Shop, diconnects blocked	(Westinghouse)
Bldg. 4722B, Carpenter Shop, west wall junction box	(Westinghouse)
Bldg. 4722B, outside building	(Westinghouse)
Bldg. 4722C, Print Shop, west end cable tray	(Westinghouse)
Bldg. 4722C, Paint Shop	(Westinghouse)
Bldg. 4722C, north wall Box S-5 control K and Panel V (2)	(Westinghouse)
Bldg. 4722C, air compressor	(Westinghouse)
Bldg. 4722C, Change area, electrical box	(Westinghouse)
Bldg. 4722C, Change area, storage, electrical disconnect	(Westinghouse)
Bldg. 4732A, east wall, middle of small (spare) parts storage	(Westinghouse)
Bldg. 4732B, center	(Westinghouse)
Bldg. 4732C, center toward northeast corner	(Westinghouse)

Hanford Site

Bldg. 4734B, storage cabinet	(Westinghouse)
Bldg. 4734B, in front of Breaker Box "B"	(Westinghouse)
Bldg. 4734B, bench grinder	(Westinghouse)
Bldg. 4734B, drill press end cut-off saw (2)	(Westinghouse)
Bldg. 4790-A, Microwave Bldg., northwall, electrical receptacle	(Westinghouse)
Bldg. 4790-A, west wall, outside, GTE entry box	(Westinghouse)
Bldg. 4814, north wall - Breaker Panel Area (2)	(Westinghouse)
Bldg. 4814, Warehouse, east wall, electrical outlet north of doors	(Westinghouse)
Bldg. 4814, Warehouse, east wall, electrical outlet south of doors	(Westinghouse)
Bldg. 4814, Sprinkler Control Room, southeast corner (3)	(Westinghouse)
Bldg. 4831, south wall outside (2)	(Westinghouse)
Bldg. 4843, Panel F	(Westinghouse)
Bldg. 4843, South Wall panels	(Westinghouse)
Bldg. 4920E, Large Lunchroom	(Westinghouse)
Bldg. 6920E, Transformer Room (4)	(Westinghouse)
Bldg. 6920E, IW/R Storage area at clerk's desk	(Westinghouse)
Bldg. 6920E, south wall IW/R shop (2)	(Westinghouse)
Bldg. 6920E, IWIR shop adj. to cable test framework	(Westinghouse)
Bldg. 6920E, storage yard south side	(Westinghouse)
Bldg. 6920E, Large Lunchroom, Toaster cord plug	(Westinghouse)
Bldg. 6920E, Rigging Shop in south room	(Westinghouse)
Bldg. HO-64-12564, portable welding trailer, 25 foot drop cord	(Westinghouse)
Bldg. HO-64-12564, portable welding trailer, three fire extinguishers	(Westinghouse)
Bldg. HO-64-12564, portable welding trailer, 5-gallon liquid storage can	(Westinghouse)
Bldg. M042, all electrical panels	(Westinghouse)
Bldg. M043, NE corner electric panel and Room 115 (2)	(Westinghouse)
Bldg. M0040, Management Trailer, office with breaker box	(Westinghouse)
Bldg. M047, electrical panel, southwest corner of offices	(Westinghouse)
Bldg. M0302, Weapons Shop, Baldor buffer #F383	(Westinghouse)
Bldg. M0302, Armor trailer, weapons shop grinder	(Westinghouse)
Bldg. M0302, weapons shop, Wilton Drill	(Westinghouse)
Bldg. M0324, Coal Handlers Change House (4)	(Westinghouse)
Bldg. M01151, west door exit, electrical panel box	(Westinghouse)
Bldg. N11, electric panel board	(Westinghouse)
Bldg. T100 (AKA M0378) office 9, north wall, breaker box	(Westinghouse)
Bldg. T100 (AKA M0378) office 9, west wall, electrical connection	(Westinghouse)
Bldg. T100 (M0378) electrical substation with 480 volt feed	(Westinghouse)
Bldg. T100 (M0378) office 7, south wall, electrical wiring	(Westinghouse)
Bldg. T102 (M0379) office 9, drop cord	(Westinghouse)
Bldg. T102 (M0379) office 9, breaker panel	(Westinghouse)

Hanford Site

Bldg. 305B, Hi-Bay, north wall	(PNL)
Bldg. 314, Shop	(PNL)
Bldg. 314, Shop	(PNL)
Bldg. 314, Shop	(PNL)
Bldg. 314, Room 40, Lab	(PNL)
Bldg. 318, southwest corner of entryway, panel in Room 106	(PNL)
Bldg. 324, EDL 102, Mod 18, Second Floor	(PNL)
Bldg. 324, High Bay, Hardy Fan disconnect	(PNL)
Bldg. 324, B-Cell Gallery	(PNL)
Bldg. 324, D-Cell Gallery, South Wall, second floor	(PNL)
Bldg. 324, Maintenance Shop Area	(PNL)
Bldg. 324, wall adjacent to the right of the entry door into 324C	(PNL)
Bldg. 324C, Room	(PNL)
Bldg. 325, electrical panel LP-G., room 601	(PNL)
Bldg. 325, Room 416	(PNL)
Bldg. 325, Maintenance Shop (Electrical)	(PNL)
Bldg. 325, Electrical Maintenance Shop	(PNL)
Bldg. 325, Room 206, Mechanical Maintenance Shop	(PNL)
Bldg. 326, Room 13B1	(PNL)
Bldg. 326, Room 21A	(PNL)
Bldg. 326, Room 23A	(PNL)
Bldg. 326, outside - southwest corner	(PNL)
Bldg. 329, utility box (enclosure)	(PNL)
Bldg. 329, Room 10B	(PNL)
Bldg. 329, Room 4B1	(PNL)
Bldg. 329, Maintenance Shop	(PNL)
Bldg. 329, Maintenance Shop	(PNL)
Bldg. 329, Maintenance Shop	(PNL)
Bldg. 329, Room 1C, Instrument Shop	(PNL)
Bldg. 331, Room 304, fume hood	(PNL)
Bldg. 331A, Panel LV-3, Panel 1-18 (2)	(PNL)
Bldg. 331A, In vitro EMF exposure system	(PNL)
Bldg. 331A, Room 6	(PNL)
Bldg. 331E, Panel A	(PNL)
Bldg. 331H, 208 volt IPH, south wall	(PNL)
Bldg. 331H, #WA-09213, Power Tool (Portable)	(PNL)
Bldg. 350, Main Shop, Baldor pedestal grinder, northeast corner	(PNL)
Bldg. 350, Main Shop	(PNL)
Bldg. 350, general area	(PNL)
Bldg. 747A, Panels A-C	(PNL)
Bldg. 747A, Panel A and B, whole body counter	(PNL)
Bldg. 3720, receiving area (cutting saw and lathe box)	(PNL)
Bldg. 3720, Room 205	(PNL)
Bldg. 3720, Room 612	(PNL)
Bldg. 3720, Room 510, DC power supply	(PNL)

Hanford Site

Bldg. 3720, Room 510, Panel LP#4	(PNL)
Bldg. 3720, Dark Room	(PNL)
Bldg. 3745, Shop	(PNL)
Bldg. 3745, Computer Room	(PNL)
Bldg. 3764, Panel B, 1st floor hallway	(PNL)
Bldg. 3764, Room 207, north wall outlet	(PNL)
Bldg. 3764, Electric panel P	(PNL)
Bldg. 3764, Outlet below Panel E. Room 209	(PNL)
Bldg. 221T, 1st Floor, fire door 7-4 and 9-4 (2)	(Kaiser)
Bldg. 221T, 1st Floor, fire door 7-4 and 9-4	(Kaiser)
Bldg. 242A, HVAC Room, construction area	(Kaiser)
Bldg. 427, Room 131	(Kaiser)
Bldg. 427, Room 605D (2)	(Kaiser)
Bldg. 1208, on the south wall above a wooden work bench	(Kaiser)
Bldg. 1208, at the north end of the paint spray booth and below the Ingersoll-Rand electrostatic water treater	(Kaiser)
Bldg. 1208, Paint Spray Building, blue metal tool box, west wall	(Kaiser)
Bldg. 1208, Paint Spray Building, blue metal tool box, east wall	(Kaiser)
Bldg. 1212, Room 106	(Kaiser)
Bldg. 1212, north wall office area - Storage Area #2	(Kaiser)
Bldg. 1212, outside of Storage #3	(Kaiser)
Bldg. 1212, Room 106	(Kaiser)
Bldg. 1212, Storage Unit 3 and 4	(Kaiser)
Bldg. 1212, south wall near distribution box - Storage Area #2	(Kaiser)
Bldg. 1212, north wall - office area - Storage Area #2 - Electrical Panel A	(Kaiser)
Bldg. 1212, north wall - Storage Area #2	(Kaiser)
Bldg. 1226, south end of building - Service Pit Area	(Kaiser)
Bldg. 1226, Tire and Tool Room (2)	(Kaiser)
Bldg. 1226, Tire and Tool Room	(Kaiser)
Bldg. 1226, Tire and Tool Room	(Kaiser)
Bldg. 1226, Tire and Tool Room	(Kaiser)
Bldg. 1226, Tire and Tool Room	(Kaiser)
Bldg. 1226, Tire and Tool Room	(Kaiser)
Bldg. 1226, north end of shop - Welders Area	(Kaiser)
Bldg. 1226, north end of shop - Welders Area	(Kaiser)
Bldg. 1226, Tire and Tool Room	(Kaiser)
Bldg. 1226, Tire and Tool Room	(Kaiser)
Bldg. 1226, south end of building - Service Pit Area	(Kaiser)
Bldg. 1226, near Electrical Load Center #2	(Kaiser)
Bldg. 1226, Stores Room	(Kaiser)
Bldg. 1226, Tire Service Area	(Kaiser)
Bldg. 1226, Mechanic Area of Shops	(Kaiser)
Bldg. 1226, Lunchroom	(Kaiser)
Bldg. 1226, Tire Service Area	(Kaiser)
Bldg. 1226, northwest corner - exterior of building	(Kaiser)

Hanford Site

Bldg. 1240, both metal work benches that are somewhat near the southwest corner	(Kaiser)
Bldg. 1240, Electrical Shop, in the W. side	(Kaiser)
Bldg. 1240, Weld Test Lab, in west side	(Kaiser)
Bldg. 1240, in the main shop area near the west wall and right next to the Weld Test Lab	(Kaiser)
Bldg. 1240, in the Pipe Shop near west wall and below welder switch #13	(Kaiser)
Bldg. 1240, Plate Roll Disconnect Box	(Kaiser)
Bldg. 1240, By J22 outlet - south central area by 600 volt welding outlet	(Kaiser)
Bldg. 1240, north end by fire extinguisher #61	(Kaiser)
Bldg. 1240, from electrical loft to Electrical Shop (Repair Shop), (approximately 250 ft. of soft cable)	(Kaiser)
Bldg. 1240, Electrician's loft - Stanley - Electrical light and magnifier - Model 701A	(Kaiser)
Bldg. 1240, electrician's loft - 2nd floor, Howard Industries engraving machine	(Kaiser)
Bldg. 1240, electrical loft - Rheostat Control - Engraving Area	(Kaiser)
Bldg. 1240, Lunchroom next to Boilermaker's Office - wooden locker (south)	(Kaiser)
Bldg. 1240, southwest section of building near Column 3/Tool box, yellow boilermaker's box	(Kaiser)
Bldg. 1240, Near right Column line (south end of building) #WB04605 Power Threading machine	(Kaiser)
Bldg. 1240, stair landing going up to electrician's loft - at landing	(Kaiser)
Bldg. 1241, south wall near lighting panel N	(Kaiser)
Bldg. 1241, south wall near lighting panel N	(Kaiser)
Bldg. 1241, north wall	(Kaiser)
Bldg. 1241, center column/electrical distribution panel switchbox marked "space"	(Kaiser)
Bldg. 1241, middle column - electrical distribution center	(Kaiser)
Bldg. 1241, north central work bench	(Kaiser)
Bldg. 1250, in the southeast corner	(Kaiser)
Bldg. 1250, in the office at the foot of the stairs and in the east wall	(Kaiser)
Bldg. 1250, outside building - northwest corner electrical switch box not labeled and no "voltage" stickers visible	(Kaiser)
Bldg. 1250, work bench north of offices	(Kaiser)
Bldg. 1250, north end of warehouse, stored furniture	(Kaiser)
Bldg. 1256, Electric Panel "A" - South side of building	(Kaiser)
Bldg. N1515, electrical panel box, north wall - lighting panel box	(Kaiser)
Bldg. N1515, electrical panel box, north wall - lighting panel box	(Kaiser)

Hanford Site

Bldg. N1515, west wall green (electricians) gang box, 25 foot orange drop cord, no I.D. number	(Kaiser)
Bldg. N1515, screw gun #WB01160	(Kaiser)
Bldg. N1515, west wall, green gang box, electricians box, .5" Black & Decker drill #WB01741	(Kaiser)
Bldg. N1516, Carpenter Shop - south wall grinder #WB04631	(Kaiser)
Bldg. N1516, north wall, Rockwell drill press #WB04630	(Kaiser)
Bldg. N1516, Carpenter Shop, south wall, Grinder #WB04631	(Kaiser)
Bldg. N1518, Electricians' Building - outside west side, CAT-2-N Power storage	(Kaiser)
Bldg. N1518, Electrician's Building, WB01293 Porta-band hand saw	(Kaiser)
Bldg. N1518, Electric Shop, northeast corner of building, fixed-in-place, above-head area heater	(Kaiser)
Bldg. 3722, entire structure	(Kaiser)
Bldg. 3722, Ironworkers Shop	(Kaiser)
Bldg. 3722, office	(Kaiser)
Bldg. 3722, Carpenter Shop	(Kaiser)
Bldg. 3722, Table Saw, Carpenter Shop	(Kaiser)
Bldg. 3722, Carpenter Shop	(Kaiser)
Bldg. 3722, Carpenter Shop	(Kaiser)
Bldg. 4802, Lunchroom - north wall - near refrigerator	(Kaiser)
Bldg. 4802, northwest corner of building - heat unit	(Kaiser)
Bldg. 4802, Lunchroom - north wall, green tool box - no ID number	(Kaiser)

The total number of findings of OSHA 1910 Subpart S is 686.

1B Summary Violations Location(s) for OSHA 1910 Subpart Z.

Bldg. 182N, northwest corner, potable water mezzanine	(Westinghouse)
Bldg. 202A, Compressor Room	(Westinghouse)
Bldg. 222S, Lab 4P, Hood #3	(Westinghouse)
Bldg. 242A, Janitor's Closet	(Westinghouse)
Bldg. 271B, Chem Prop Area, 3rd Floor, East wall	(Westinghouse)
Bldg. 271B, 1st Floor AMU Storage Shelves	(Westinghouse)
Bldg. 272AW, garage, flammable storage cabinet	(Westinghouse)
Bldg. 272AW, Tool Crib	(Westinghouse)
Bldg. 284E, flammable storage cabinet outside maintenance shop containing 111-trichloroethane, acetone and acrylic-clean	(Westinghouse)
Bldg. 284E, all piping	(Westinghouse)
Bldg. 284E, hazardous waste accumulation area	(Westinghouse)
Bldg. 284E, hazardous waste satellite area (Flammable storage cabinet outside Maintenance Shop)	(Westinghouse)
Bldg. 306E, 2nd floor janitor's closet, near Room 205	(Westinghouse)

Hanford Site

Bldg. 306E, Room 183 blasting cabinet, glass bead	(Westinghouse)
Bldg. 306E, Room 174, Flammable Storage	(Westinghouse)
Bldg. 309, Blue Change Rm., Janitor's Closet	(Westinghouse)
Bldg. 340, truck lock, flammable storage cabinet (2)	(Westinghouse)
Bldg. 340, Decon Area, Instrument Area	(Westinghouse)
Bldg. 340, Decon, east wall lab hood, north side electrical box	(Westinghouse)
Bldg. 340, South wall, Norgren Air Dryers	(Westinghouse)
Bldg. 340, Control Room, west wall, Panel L-1	(Westinghouse)
Bldg. 340, Control Room, east wall, brown strip chart recorder	(Westinghouse)
Bldg. 437, Contaminated Equipment Repair Shop	(Westinghouse)
Bldg. 481, office, MSDS for DPD free chlorine reagent powder pillows	(Westinghouse)
Bldg. 481, office, MSDS for Conop Easypoxy repair kit	(Westinghouse)
Bldg. 491E, HTS Watch area	(Westinghouse)
Bldg. 712, cabinet #4 - machine repair storage	(Westinghouse)
Bldg. 1143N, East wall - flammable storage locker	(Westinghouse)
Bldg. 1154, Bench #4	(Westinghouse)
Bldg. 1154, Desk #1	(Westinghouse)
Bldg. 1154, Workstation - North side of room	(Westinghouse)
Bldg. 1714N, Oil Storage Pad	(Westinghouse)
Bldg. 1806-1812, Material Safety Data Sheets (MSDS)	(Westinghouse)
Bldg. 1806-1812, Hazardous Communication Program	(Westinghouse)
Bldg. 2101M, Room 218	(Westinghouse)
Bldg. 2101M, Room 210, Soil Analysis Lab	(Westinghouse)
Bldg. 2101M, Room 212, Soil Analysis Lab, one gallon plastic bottle	(Westinghouse)
Bldg. 2101M, Room 212, Soil Analysis Lab, five gallon plastic bottle	(Westinghouse)
Bldg. 2317, Room 36 (2)	(Westinghouse)
Bldg. 2317, Room 56	(Westinghouse)
Bldg. 2715W, east half	(Westinghouse)
Bldg. 3705, Room 33, NW flammable storage cabinet	(Westinghouse)
Bldg. 3707D, Blueprint Room (2)	(Westinghouse)
Bldg. 4713B, southend, machinists' tool box (2)	(Westinghouse)
Bldg. 4713D, Manipulator Shop	(Westinghouse)
Bldg. 4734B, flammable storage cabinet	(Westinghouse)
Bldg. 325, approximately Room 315	(PNL)
Bldg. 325, West Mechanical Room	(PNL)
Bldg. 747A, exterior flammable storage	(PNL)
Bldg. 3745, Lab	(PNL)
Bldg. 3746, Laboratory	(PNL)
Bldg. 1208, in the storage room on west side of the building	(Kaiser)
Bldg. 1240, flammable cabinet outside Electric Shop	(Kaiser)
Bldg. 1240, workbench - south end	(Kaiser)

Hanford Site

Bldg. 1240, Quality Control Gage Lab - cabinet by drawers 1-4; under #5 shelves	(Kaiser)
Bldg. 1250, hazard communication program (2)	(Kaiser)
Bldg. 1250, hazard communication program (7)	(Kaiser)
Bldg. 1250, janitors supply/storage area	(Kaiser)
Bldg. 1252, Receiving Office Cabinet	(Kaiser)
Bldg. 1252, Workbench - N. of Receiving Rm.	(Kaiser)
Bldg. 4802, Electric Workshop, hazardous materials cabinet	(Kaiser)
Bldg. 4802, Electric Workshop, KEH Hazard Communication Program	(Kaiser)

The total number of findings for OSHA 1910 Subpart Z is 62.

OSHA 1926

1B Summary Violation Location(s) for OSHA 1926 Subpart D.

Entire KEH operation, HEHF medical records of Kaiser "Asbestos Workers"	(Kaiser)

The total number of findings for OSHA 1910 Subpart D is 1.

1B Summary Violation Location(s) for OSHA 1926 Subpart J.

Bldg. 4732B, Southeast corner	(Westinghouse)
Bldg. 1240, on West wall near the Miller arc welder	(Kaiser)
Bldg. 1240, in the Sheet Metal area in west side	(Kaiser)

The total number of findings for OSHA 1926 Subpart J is 3.

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**Paducah Gaseous Diffusion Plant
Tiger Team OSHA Finding Titles by Subpart**

Occupational Safety and Health Act of 1970

**1B Summary Violation Location(s) for Occupational Safety and Health Act
of 1970 1910 Section 5(a)(1)**

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The total number of findings for Occupational Safety and Health Act of 1970 1910
Section 5(a) (1) is 9

OSHA 1904

1B Summary Violation Location(s) for OSHA 1904 Section 1904.02

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The total number of findings for OSHA 1904 Section 2 is 1

OSHA 1910

1B Summary Violation Location(s) for OSHA 1904 Subpart A

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The total number of findings for OSHA 1910 Subpart A is 1

Paducah Gaseous Diffusion Plant

1B Summary Violation Location(s) for OSHA 1910 Subpart D

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The total number of findings for OSHA 1910 Subpart D is 19

1B Summary Violation Location(s) for OSHA 1910 Subpart E

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The total number of findings for OSHA 1910 Subpart E is 5

1B Summary Violation Location(s) for OSHA 1910 Subpart H

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Paducah Gaseous Diffusion Plant

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Bldg. 725, Paint Shop, corrosive materials	F-91
Bldg. 725, Paint Shop, aisles	F-92
Bldg. 725, Paint Shop, wiring	F-92
Bldg. 725, Paint Shop, flammable storage area, west wall	F-93
Bldg. 725, Paint Shop, flammable storage area, east wall	F-93
Bldg. 725, Paint Shop, Blue Room Fire door	F-94
Bldg. 725, Paint Shop, Blue Room South doorway	F-94
Bldg. 720, Fabrication Shop, G-2 Office Area	F-99
Bldg. 724, Paint Shop, paint/solvents	F-128
Bldg. 724, Paint Shop, flammable liquids	F-128
Bldg. 724, Paint Shop, flammable storage room S.E. side	F-129
Bldg. 724, Paint Shop, flammable storage room N.E. side	F-129
Bldg. 720, Refrigeration Department	F-134
Bldg. 710, cleanroom hood	F-139
Bldg. 710, Radiochemistry	F-146

The total number of findings for OSHA 1910 Subpart H is 35

1B Summary Violation Location(s) for OSHA 1910 Subpart I	Page #
Bldg. 720, Machine Shop, Rathbone	F-21
Bldg. 720, Resistance Welding Area	F-26
Bldg. 360, Toll Transfer Bldg. aprons, gloves	F-118
Bldg. 360, Toll Transfer Bldg. protective face equipment	F-110
Bldg. 333, First Floor, air respirator	F-116
Bldg. 333, First Floor, SCBA	F-116
Bldg. 710, Spectrometer Lab	F-142
Bldg. 710, Lab	F-144
Bldg. 710, Spectrometer Lab	F-145
Bldg. 710, Radiochemistry Prep Room	F-148
Bldg. 710, Spectrometer Lab, Hood	F-149

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Bldg. 710, Spectrometer Lab , Hood	F-150
Bldg. 710, Spectrometer Lab , Hood	F-151

The total number of findings for OSHA 1910 Subpart I is 13

1B Summary Violation Location(s) for OSHA 1910 Subpart J	Page #
Cafeteria, Women's restroom	F-7
Cafeteria, Hand dishwasher area	F-9
Cafeteria, Food Process area	F-10
Bldg. 333, First Floor C50	F-126

The total number of findings for OSHA 1910 Subpart J is 4

1B Summary Violation Location(s) for OSHA 1910 Subpart K	Page #
Bldg. 720, Machine Shop	F-21
Bldg. 720, Receiving Area	F-55
Bldg. 720, Seal Shop, Acid hood Area	F-57
Bldg. 724, Paint Shop	F-129
Bldg. 710, Radiochemistry Preparation Room	F-139
Bldg. 710, Radiochemistry	F-152

The total number of findings for OSHA 1910 Subpart L is 6

1B Summary Violation Location(s) for OSHA 1910 Subpart L	Page #
Cafeteria, Dishwashing room	F-5
Cafeteria, Storage Area	F-6
Bldg. 750, Garage, West side	F-31
Bldg. 750, Garage, southeast side	F-32
Bldg. 720, Receiving Area, Column B-2	F-54
Plantwide, Fire Brigade	F-96
Bldg. 360, Toil Transfer Bldg.	F-111

The total number of findings for OSHA 1910 Subpart L is 7

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1B Summary Violation Location(s) for OSHA 1910 Subpart M

Page #

Bldg. 720, Green Room

F-40

The total number of findings for OSHA 1910 Subpart L is 1

1B Summary Violation Location(s) for OSHA 1910 Subpart N

Page #

Bldg. 750, Garage, N.W. Corner

F-30

Bldg. 750, Garage, Slings & fasteners

F-30

Bldg. C-400, De-Con, slings

F-70

Bldg. C-600, Steam Plant, Coal dump area

F-74

Bldg. 600, Steam Plant, Coal plant crusher

F-80

Bldg. 600, Steam Plant,

F-81

Bldg. 720, Fabrication Shop, F9

F-99

Bldg. 720, Fabrication Department E-13

F-105

Bldg. 720, Fabrication Department 14-L

F-105

Bldg. 720, Fabrication Department E-13 hoist

F-106

Bldg. 720, Fabrication Department E-13 hook

F-106

Bldg. 360, Toll Transfer Bldg., west side

F-109

Bldg. 333, Second Floor, N44

F-123

Bldg. 333, Second Floor, N44

F-124

Bldg. 333, M6-15 & P25

F-125

Bldg. 720, Refrigeration, Fabrication F9

F-135

The total number of findings for OSHA 1910 Subpart N is 16

1B Summary Violation Location(s) for OSHA 1910 Subpart O

Page #

Carpenter Shop, Drill press

F-12

Carpenter Shop, Drill press

F-12

Carpenter Shop, Vertical belt sander

F-13

Bldg. C-604, Machine Shop, lathe and pipe threader

F-17

Bldg. C-604, Machine Shop, bandsaw blade

F-17

Bldg. 720, Machine Shop, metal working lathe

F-18

Bldg. 720, Machine Shop, Drill & Milling Machine

F-18

Bldg. 720, Maintenance Shop, Kearney & Trecker

F-19

Bldg. 720, Machine Shop, pulley(s)

F-20

Bldg. 720, Machine Shop, belt(s)

F-20

Bldg. 720, Machine Shop, Turret Lathe

F-23

Bldg. 720, Green Room

F-41

Bldg. 720, Stores, "V" belt

F-47

Bldg. 720, Stores, pulley

F-47

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Bldg. 720, Seal Shop	F-57
Bldg. C-400, De-Con pit area, pulleys	F-64
Bldg. C-400, De-Con pit area, belts	F-64
Bldg. C-400, De-Con, behind TCe degreaser	F-65
Bldg. C-400, De-Con, pit area, TCe degreaser	F-69
Bldg. 600, Steam Plant, coal 1 toppers	F-73
Bldg. 600, Steam Plant, local hopper	F-73
Bldg. 600, Steam Plant, Tripper Bunker	F-77
Bldg. 600, Steam Plant, Tripper Bunker	F-79
Bldg. 600, Steam Plant, Tripper Bunker Bldg. 500	F-82
Bldg. C-604, Machine Shop, bandsaw blade	F-83
Bldg. C-604, Machine Shop, lathe & threader	F-83
Bldg. C-604, Machine Shop	F-84
Bldg. 720, Fabrication Shop	F-100
Bldg. 720 Fabrication Shop Column G10	F-101
Bldg. 720 Fabrication Shop Column F6 & F7	F-102
Bldg. 720 Fabrication Shop Column F7	F-103
Bldg. 720 Fabrication Shop Column F6	F-104
Bldg. 720 Fabrication Shop Column F7	F-104
Bldg. 360, Toll Transfer Bldg.	F-109
Bldg. 333, First Floor Shop, Monarch Lathe, Maintenance	F-114
Bldg. 333, First Floor Shop, pulleys	F-115
Bldg. 333, First Floor, belts	F-115
Bldg. 333, First Floor Maintenance Shops	F-117
Bldg. 333, Maintenance Shop, Tool rest	F-118
Bldg. 333, Maintenance Shop, SWC2237 Top Guard	F-118
Bldg. 333, First Floor Shop	F-123
Bldg. 333, First Floor Maintenance Shop	F-124
Bldg. 720, Refrigeration Department	F-136

The total number of findings for OSHA 1910 Subpart O is 43

1B Summary Violation Location(s) for OSHA 1910 Subpart P	Page #
Carpenter Shop, NE Corner	F-14
Carpenter Shop, Workbench	F-15
Bldg. 720, Machine Shop, Maintenance Shop	F-23
Bldg. 720, Seal Shop, drills	F-61
Bldg. C-400, De-Con, Reclaim area	F-68
Bldg. 600, Steam Plant C-604, Maintenance Shop	F-79

The total number of findings for OSHA 1910 Subpart P is 6

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1B Summary Violation Location(s) for OSHA 1910 Subpart Q	Page #
Bldg. 720, Resistance Welding Area	F-26
Bldg. 720, Empty Cylinder Storage	F-38
Bldg. C-400, De-Con, Column 4 1/2	F-66
Bldg. 333, M12	F-120
Bldg. 720, Refrigeration Department	F-134

The total number of findings for OSHA 1910 Subpart Q is 5

1B Summary Violation Location(s) for OSHA 1910 Subpart S	Page #
Cafeteria, Food Processor Table	F-7
Carpenter Shop, Computer Shop	F-13
Carpenter Shop	F-14
Bldg. 720, Maintenance Shop	F-19
Bldg. 720, Machine Shop, Kearney & Trecker	F-22
Bldg. 720, Machine Shop, LeBlond & Rathbone	F-22
Bldg. 720, Sheet Machine Shop	F-24
Bldg. 750, Garage	F-32
Bldg. 720, X-Ray Department	F-34
Bldg. 720, Stores, Restroom	F-48
Bldg. 720, Seal Shop, Inking area & acid hood area	F-58
Bldg. 720, Seal Shop, Electrical Outlets	F-59
Bldg. 720, Seal Shop, S.E. Exit door	F-60
Bldg. 720, Seal Shop, loose connectors	F-61
Bldg. C-400, De-Con, Monitoring radiological booth	F-66
Bldg. C-400, De-Con, near TCE degreaser	F-67
Bldg. C-600, Steam Plant, Coal Crusher house	F-76
Bldg. 600, Steam Plant Laboratory, titration area	F-76
Bldg. 600, Steam Plant Laboratory, titration area	F-77
Bldg. C-600, Steam Plant, Tripper Bunker	F-78
Bldg. C-600, Steam Plant, Tripper Bunker, West Side	F-82
Bldg. 720, Fabrication Shop	F-100
Bldg. 720, Fabrication Shop, Column F-4	F-103
Bldg. 720, Fabrication Department	F-107
Bldg. 333, Second Floor	F-121
Bldg. 333, Maintenance Shop	F-122
Bldg. 720, Refrigeration	F-135
Bldg. 710, Spectrometer Lab	F-141
Bldg. 710, Room B65 Lab	F-143
Bldg. 710, Spectrometer Lab	F-145
Bldg. 710, Radio Chemistry	F-146
Bldg. 710, UF6 Standard Mixing Hood	F-148

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Bldg. 710, Spectrometer Lab #5	F-150
Bldg. 710, Room B65 Lab	F-153
Bldg. 710, Spectrometer Lab, Southside	F-153
Bldg. 710, Spectrometer Lab UF6 Standard Mixing Hood	F-154

The total number of findings for OSHA 1910 Subpart S is 36

1B Summary Violation Location(s) for OSHA 1910 Subpart T

Bldg.333, Second Floor X38	F-120

The total number of findings for OSHA 1910 Subpart T is 1

1B Summary Violation Location(s) for OSHA 1910 Subpart Z

Cafeteria	F-5
Cafeteria, written program	F-8
Cafeteria, Chemical Importer	F-8
Cafeteria, MSDSs	F-9
Cafeteria, Training	F-10
Electronic Shop	F-28
Bldg. 720, Empty Cylinder Storage	F-36
Bldg. 720, Green Room	F-40
Quality Evaluation Lab	F-43
Quality Evaluation Lab east side	F-43
Bldg. 720, Stores	F-45
Bldg. 720, Stores, South corrosive storage area	F-48
Bldg. 720, Seal Shop	F-60
Bldg. C-400, De-Con	F-67
Bldg. C-400, De-Con pit area dip tanks	F-69
Bldg. C-600, Steam Plant basement	F-74
Bldg. 720, Fabrication Shop	F-101
Bldg. 720, Fabrication Shop, Office area	F-102
Bldg. 360, Toll Transfer Bldg.	F-111
Bldg. 360, Toll Transfer Bldg. receiving area	F-112
Bldg. 333, Toll Transfer Bldg. hazard warnings	F-112
Bldg. 333, First Floor Maintenance Shop	F-114
Bldg. 333, Second Floor, S-2	F-119
Bldg. 333, First Floor aisle	F-122
Bldg. 710, Spectrometer Lab, HMIS Labeling System	F-149
Bldg. 710, Spectrometer Lab, NE Corner Radiochemistry Lab	F-151

The total number of findings for OSHA 1910 Subpart Z is 26

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1B Summary Violation Location(s) for OSHA 1926 Subpart O

Page #

Bldg. C-600, Steam Plant, Coal Storage Yard

F-75

The total number of findings for OSHA 1926 Subpart O is 1

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Appendix F
Management Findings Titles
First Sixteen Tiger Team Reports

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	WM/AF-1	Building 334 Satellite Accumulation Areas
Rocky Flats Plant	WM/AF-2	750 Drum Pad Land Ban Storage
Rocky Flats Plant	WM/AF-3	Container Labeling - 90-Day Areas
Rocky Flats Plant	WM/AF-4	Building 884 Aisle Space
Rocky Flats Plant	WM/AF-5	Mixed Wastes Subject to Land Disposal Restrictions Storage Prohibitions - Buildings 561 and 774
Rocky Flats Plant	WM/AF-6	Residue/Waste Issue Classification
Rocky Flats Plant	WM/AF-7	Hazardous Waste Facility Inspections
Rocky Flats Plant	WM/AF-8	Mixed Low-Level Waste Subject to Land Disposal Restriction - Vacuum Filter Sludge and Pondcrete
Rocky Flats Plant	WM/AF-9	Mixed Low-Level Waste Subject to Land Disposal Restriction - Saltcrete, Cemented Composite Chips, and Roaster Oxide
Rocky Flats Plant	WM/AF-10	Deficiencies in TRU and TRU Mixed Waste
Rocky Flats Plant	WM/BMP-1	Management Approach to Environmental Programs
Rocky Flats Plant	WM/BMP-2	Waste Minimization Program
Rocky Flats Plant	WM/BMP-3	Deficiencies in Waste Stream Characterization (WSC) Study

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Rocky Flats Plant	WM/BMP-4	Pondcrete and Saltcrete Solidification/Storage Deficiencies
Rocky Flats Plant	WM/BMP-5	RCRA Storage Area and Cargo Container Storage Deficiencies - 750 and 561
Rocky Flats Plant	WM/BMP-6	Deficiencies at the 561 Container Storage Pad Staging Area
Rocky Flats Plant	WM/BMP-7	RCRA Part B Distribution
Rocky Flats Plant	WM/BMP-8	Regulated Material Procurement Control
Rocky Flats Plant	WM/BMP-9	Hazardous Waste Tank Overfill Controls & Alarms
Rocky Flats Plant	WM/BMP-10	Management Assessments for Long Range Planning
Rocky Flats Plant	WM/BMP-11	Management of Residue
Rocky Flats Plant	WM/BMP-12	Landfill Capacity Constraints
Rocky Flats Plant	WM/BMP-13	Standing Water in Building 664
West Valley Demonstration Project	A-1	The West Valley Demonstration Project organization, assignment of responsibilities and authorities are clearly defined, properly balanced, and well understood by all participants. Relationships with Federal and state agencies and the public are very good and the operating contractor has developed a strong safety culture, particularly in the nuclear safety area. Deficiencies identified are implementation or resource related, not organizational in nature.

FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS MANAGEMENT FINDINGS

Site Name	Finding #	Finding Title
West Valley Demonstration Project	A-2	Safety- and environmentally-related requirements have been based on an expected project lifetime of 5-10 years, which has lead to shortcomings in the depth and scope of the ES&H program implemented at WVDP. To their credit, the contractor and the DOE project office have recognized that the extended project life (now 20-30 years) will require an expanded approach to ES&H, and have initiated appropriate actions.
West Valley Demonstration Project	A-3	Potential civil and/or criminal sanctions arising out of environmental non-compliance determinations are impeding effective communications within the DOE's Idaho Operations Office, and also are impacting the efficient utilization of staff resources with environmental capabilities. DOE management needs to address Department-wide the legitimate concerns of field office ES&H and program groups regarding dealing with environmental non-compliance issues. Protocols that will permit timely and effective interactions between field office program groups and environmental compliance auditors without compromising the roles of the parties need to be developed.
West Valley Demonstration Project	B-1	ES&H Objectives have not been unequivocally communicated to the West Valley contractor, and in any case need to be re-evaluated because of the ES&H implications of the increased lifetime of the project.
West Valley Demonstration Project	C-1	Insufficient ES&H staff resources are currently being devoted to ES&H matters at the West Valley site by the contractor and the DOE Project Office.

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
West Valley Demonstration Project	C-2	The Idaho Operations Office and the Headquarters' Nuclear Energy Organization are not fully implementing their ES&H responsibilities for the West Valley project.
West Valley Demonstration Project	C-3	Additional funding likely will be required for ES&H related items to accommodate the significantly increased time required to accomplish the mission of the project.
West Valley Demonstration Project	C-4	Providing additional manpower ceilings for ES&H positions is a necessary step, but is not in and of itself sufficient to provide the increased performance sought. Some of the skills needed are in critically short supply. Hiring incentives and efficient use of this staff at all organizational levels is likely to be required.
West Valley Demonstration Project	D-1	Contractor management has relied excessively on outside audits to identify and prioritize ES&H deficiencies.
West Valley Demonstration Project	D-2	The Department of Energy and operating contractor staff failed until fairly recently to fully understand the implications of the Resource Conservation and Recovery Act requirements to the project.
West Valley Demonstration Project	E-1	An adequate program for managing hazardous and radioactive mixed waste has not been fully implemented, and this is partially due to a complex, sometimes confusing, regulatory environment.
West Valley Demonstration Project	F-1	DOE/ID oversight of the contractor in the area of ES&H performance has not been sufficient.

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Feed Materials Production Center	M-7	ORO Oversight of Safety and Health Activities Needs to be Strengthened
Feed Materials Production Center	M-8	WMCO/Westinghouse Oversight
Feed Materials Production Center	M-9	Safety and Health Program is Well-Defined but Numerous Deficiencies in Past 3 Years Indicate that it may not be Adequately Implemented
Feed Materials Production Center	M-2	ORO Award Fee Process Functions Well but Opportunities for Improvement Exist
Feed Materials Production Center	M-3	Comprehensive Process for Defining FMPC Mission and Objectives Needs to be Established
Feed Materials Production Center	M-11	Minor Improvements Needed in Determining Applicability of DOE Orders to FMPC and Tracking Completion of Actions
Feed Materials Production Center	M-4	WMCO Training Program Lacks Guidance and Direction and is Not Adequate to Meet All Requirements
Feed Materials Production Center	M-5	Staffing in DOE Site Office is Insufficient in Numbers and in Qualified Personnel
Feed Materials Production Center	M-6	Insufficient WMCO Personnel Resources to Carry Out ES&H and Waste Management Activities

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Feed Materials Production Center	M-10	Non Ongoing Process to Determine Applicability of Environmental Regulations to the FMPC
Feed Materials Production Center	M-1	Inefficient Management Processes of Planning, Trend Analysis, Corrective Action Tracking, and Prioritization within WMCO
Oak Ridge Y-12 Plant		Available resources are insufficient to effectively manage the ES&H programmatic activities
Oak Ridge Y-12 Plant		Energy Systems has drafted an approach that integrates a number of management system improvements and applies them to all five sites, providing uniformity in the management of its ES&H program activities
Oak Ridge Y-12 Plant		Although Y-12 management has begun the development and implementation of several management initiatives and systems oriented at eliminating ES&H deficiencies, an overall plan describing them and their integration does not exist
Oak Ridge Y-12 Plant		No system exists to assess and prioritize corrective actions according to relative risk and urgency for ES&H deficiencies
Oak Ridge Y-12 Plant		Although Y-12 management has recently implemented or is in the process of implementing appropriate management systems and programs to direct the ES&H matters of the site, these systems and programs have not been initiated in a timely manner

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Oak Ridge Y-12 Plant		Energy Systems personnel are unclear about the authority and responsibilities they have over DOE's prime contractors at the Y-12 Plant
Oak Ridge Y-12 Plant		The current system does not ensure mandatory review of design documents by the ES&H organization
Oak Ridge Y-12 Plant		SARs have not been updated to reflect current operating conditions
Oak Ridge Y-12 Plant		Management and bargaining unit representatives are working together to achieve a safety-conscious attitude at the Y-12 Plant
Oak Ridge Y-12 Plant		Critical positions related to ES&H activities are not being filled in a timely manner at the Y-12 site or within ORO
Oak Ridge Y-12 Plant		There has been a lack of progress in correcting ES&H deficiencies
Oak Ridge Y-12 Plant		Insufficient training programs exist to qualify DOE and Energy Systems personnel for their assigned duties
Oak Ridge Y-12 Plant		Many of the Y-12 site operating procedures, excluding product procedures, are inadequately prepared, controlled, or reviewed
Pantex Plant	M/CF-1	Operations (Non-Weapons) Quality Assurance Program Not Adequately Implemented

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Pantex Plant	M/BMPF-1	DOE ES&H Management/Policy Directive Shortcomings
Pantex Plant	M/BMPF-2	Lack of An Integrated Planning System That Ties To the Budget Process
Pantex Plant	M/BMPF-3	Reactive Management Practices
Pantex Plant	M/BMPF-4	Workers Compensation Program Deficiencies
Pantex Plant	M/BMPF-5	Stop Work Authority Is Not Clearly Delineated Nor Appropriately Disseminated
Pantex Plant	M/BMPF-6	ES&H Culture Has Not Fully Permeated the AAO and M&H Organization
Pantex Plant	M/BMPF-7	Cost Plus Award Fee (CPAF) Initiatives and Milestones (Evaluation Standards)
Pantex Plant	M/BMPF-8	Attainment Of ES&H Goals And Objectives Is Not Adequately Reflected In Employee Performance Appraisal Plans
Pantex Plant	M/BMPF-9	Technical Qualification of M&H ES&H Division Professional Staff
Pantex Plant	M/BMPF-10	Technical Expertise of AAO Staff
Pantex Plant	M/BMPF-11	Enhance Tracking And Reporting of Corrective Actions
Pantex Plant	M/BMPF-12	ES&H Technical Guidance and Assistance From AL

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Mound Plant	DO/BMPF-1	Communication of ES&H Policy and Objectives
Mound Plant	DO/BMPF-2	Policy Direction
Mound Plant	O/BMPF-1	Training Programs
Mound Plant	O/BMPF-2	Staffing
Mound Plant	RC/BMPF-1	Tracking and Trending Off-normal Events
Mound Plant	RC/BMPF-2	Configuration Management
Mound Plant	RC/BMPF-3	Operational Readiness Reviews
Mound Plant	OE/BMPF-1	Planning and Coordination of ES&H Appraisals
Portsmouth Gaseous Diffusion Plant	OM-1	Staffing of ES&H programs at PORTS is inadequate to accomplish needed improvements; management has utilized readily available solutions and will require assistance from MMES Corporate and DOE
Portsmouth Gaseous Diffusion Plant	OM-2	Management controls must be exercised during the currently increased operating levels to ensure worker fitness for duty in the face of increased overtime
Portsmouth Gaseous Diffusion Plant	OM-3	Increased efforts between PORTS management and the union to build trust and confidence on ES&H matters through improved communications and development of areas of common interest need to be undertaken

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	OM-4	The MMES management should implement a plan to attract and retain qualified health physics surveyors, otherwise staff shortages and turnover will continue with resultant impact on training and experience level. Turnover in other ES&H disciplines should be evaluated as well
Portsmouth Gaseous Diffusion Plant	OM-5	Management should assure that ongoing and past corrective actions are consistent with the goals of the Long-Range Health and Safety Plan and become fully integrated in terms of priority and resource allocation
Portsmouth Gaseous Diffusion Plant	OM-6	PORTS management should develop appropriate planning and acquire skills or obtain outside assistance to facilitate plans for managing organizational change and conflict
Portsmouth Gaseous Diffusion Plant	OM-7	PORTS lacks a formal policy requiring demonstrated skill levels for the performance of critical activities at the plant. On an interim basis, performance-based on-the-job training (OJT) evaluation checklists may be considered
Portsmouth Gaseous Diffusion Plant	OM-8	PORTS Plant Training and Production Training need to assess the scoped and scheduled curriculum development tasks for adequacy in the "soft skills" area. This assessment should be consistent with MMES policy endorsing formalized conduct of operation requirements. PORTS Operations will need personnel competent in the formal conduct of operations to reinforce "soft skills" development in the work place

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	OM-9	All activities performed to comply with a regulatory requirement should be performed using standard operating procedures that prescribe MMES-approved methods designed to meet the requirements
Portsmouth Gaseous Diffusion Plant	OM-10	A formal process to measure and feed back human performance and to capture and disseminate "lessons learned" information from PORTS, the uranium enrichment community, as well as the commercial uranium industry, does not exist at PORTS and should be implemented
Portsmouth Gaseous Diffusion Plant	OM-11	To successfully implement the Plan, management needs to incorporate actions to overcome the known barriers identified above and assure "ownership" of its goals by effective two-way communication within the organization
Portsmouth Gaseous Diffusion Plant	OM-12	A site-wide ES&H surveillance program modelled after the compensatory walk-through program in X-700, 705, and 720, should be instituted promptly, with documented feedback to, and response by, PORTS management
Portsmouth Gaseous Diffusion Plant	OM-13	When MMES issues new directives to its workforce based on an ES&H requirement, the need for appropriate training or orientation should be determined and promptly implemented as part of directive issuance

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Portsmouth Gaseous Diffusion Plant	OM-14	Management attention needs to be given to the establishment of operational standards for the Model Facilities Program using as guidance applicable INPO and industry guides (mandated in Under Secretary Tuck's memorandum of November 2, 1989)
Portsmouth Gaseous Diffusion Plant	OM-15	PORTS lacks a policy that prescribes the generation, use and modification of the various operating, maintenance, analytical, sampling, and Health Physics procedures
Portsmouth Gaseous Diffusion Plant	OM-16	Management at DOE and MMES should determine which "critical few" areas of contractor performance provide the best incentive for achievement of management objectives, particularly those associated with ES&H improvements
Portsmouth Gaseous Diffusion Plant	OM-17	A remedial plan to mitigate staffing deficiencies is needed for the area office to carry out its assigned responsibilities in an environment where significant ES&H improvement is needed
Portsmouth Gaseous Diffusion Plant	OM-18	Formalization of roles, responsibilities, and lines of authority for ES&H as well as operation matters is needed for the three affected DOE offices
Portsmouth Gaseous Diffusion Plant	OM-19	Integral to the implementation of the Secretary's SEN-6 Directive, the Office of Nuclear Energy and Oak Ridge Operations Office need to implement an ES&H appraisal program for PORTS whose frequency, scope, depth, and root cause assessment, fully supports an integrated and accountable approach by the contractor to resolve long-standing safety deficiencies at the site

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Nevada Test Site	5.5.1 #1	Full Implementation of Independent Responsibility and Accountability for ES&H Operations and ES&H Oversight is Lacking
Nevada Test Site	5.5.5 #1	NV Oversight of User Operations in Test Areas, Tunnels, and Assembly Facilities Needs Enhancement and Clarification
Kansas City Plant	155	Communication and Implementation of DOE ES&H Orders and Requirements Need Strengthening
Kansas City Plant	156	Key Documents Do Not Reflect Management's Commitment to Line Program ES&H Responsibility
Kansas City Plant	157	CPAF and M&O Contractural Language for Ensuring ES&H Requirements Is Inconsistent
Kansas City Plant	158	Performance Appraisal System Is Uneven In Its Recognition of ES&H Commitment
Kansas City Plant	159	A Comprehensive and In-Depth ES&H Training Program Has Not Been Implemented
Kansas City Plant	160	ES&H Oversight Activities Are Limited
Kansas City Plant	161	Non-Weapons Quality Assurance Compliance Is Lacking
Kansas City Plant	162	Assessment and Evaluation of ES&H Risks Is Incomplete
Kansas City Plant	163	ES&H Trends as Performance Indicators Are Uncoordinated

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Kansas City Plant	164	ES&H Tracking Systems Are splintered and Lack Prioritization
Kansas City Plant	165	Formal Guidance on Management of Environmental Restoration Tasks Is Incomplete
Kansas City Plant	166	Strengthening Line Management ES&H Responsibilities
Kansas City Plant	167	Early Review of ES&H Regulatory Impacts
Kansas City Plant	168	ES&H Compliance Incorporated in Weapons Design and Production Planning
Kansas City Plant	169	Allied-Signal KCD ES&H Commitment to Corporate Headquarters
Kansas City Plant	170	Security Clearances for Regulators
Kansas City Plant	171	Advanced Configuration Control System
Kansas City Plant	172	Weapons Complex Packaging Initiative
Pinellas Plant	MGMT.4	Accomplishment of GEND's ES&H goals is being adversely affected by lack of understanding of existing policies and procedures by line supervisors
Pinellas Plant	MGMT.5	GEND has not documented the duties, responsibilities, authorities, and interfaces of many key of its various organizational units.

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Pinellas Plant	MGMT.6	Position descriptions and performance appraisal plans for many key positions do not reflect the growing importance of achieving ES&H objectives
Pinellas Plant	MGMT.8	Systems used by GEND to monitor and track ES&H performance provide inadequate assurance that required improvements will materialize
Pinellas Plant	MGMT.9	SEN-7 Reports submitted by PAO are incomplete and inaccurate, and not prepared in accordance with guidance from Headquarters and the Albuquerque Operations Office
Pinellas Plant	MGMT.12	The roles and responsibilities of the Pinellas Area Office Operations Branch and the ES&H staff are not defined and understood, nor are the interfaces.
Pinellas Plant	MGMT.13	The Office of Defense Programs oversight of ES&H activities at the Pinellas Plant is insufficient
Pinellas Plant	MGMT.14	AL, DP, and headquarters EH have failed to follow up and track actions taken or planned in response to environmental survey findings
Pinellas Plant	MGMT.11	The unplanned event reporting requirements of DOE 5000.3 are not being met and there is no ES&H lessons learned program
Pinellas Plant	MGMT.15	Not all environmental and safety assessments required by DOE Orders and other regulatory requirements are being performed

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Pinellas Plant	MGMT.16	Decision-making associated with the Partnership School exhibits inadequately supported judgements about safety
Pinellas Plant	MGMT.1	The Pinellas Area Office does not transmit DOE and AL Orders/Directives to GEND in a way that makes it clear which Orders/Directives GEND is expected to implement
Pinellas Plant	MGMT.2	Policies and procedures are not kept current to ensure that plant operations are conducted in compliance with applicable orders and regulations
Pinellas Plant	MGMT.3	GEND has not developed a comprehensive set of ES&H goals and objectives for each organizational entity
Pinellas Plant	MGMT.10	The DOE appraisal system, particularly the Cost Plus Award Fee (CPAF) system as applied to the GEND contract, is being ineffectively utilized to accomplish DOE's ES&H goals
Pinellas Plant	MGMT.7	The staff resources currently available at GEND and PAO are insufficient to assure that ES&H requirements will be satisfied
Savannah River Site	M-BMPF-1	The ES&H responsibilities and interfaces of SRS prime contractors have not been defined by DOE-SR
Savannah River Site	M-BMPF-2	The substantial number of tracking systems utilized by DOE-SR and WSRC to provide ES&H and quality assurance corrective action status do not always provide meaningful, current, accurate, or consolidated information for senior management oversight

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MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Savannah River Site	M-CF-3	WSRC's controlled document system for policies, requirements, drawings, and procedures is not adequately implemented nor are all documents protected against loss of information from adverse events
Savannah River Site	M-CF-4	The DOE-SR staff is not providing a sufficient level of ES&H oversight for SRS operations
Savannah River Site	M-CF-5	NQA-1 requirements are not being consistently and effectively implemented by WSRC
Savannah River Site	M-CF-6	The system for communicating internal and external operating experiences to the WSRC non-reactor organizations does not reflect a proactive "lessons learned" program
Savannah River Site	M-CF-7	Deficiencies and weaknesses exist in the SRS non-reactor emergency preparedness program that could degrade effective responses to site or facility emergencies. The current emergency preparedness program is not in compliance with DOE orders
Savannah River Site	M-CF-8	The authority and criteria for startup of key SRS facilities have not been finalized among DP, EM, DOE-SR and WSRC
Savannah River Site	M-BMPF-9	WSRC has not developed implementation strategies incorporating near-term goals, priorities, and feedback mechanisms for many performance improvement initiatives

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Site Name	Finding #	Finding Title
Savannah River Site	M-CF-10	The implementation of Conduct of Operations at the working level does not meet the current Institute of Nuclear Power Operation (INPO) standards
Savannah River Site	M-BMPF-11	The continuing existence of know deficiencies in operations indicates inadequate identification of root causes and tracking and closure of corrective actions by WSRC
Savannah River Site	M-BMPF-12	Procedure adherence deficiencies, identified in previous assessments of NMPD, continue to be a major area of weakness. In addition, WSRC managers do not fully understand the extent of these continuing deficiencies
Savannah River Site	M-BMPF-13	The current level and quality of WSRC's operations monitoring effort do not provide management an accurate understanding of progress in day-to-day operations
Lawrence Livermore National Laboratory	M1	LLNL does not have a sitewide strategic plan with subordinate implementation plans to guide the accomplishment of ES&H objectives.
Lawrence Livermore National Laboratory	M2	LLNL does not have clear, formal lines of decision authority to assure effective, sitewide management of ES&H activities.
Lawrence Livermore National Laboratory	M3	LLNL's policies and plans for sitewide Quality Assurance do not assure achievement of ES&H objectives and requirements.

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MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	M4	The many disparate functions assigned to the Associate Director for Administration and Operations dilute his attention to ES&H and reduce his effectiveness as an advocate for ES&H who is substantially independent of program responsibilities.
Lawrence Livermore National Laboratory	M5	LLNL operating policies and procedures, which relate to ES&H activities, are generally not complete, current or accurate.
Lawrence Livermore National Laboratory	M6	LLNL does not utilize formal document control procedures for operational documents to ensure that ES&H requirements are communicated to all levels of LLNL.
Lawrence Livermore National Laboratory	M7	LLNL management has not effectively and proactively communicated personal ES&H responsibility and accountability to each employee.
Lawrence Livermore National Laboratory	M8	LLNL does not have a responsive, open, and proactive outreach program to improve its credibility with the community.
Lawrence Livermore National Laboratory	M9	LLNL does not have an integrated ES&H resource implementation plan which addresses sitewide resource planning, resource development and resource allocation.
Lawrence Livermore National Laboratory	M10	LLNL does not have an effective sitewide, independent self-assessment program.
Lawrence Livermore National Laboratory	M11	LLNL line management self-assessment of its performance is informal, ineffective and reactive; and, therefore does not provide assurance that ES&H objectives are being met.

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MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Lawrence Livermore National Laboratory	M12	SAN's plan for implementing its ES&H responsibilities is not well understood, not supported by Management Agreements with DOE Headquarters, and does not prescribe adequate resources for full implementation.
Lawrence Livermore National Laboratory	M13	SAN's plan for increased on-site presence needs further development in the areas of on-site decision authority, ES&H management and related program involvement, resource development and allocation, and day-to-day interactions with LLNL counterparts.
Lawrence Livermore National Laboratory	M14	SAN's program for conducting formal assessments of LLNL's ES&H performance does not provide for independent assessment.
Lawrence Livermore National Laboratory	M15	SAN's management, system for directing the incorporation of DOE Orders into LLNL's policies and procedures is out-of-date and does not assure that DOE's guidance is fully understood or that LLNL's response is timely and credible.
Lawrence Livermore National Laboratory	M16	The management and operating contract between the University of California and DOE does not have adequate provisions or incentives for ES&H performance.
Brookhaven National Laboratory	MGMT/CF-1	The contract between DOE and AUI does not include an indemnification agreement under the Price-Anderson Act
Brookhaven National Laboratory	MGMT/CF-2	The contract between DOE and AUI does not require AUI to comply with DOE Orders and directives on the environment

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Site Name	Finding #	Finding Title
Brookhaven National Laboratory	MGMT/CF-3	Not all ES&H assessments required by DOE Orders and other regulatory requirements are being performed adequately
Brookhaven National Laboratory	MGMT/CF-4	The Laboratory Director does not have access to an independent internal appraisal process, because conflicts of interest exist at the associate director level for reactor safety and QA oversight, and at the division head level for ES&H oversight
Brookhaven National Laboratory	MGMT/CF-5	A documented and approved QA program is not in place for all BNL ES&H activities
Brookhaven National Laboratory	MGMT/CF-6	DOE requirements for risk assessment and risk management are not uniformly implemented
Brookhaven National Laboratory	MGMT/CF-7	The ER oversight of ES&H activities at the BNL has not been sufficient
Brookhaven National Laboratory	MGMT/CF-8	The CH oversight of ES&H activities at the BNL has not been sufficient
Brookhaven National Laboratory	MGMT/CF-9	The BHO has not met a number of its ES&H program management responsibilities
Brookhaven National Laboratory	MGMT/CF-10	"Sensitive" line-management positions at BHO have not been designated for participation in the random drug testing program

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	MGMT/BMPF-1	Some elements of the BNL organization do not have clearly defined responsibilities and reporting relationships concerning ES&H implementation
Brookhaven National Laboratory	MGMT/BMPF-2	BNL does not have a formal lessons learned program in place to ensure deficiencies found during internal or external assessments, as well as experiences at other sites, are communicated to potential beneficiaries at BNL and to ensure that the lessons are utilized
Brookhaven National Laboratory	MGMT/BMPF-3	Position descriptions for most key positions at BNL do not reflect the responsibility of ES&H objectives. There is no formal appraisal system for employees at the Department Chairperson and Division Manager level and above
Brookhaven National Laboratory	MGMT/BMPF-4	BNL does not have a safety and health plan that identifies goals and objectives, identifies problems, and sets forth a plan to correct deficiencies
Brookhaven National Laboratory	MGMT/BMPF-5	BNL does not have sufficient staff to meet existing ES&H requirements
Brookhaven National Laboratory	MGMT/BMPF-6	Funding required to achieve full compliance with laws and regulations in the safety and health area has not been fully identified nor communicated to DOE
Brookhaven National Laboratory	MGMT/BMPF-7	The current BNL training program is inadequate

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MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Brookhaven National Laboratory	MGMT/BMPF-8	BNL has not promptly and effectively corrected deficiencies identified in appraisals, audits, surveys, and reviews
Brookhaven National Laboratory	MGMT/BMPF-9	BNL has not instituted a Laboratory-wide program for utilizing tracking, trending, or root cause analysis as management tools
Brookhaven National Laboratory	MGMT/BMPF-10	Management and administration of ES&H policy are not standardized or formalized and do not use thorough, orderly systems of procedures, controls, and documentation
Brookhaven National Laboratory	MGMT/BMPF-11	Position descriptions for some key positions do not reflect the importance of ES&H objectives, and performance appraisal plans for some key positions do not require excellence
Brookhaven National Laboratory	MGMT/BMPF-12	ER, CH, and BHO do not have sufficient ES&H resources to meet their ES&H responsibilities consistent with current expectations
Sandia National Laboratories, Livermore	M1	Roles, responsibilities, authorities, and interrelationships are neither clearly understood, fully documented, nor systematically implemented throughout SNL, Livermore
Sandia National Laboratories, Livermore	M2	Individual accountability for and ownership of ES&H obligations are inconsistent throughout SNL, Livermore
Sandia National Laboratories, Livermore	M3	There is neither a formal QA organization nor a clear and consistent understanding of the QA discipline as it pertains to ES&H

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
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Site Name	Finding #	Finding Title
Sandia National Laboratories, Livermore	M4	There is a general lack of formality and rigor in most aspects of the ES&H program
Sandia National Laboratories, Livermore	M5	Management does not exhibit an understanding of what constitutes an effective ES&H program and how to implement it
Sandia National Laboratories	M6	Communication of the ES&H message from SNL, Livermore management has been, and continues to be, ambiguous
Sandia National Laboratories, Livermore	M7	SNL, Livermore management has articulated an overall corporate goal of achieving ES&H compliance but has not established subordinate the other ES&H goals or objectives that implement the corporate goal for promulgation throughout the organization
Sandia National Laboratories, Livermore	M8	No comprehensive resource plan has been developed to permit the SNL, Livermore ES&H mission to be accomplished
Sandia National Laboratories, Livermore	M9	SNL, Livermore does not have an effective, comprehensive, internal ES&H review and appraisal system
Sandia National Laboratories, Livermore	M10	SNL, Livermore management does not have effective, comprehensive systems to determine and report current status of outstanding ES&H commitments, to track these commitments to verified closure, or to trend findings and accomplishments of other ES&H commitments objectives
Sandia National Laboratories, Livermore	M11	The self-assessment program has not as yet resulted in a cohesive action program

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Site Name	Finding #	Finding Title
Sandia National Laboratories, Livermore	M12	Oversight and follow-up of SNL, Livermore ES&H activities have been lacking
Sandia National Laboratories, Livermore	M13	Lack of DOE presence on-site has hampered its ability to effectively oversee ES&H activities
Sandia National Laboratories, Livermore	M14	DOE management and oversight are hampered by limited ES&H resources and related problems
Hanford Site	M-1	PNL Management Systems Need Strengthening
Hanford Site	M-2	HEHF Management Systems Do Not Meet DOE Requirements
Hanford Site	M-3	Tri-Party Agreement Program Management
Hanford Site	M-4	ES&H Prioritization and Implementation Plant
Hanford Site	M-5	Weaknesses in Employee Concerns Programs
Hanford Site	M-6	Weaknesses in Management's Communication of ES&H Objectives
Hanford Site	M-7	Inefficient Utilization of Resources
Hanford Site	M-8	Human Resource Problems
Hanford Site	M-9	Line and Oversight Functions are Combined in Some Organizations

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MANAGEMENT FINDINGS**

Site Name	Finding #	Finding Title
Hanford Site	M-10	Deficiencies in PNL Independent Oversight
Hanford Site	M-11	Inadequate Self-Assessment Program
Hanford Site	M-12	Inadequate Corrective Action for Radiation Protection Programs Deficiencies
Hanford Site	M-13	DOE-RL Management Systems Need Attention
Hanford Site	M-14	Additional Areas Requiring Resolution Sitewide
Hanford Site	M-15	Ineffective Utilization of HEHF Capabilities
Hanford Site	M-16	Insufficient Management Oversight
Hanford Site	M-17	Inadequate Lessons Learned Program
Hanford Site	M-18	Inadequate Work Control
Hanford Site	M-19	Inadequate Operations, Procedures, and Documentation
Hanford Site	M-20	Inadequate Operational Practice
Hanford Site	M-21	Inadequate Safety Analysis
Paducah Gaseous Diffusion Plant	M.1	The ES&H responsibilities, authorities, and accountabilities of the PGDP organization are not adequately defined, documented, understood or communicated

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Site Name	Finding #	Finding Title
Paducah Gaseous Diffusion Plant	M.2	PGDP management has not established personal ES&H goals, objectives, and performance measures for stimulating enhanced ES&H performance
Paducah Gaseous Diffusion Plant	M.3	MMES does not have a corporate-wide strategic plan with subordinate implementation plans to guide the accomplishment of ES&H objectives at PGDP
Paducah Gaseous Diffusion Plant	M.4	MMES and PGDP Management have not been sufficiently proactive or innovative in ensuring that there is adequate, qualified personnel at the plant to implement the DOE ES&H initiative
Paducah Gaseous Diffusion Plant	M.5	Management has not fully established and implemented a comprehensive, proactive ES&H training program at PGDP
Paducah Gaseous Diffusion Plant	M.6	The plant fitness-for-duty program lacks the management support and formality necessary to ensure that persons who are unfit for their assigned duties are promptly removed from such duties and denied access to vital site areas
Paducah Gaseous Diffusion Plant	M.7	MMES and PGDP management have not given sufficient priority and attention to the development of plant ES&H operating practices and procedures and to the control of ES&H-related documents
Paducah Gaseous Diffusion Plant	M.8	While MMES has initiated an aggressive lessons learned program at PGDP, major effort is necessary to verify program effectiveness and achieve full implementation

**FINDING TITLES OF FIRST SIXTEEN TIGER TEAM ASSESSMENTS
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Site Name	Finding #	Finding Title
Paducah Gaseous Diffusion Plant	M.9	MMES and PGDP have not established a Quality Assurance (QA) program that assures the formality of operations necessary to achieve ES&H objectives
Paducah Gaseous Diffusion Plant	M.10	PGDP line managers are not effectively conducting formal and informal self-assessments of their organizations to ensure achievement of ES&H objectives
Paducah Gaseous Diffusion Plant	M.11	There is not a program of independent self-assessment of the Plant's ES&H activities which is institutionalized and proactive
Paducah Gaseous Diffusion Plant	M.12	DOE's day-to day oversight of ES&H activities at PGDP is not sufficient in depth, breadth, frequency, or quality to ensure full implementation of the Secretary's ES&H initiatives
Paducah Gaseous Diffusion Plant	M.13	DOE responsibilities, authorities, and accountabilities with respect to PGDP are not sufficiently defined, documented, and understood to ensure accomplishment of the ES&H initiatives
Paducah Gaseous Diffusion Plant	M.14	DOE does not provide timely and meaningful implementation guidance to the Plant for the implementation of DOE ES&H regulations, orders, and directives