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**OAK RIDGE
NATIONAL
LABORATORY**

LOCKHEED MARTIN 

ORNL Necessary and Sufficient Standards for Environment, Safety, and Health

Oak Ridge National Laboratory

**Final Report of the Identification
Team for Other Industrial,
Radiological, and Non-Radiological
Hazard Facilities**

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FOR THE UNITED STATES
DEPARTMENT OF ENERGY

ORNL-27 (3-96)

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**ORNL NECESSARY AND SUFFICIENT STANDARDS
FOR ENVIRONMENT, SAFETY, AND HEALTH**

Oak Ridge National Laboratory

**Final Report of the Identification Team for Other Industrial,
Radiological, and Non-Radiological Hazard Facilities**

July 1998

Note

**This report was originally issued as a
Summary Report without Appendices
in July 1996. This final report includes
full documentation of the Identification
Team Activities.**

**Prepared by
OAK RIDGE NATIONAL LABORATORY
managed by
LOCKHEED MARTIN ENERGY RESEARCH CORPORATION
for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-96OR22464**

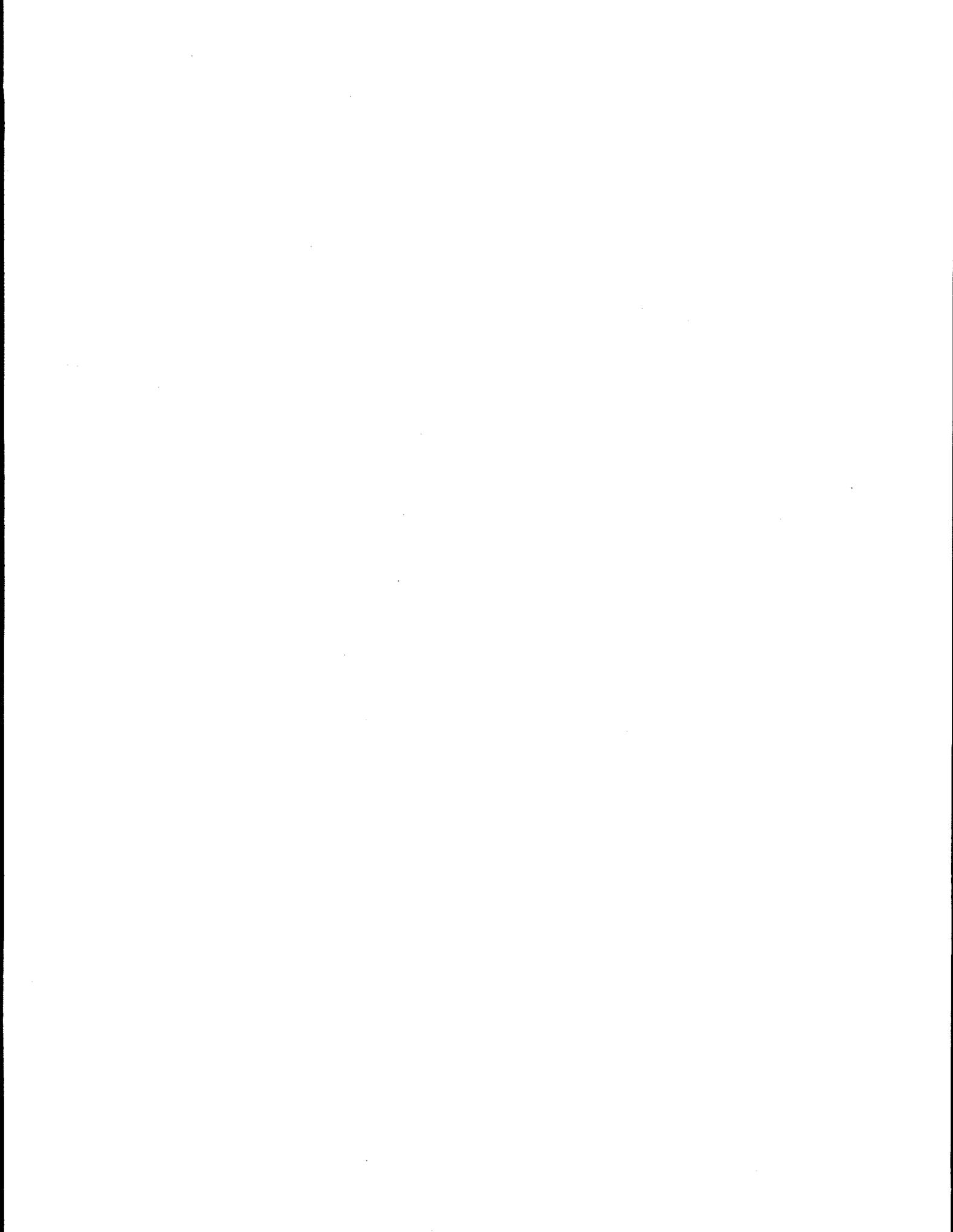
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CONTENTS

LIST OF FIGURES	v
LIST OF TABLES	v
NECESSARY AND SUFFICIENT STANDARDS SET APPROVALS	vii
1.0 INTRODUCTION	1
2.0 PROPOSED NECESSARY AND SUFFICIENT STANDARDS SET	11
3.0 JUSTIFICATION FOR THE PROPOSED SET	23
4.0 VARIANCES AND EXCEPTIONS	25
5.0 IMPLEMENTATION CONSIDERATIONS	27
6.0 RECOMMENDATION	31
APPENDIX A HAZARDS ISSUE LIST	33
APPENDIX B ORNL IDENTIFICATION TEAM DOCUMENTATION EMERGENCY MANAGEMENT	41
APPENDIX C ORNL IDENTIFICATION TEAM DOCUMENTATION ENVIRONMENTAL PROTECTION	49
APPENDIX D ORNL IDENTIFICATION TEAM DOCUMENTATION INCIDENT REPORTING	129
APPENDIX E ORNL IDENTIFICATION TEAM DOCUMENTATION RADIATION PROTECTION	135
APPENDIX F ORNL IDENTIFICATION TEAM DOCUMENTATION SAFETY & HEALTH	143

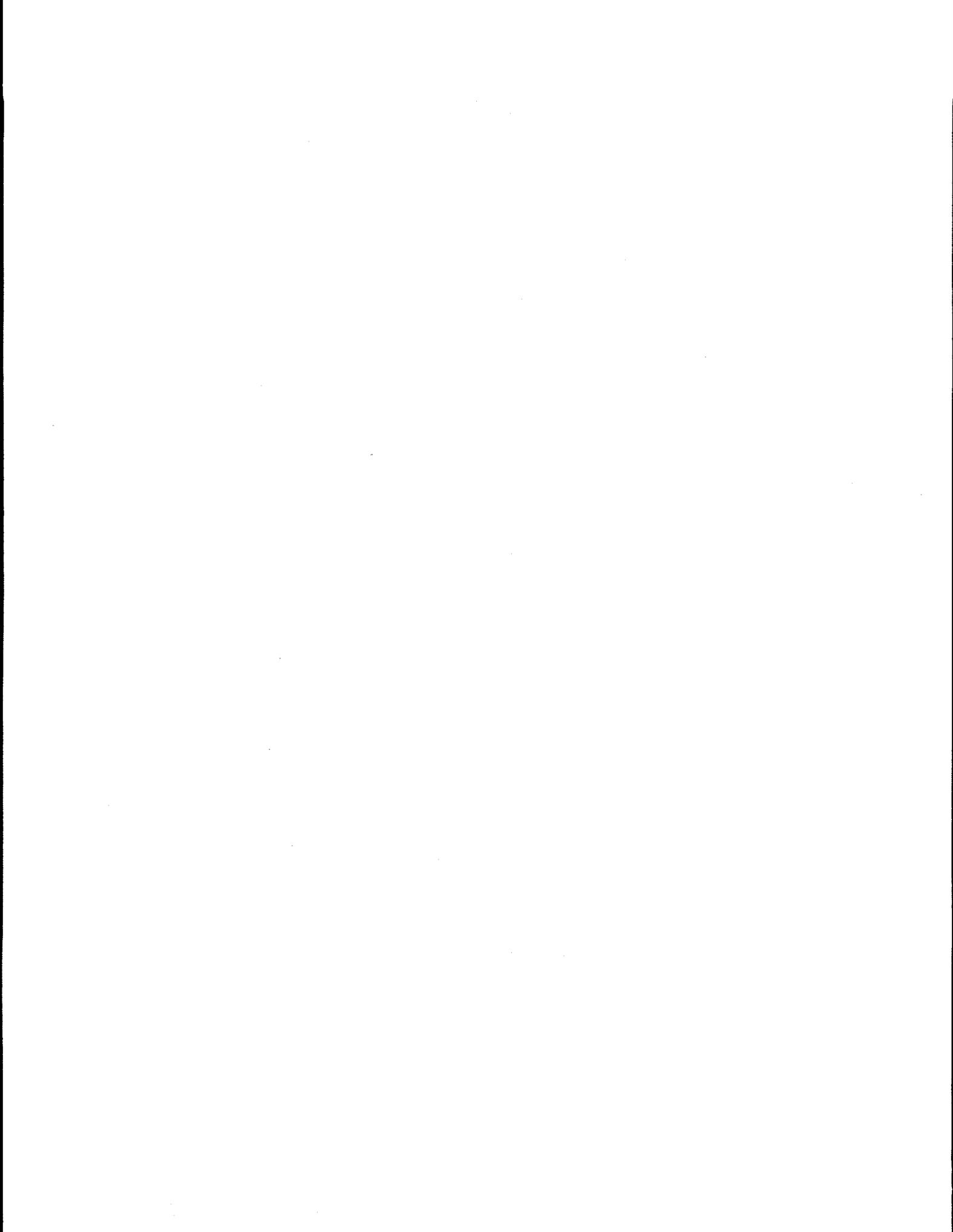


LIST OF FIGURES

1.1	Oak Ridge National Laboratory Research and Development Divisions	2
1.2	Oak Ridge National Laboratory Identification Team for Other Industrial, Radiological, and Non-Radiological Hazard Facilities	4
1.3	Oak Ridge National Laboratory Necessary and Sufficient process comparison	7
1.4	Necessary and Sufficient closure process	8
1.5	Oak Ridge National Laboratory Identification Team Focus Groups for Other Industrial, Radiological, and Non-Radiological Hazard Facilities	9

LIST OF TABLES

2.1	Recommended Necessary and Sufficient Standards	12
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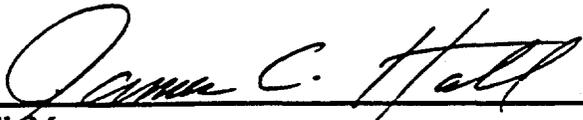
**Oak Ridge National Laboratory
Other Industrial, Radiological, and Nonradiological Hazard Facilities
Necessary and Sufficient Standards**

**Environment, Safety, and Health (ES&H) Standards Set Approval
by Approval Authorities**

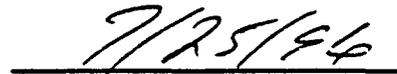
The attached documents describing the Oak Ridge National Laboratory (ORNL) Necessary and Sufficient (N&S) Standards Set demonstrate that a confirmed set of ES&H standards which fully meets the requirements of the DOE Closure Process for developing N&S sets of standards has been developed. Thus, the attached ES&H Standards Set, when implemented at ORNL, can adequately ensure the health and safety of workers and the public and protection of the environment.

We hereby approve the attached ORNL N&S Standards Summary Document dated July 24, 1996, for incorporation into Contract DE-AC05-96OR22464 between the U.S. Department of Energy and Lockheed Martin Energy Research Corporation.

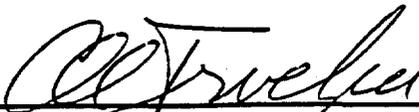
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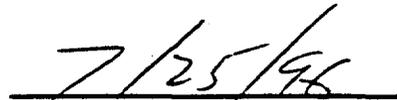
James C. Hall, Manager
Department of Energy
Oak Ridge Operations Office



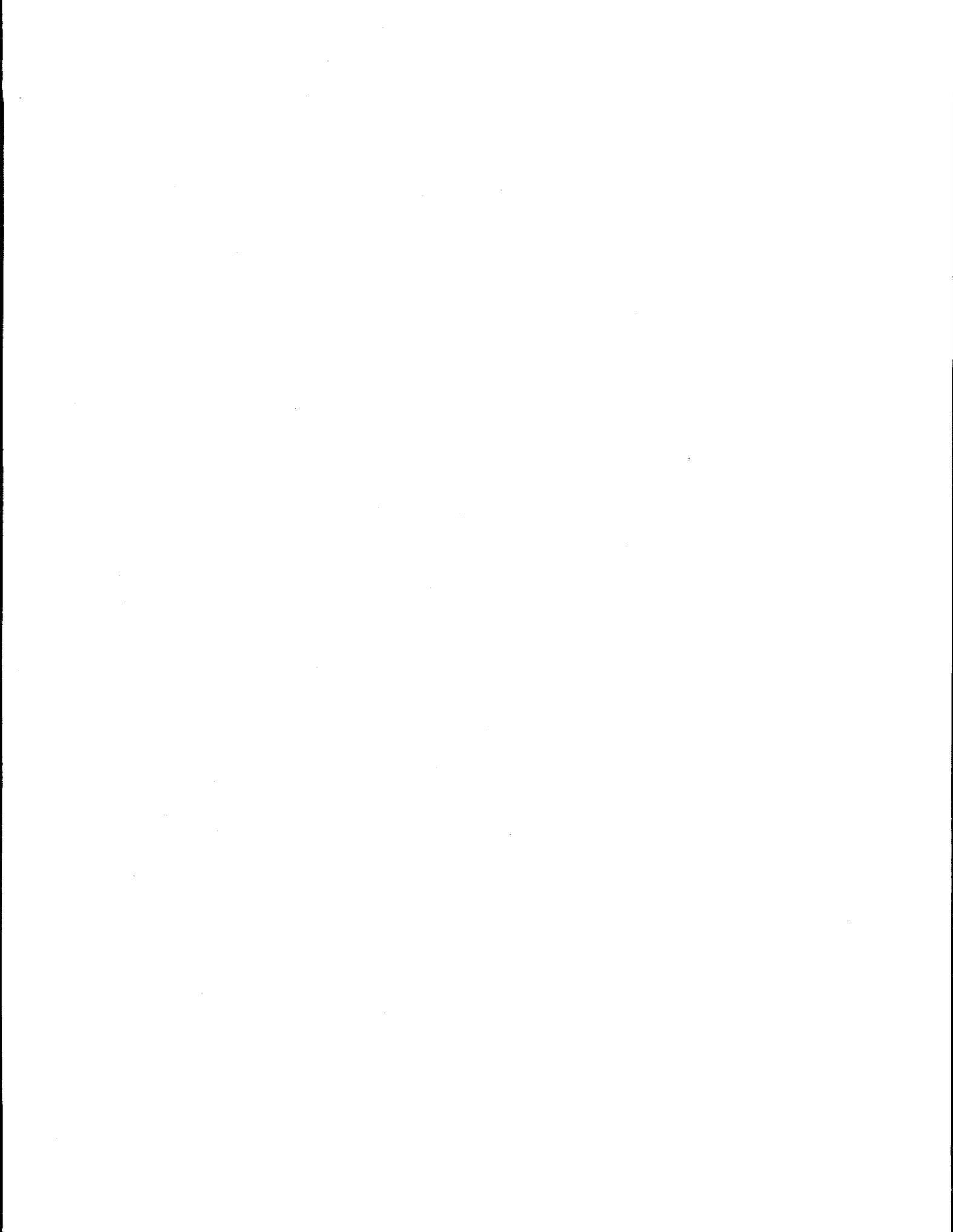
Date



Alvin W. Trivelpiece, President
Lockheed Martin Energy Research Corporation
and Director, Oak Ridge National Laboratory



Date



Oak Ridge National Laboratory
Other Industrial, Radiological, and Nonradiological Hazard Facilities
Necessary and Sufficient Standards

Confirmation Team Approval of the
ES&H Necessary and Sufficient Standards Set

This document conveys the Confirmation Team approval of the ES&H Necessary and Sufficient Standards Set presented in the Necessary and Sufficient Standards Identification Team Summary Document. In accordance with the Department of Energy Closure Process for Necessary and Sufficient Sets of Standards (March 30, 1995), the Confirmation Team verified:

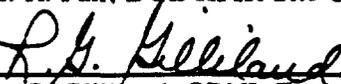
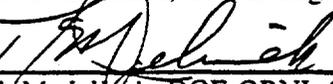
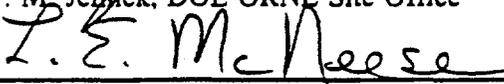
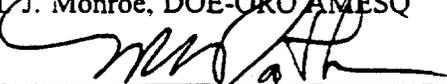
- The information available to and used by the Identification Team was found satisfactory.
- The Convened Group and the Confirmation Panel confirmed that the set of standards is necessary and sufficient to satisfy the performance expectations and objectives of the work.
- Implementation of the set of standards is feasible.

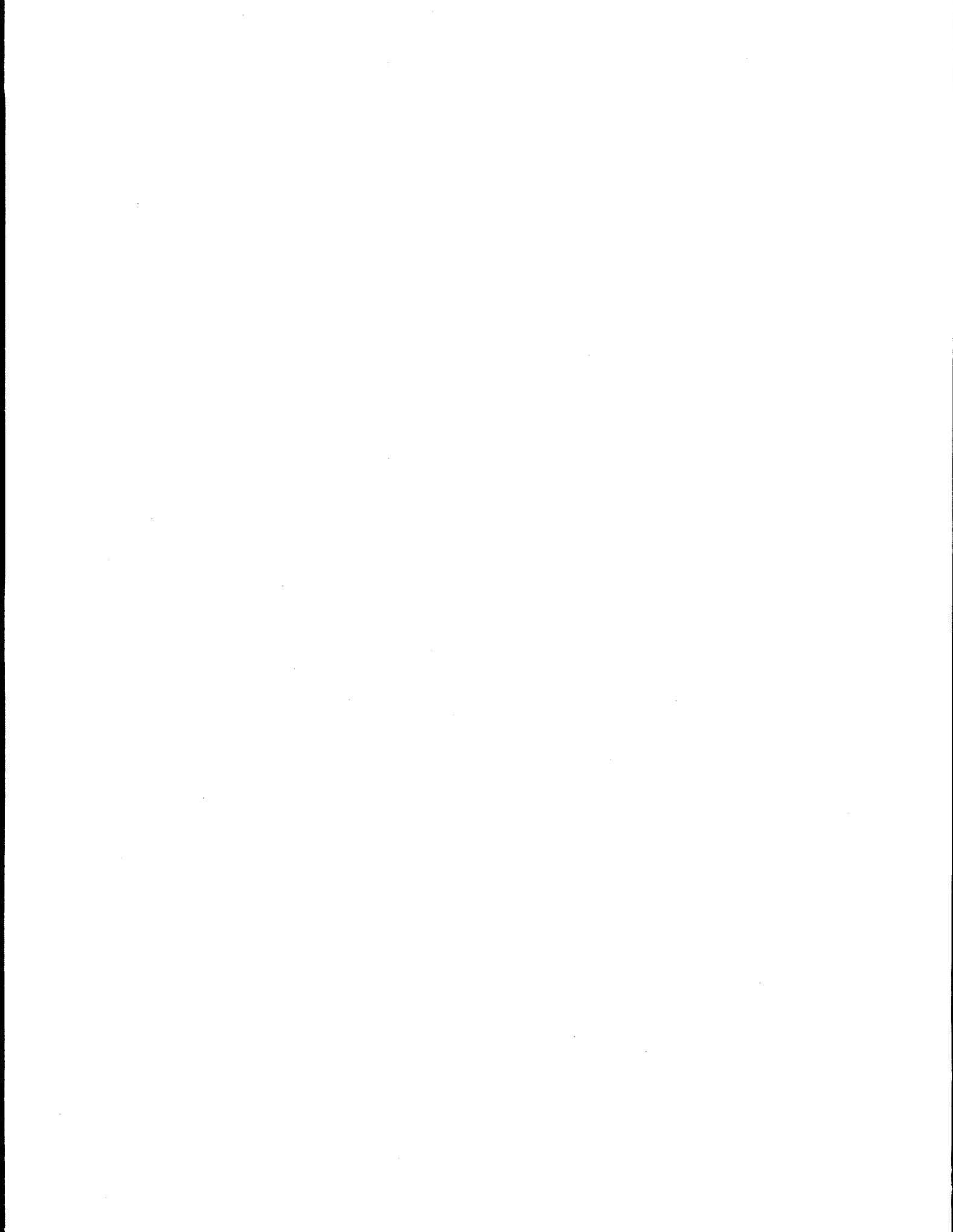
Issues raised during the confirmation of the Set were documented during the confirmation process. All such issues have been resolved to the satisfaction of those who raised the issue. The documentation of these issues and their satisfactory resolution are presented in the Full Identification Team Report. The revised and final Set is included as a part of the attached Summary Identification Team Report.

The Confirmation Team hereby approves the attached Standards Identification Team Summary Report and ES&H Standards Set, with the belief that the Standards Set can be used to adequately ensure protection of the health and safety of the worker and the public and protection of the environment.

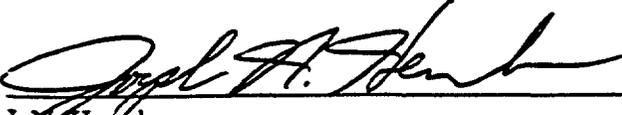
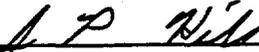
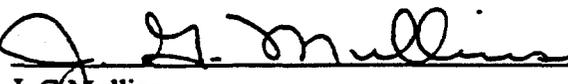
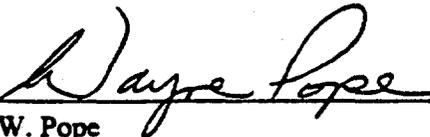
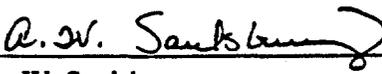
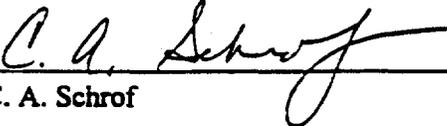
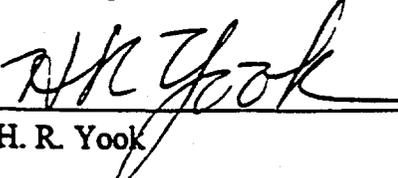
Confirmation Team Approval

Date

 _____ H. R. Fair, DOE HFIR Site Office	<u>7/24/96</u>
 _____ R. G. Gilliland, ORNL Engineering Technology Division	<u>7/19/96</u>
 _____ T. M. Jelonek, DOE ORNL Site Office	<u>7-22-96</u>
 _____ L. E. McNeese, ORNL Chemical Technology Division	<u>7/24/96</u>
 _____ H. J. Monroe, DOE-ORO AMESQ	<u>7/24/96</u>
 _____ M. L. Poutsma, ORNL Chemical and Analytical Sciences Division	<u>7/24/96</u>



ORNL Identification Team for
Other Industrial, Radiological, and Non-Radiological Hazard Facilities
Final Report Approval

Signature	Date
 _____ D. E. Fowler	<u>7/10/96</u>
 _____ J. N. Herndon	<u>7/10/96</u>
 _____ J. P. Hill	<u>7-10-96</u>
 _____ W. H. Miller, Jr.	<u>7-10-96</u>
 _____ J. G. Mullins	<u>7-10-96</u>
 _____ W. W. Pope	<u>7/10/96</u>
 _____ A. W. Sausbury	<u>7/10/96</u>
 _____ C. A. Schrof	<u>7-10-96</u>
 _____ F. J. Smith	<u>7/10/96</u>
 _____ L. L. Triplett	<u>7/10/96</u>
 _____ H. R. Yook	<u>7/10/96</u>



1.0 INTRODUCTION

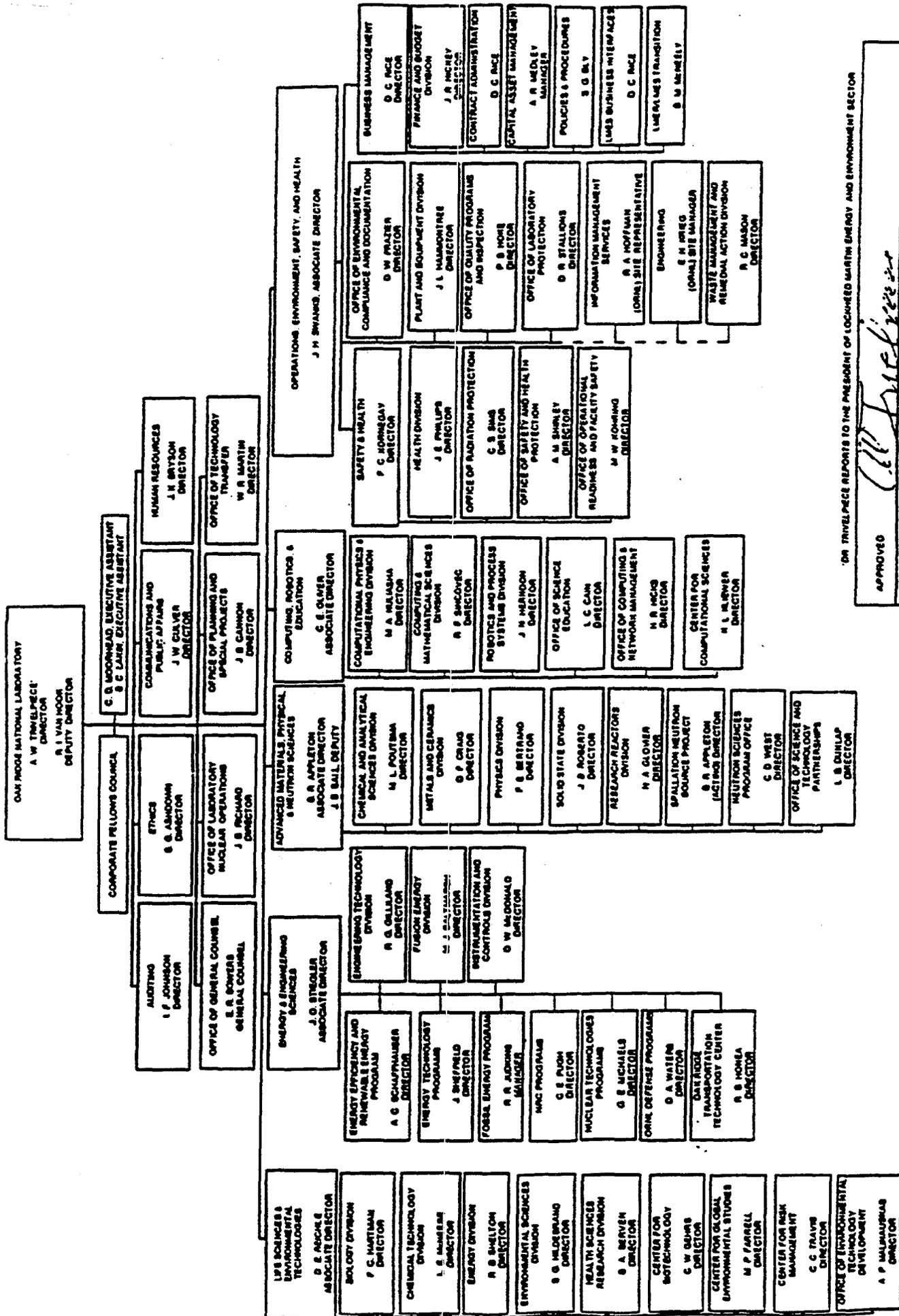
Oak Ridge National Laboratory (ORNL) is a Department of Energy (DOE) multiprogram laboratory managed for DOE by Lockheed Martin Energy Research Corporation (LMER). The mission of the Laboratory is to conduct basic and applied research and development (R&D) in order to advance the nation's energy resources, environmental quality, and scientific knowledge, and to contribute to educational foundations and national economic competitiveness. The Laboratory collaborates with other federal agencies, industries, and universities. ORNL is committed to excellence in all of its activities and will be operated in compliance with applicable environmental, safety, and health laws and regulations.

The 18 ORNL R&D divisions are organized in 4 research directorates. The R&D divisions report to respective Associate Laboratory Directors. These Associate Laboratory Directors report to the ORNL Laboratory Director. Offices and divisions that provide support to the ORNL research divisions report to the Associate Director for Operations, Environment, Safety, and Health. See Fig. 1.1.

Most of the activities conducted at ORNL have direct analogs in private industry and academia. The hazards posed by those activities are similar to hazards facing industry and academia. Therefore this Necessary and Sufficient (N&S) set of standards is not unique to ORNL. These standards reflect the same laws, regulations, and other requirements private industry and academia are implementing to protect the public, employees, and the environment.

During the extensive evaluation of activities and facilities at ORNL, and the hazards associated with the activities, two classes of facilities were identified that, in fact, did not have industrial or academic analogs. These nuclear facilities (including radiochemical facilities 2026 and 5500) and accelerators were excluded from this phase of standards identification. Standards appropriate for nuclear facilities and accelerators will be identified by separate ORNL Identification Teams. Also, facilities at ORNL that are managed by other DOE prime contractors, including Lockheed-Martin Energy Systems Waste Management and Environmental Restoration activities, are not addressed by this set and will be covered by separate N&S identification and closure processes. Appropriate standards for construction and construction-like activities at ORNL are being addressed by a separate ORNL Focus Group chartered by the ORNL N&S Process Leader.

This N&S set of standards is for Other Industrial, Radiological, and Non-Radiological Hazard Facilities at ORNL. These facility classifications are based on a Laboratory-wide approach to classify facilities by hazard category. An analysis of the hazards associated with the facilities at ORNL, using the approach of DOE Order 5480.23, *Nuclear Safety Analysis Reports*, and the criteria contained in the *DOE Standard for Hazard Categorization and Accident Analysis Techniques* (DOE-STD-1027-92), was conducted in 1993. The processes identified in the directives provide a useful, uniform baseline for identifying facility hazards. Facilities at ORNL were categorized in this process after review and approval of ORNL senior management.



DR TRIVELPIECE REPORTS TO THE PRESIDENT OF LOCKHEED MARTIN ENERGY AND ENVIRONMENT SECTOR

APPROVED
EFFECTIVE DATE
FEBRUARY 1, 1998
LOCKHEED MARTIN ENERGY RESEARCH CORPORATION

Fig. 1.1. Oak Ridge National Laboratory Research and Development Divisions.

Since the categorization of facilities by hazard was an important basis for the Identification Team work, a special team was assigned to review the categorization method and bases for the Identification Team. Members of this special team were:

P. R. Cotton, Office of Operational Readiness and Facility Safety
D. E. Fowler, Environmental Sciences Division
D. G. Renfro, Engineering
J. O. Stiegler, Central Management Offices
J. A. Wheeler, Engineering Technology Division

An Identification Team, consisting of an ORNL R&D Division Director and staff, DOE line and ES&H personnel, ORNL support and operations staff, and a member of the Atomic Trades and Labor Council (ATLC), was chartered to identify and propose for confirmation the standards appropriate for activities at ORNL that have industrial or academic counterparts. Team members, representing a cross section of activities at ORNL and DOE, were identified and trained in the N&S closure process. The Team charter and membership are provided in Fig. 1.2.

The N&S closure process implemented at ORNL is based on the process defined in chapters I and II of the *Department of Energy Closure Process for Necessary and Sufficient Sets of Standards* (DOE M 450.3-1). A comparison of the DOE and ORNL process elements is shown in Fig. 1.3. The specific process used by this Identification Team is illustrated in detail in Fig. 1.4.

To identify standards appropriate for these Other Industrial, Radiological, and Non-Radiological Hazard Facilities, the activities conducted in these facilities were assessed, and the hazards associated with the activities were identified. A preliminary hazards list was distributed to all ORNL organizations. The hazards identified in prior hazard analyses are contained in the list, and a category of "other" was provided in each general hazard area. A workshop to assist organizations in properly completing the list was held. Completed hazard screening lists were compiled for each ORNL division, and a master list was compiled for all "Other Industrial, Radiological Hazard, and Non-Radiological" facilities and activities. The master list was compared against the results of prior hazard analyses by R&D and environment, safety, and health (E'S&H) personnel to ensure completeness. This list, which served as a basis for identifying applicable ES&H standards, appears in Appendix A.

Focus Groups, led by members of the Identification Team and staffed by subject matter experts (SMEs) from ORNL R&D and support organizations and DOE, were formed to evaluate specific hazard areas and recommend appropriate standards. Focus Group members were trained in the N&S closure process by the ORNL Process Leader, and routine meetings were held to exchange information between Focus Groups and with the Identification Team members. Focus Groups evaluated Safety and Health, Environmental Protection, Emergency Management, Incident Reporting, and Radiation Protection. Focus Group members are identified in Fig. 1.5. Where appropriate, additional SMEs from ORNL and/or DOE were tasked to evaluate specific activities or hazards and recommend appropriate standards. Following evaluation of the activities and hazards included in the Other Industrial, Radiological, and Non-Radiological Hazard Facilities, the standards necessary to comply with legal requirements and sufficient to address the hazards of the activity were identified and documented. Documentation of results from each Focus Group are in Appendices B through F.

- D. E. Fowler - Environmental Sciences Division
- J. N. Herndon* - Robotics and Process Systems Division
- J. P. Hill - Atomic Trades and Labor Council
- W. H. Miller, Jr. - Metals and Ceramics Division
- J. G. Mullins - Department of Energy, Oak Ridge Operations
- W. W. Pope - Plant and Equipment Division
- A. W. Saulsbury - Office of Safety and Health Protection
- C. A. Schrof - Office of Environmental Compliance and Documentation
- F. J. Smith - Chemical and Analytical Sciences Division
- L. L. Triplett - Biology Division
- H. R. Yook - Robotics and Process Systems Division

*Identification Team Leader

Fig. 1.2. Oak Ridge National Laboratory Identification Team for Other Industrial, Radiological, and Non-Radiological Hazard Facilities.

POST OFFICE BOX 2008
OAK RIDGE TN 37831-6208

Date: June 5, 1996

To: D. E. Fowler, J. N. Herndon, J. P. Hill, W. H. Miller, W. W. Pope,
A. W. Saulsbury, C. A. Schrof, F. J. Smith, L. L. Triplett

c: Associate Directors, D. F. Craig, D. W. Frazier, J. L. Hammontree,
F. C. Hartman, S. G. Hildebrand, F. C. Komegay, M. L. Poutsma,
A. M. Shirley, R. I. Van Hook

From: Alvin W. Trivelpiece, 4500N, MS-6255, 6-2900 (RC) 

Subject: Necessary and Sufficient (N&S) Process

Thank you for agreeing to serve as a member of the ORNL N&S Identification Team. ORNL's operating contract allows the Laboratory to use DOE's N&S Process to develop a set of environmental, safety, and health (ES&H) standards which is both necessary and sufficient to protect the workers, the public, and the environment. An N&S set of standards is one that meets applicable laws and regulations and provides adequate protection at the lowest possible cost. As a member of ORNL's Identification Team for the N&S Process, your task will be to develop a set of standards that ORNL will be contractually obligated to follow. This N&S set of standards will replace the Standards/Requirements Identification Document (S/RID) that ORNL is currently contractually bound to follow.

The goal of the N&S Program is to demonstrate that DOE facilities can be operated safely in a cost-effective manner in the absence of burdensome requirements that add no value or provide no extra safety to the worker, the public, and the environment. The selection of standards must not only demonstrate equivalency but indicate a cost and/or best management benefit for ORNL. The goal is not to determine equivalency but to select the optimal set of standards that provides reasonable assurance of adequate protection of the worker, the public, and the environment in a cost-effective manner.

The purpose of this is to apply a standards-based approach to ES&H management at ORNL. The result of this evaluation will have a major impact on which DOE Orders, guidance, and industry standards must be considered in the N&S Process and on the cost effectiveness of the operation of ORNL.

The guidance from DOE's Standards Committee Program makes clear that local, state, and federal regulations should take precedence over DOE Orders in developing an N&S set of requirements for safe operation of ORNL. DOE Orders should be evaluated in those cases in which regulations do not provide appropriate and/or adequate operating standards.

The Identification Team will be responsible for reviewing information presented concerning work processes and hazards and stakeholder concerns; requesting more information if needed; assuming compliance with applicable laws and regulations; determining what standards are needed in addition to the applicable laws and regulations to meet the needs of ORNL's mission; and defending the final set of standards. As members of the Identification Team, charged with the identification of an N&S set of ES&H standards, ORNL expects you to commit your full technical expertise and experience to the following.

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Fig. 1.2. (Continued)

D. E. Fowler et al.
Page 2
June 5, 1996

- produce an excellent set of technical standards
- bring the product together on schedule
- reflect a high degree of cooperation between ORNL and DOE
- subject the standards to a reasonable credibility check
- involve all appropriate stakeholders
- follow the process guidelines rigorously to fulfill the criteria for DOE's Standards Program

F. C. Kornegay will serve as ORNL's Process Leader, and J. N. Herndon will serve as the Identification Team Leader. Any questions or difficulties encountered during the process will be resolved by Kornegay and Herndon.

I recognize the complexity of this task and expect that changes in course and adaptations may be required along the way. I appreciate your willingness and dedication to participate in this process that will make ORNL more cost-competitive without compromising protection of worker safety, public health, and the environment.

AWT:sco

Fig. 1.2. (Continued)

DOE N&S Process Element*	ORNL N&S Process Element
I.2.A - Satisfying one or more N&S criteria.	Criterion No. 2 applies to ORNL.
I.2.B.1 - Designating a Process Leader.	F. C. Kornegay designated ORNL N&S Process Leader.
I.2.B.2 - Designating members of the Convened Group.	Convened Group designated. Chair: L. E. McNeese. Members from R&D and compliance divisions.
I.2.B.3 - Identifying resource authorities and stakeholders for convened group.	Representatives of DOE-ORO and State of Tenn. are members. Industrial resource authority identified.
II.2 - Process Element 1: Defining the work and hazards.	Comprehensive list of hazards associated with work at ORNL compiled from division input and verified by Office of Operational Readiness and Facility Safety.
II.3 - Process Element 2: Creating the teams.	Created identification (ID) teams for non-nuclear,** nuclear, and accelerator facilities. ID teams created Focus Groups.
II.4 - Process Element 3: Defining protocols and documentation requirements.	Defined through (1) Focus Group charter, (2) ID Team documentation form, (3) ID Team report outline, and (4) documentation guidance.
II.5 - Process Element 4: Identifying the N&S set of standards.	N&S standards set identified by Focus Groups and ID Team.
II.6 - Process Element 5: Confirming the N&S set of standards.	N&S standards set documentation reviewed and determined adequate and feasible by Confirmation Team.
II.7 - Process Element 6: Approving the N&S standards set and authorizing work to the set.	N&S standards set approved by ORNL Director and DOE-ORO Manager. Authorization for working to the set established by adding the N&S set to the LMER contract with DOE.

*Reference the *Department of Energy Closure Process for Necessary and Sufficient Set of Standards*, chapters I and II.

**Non-nuclear facilities at ORNL include Other Industrial (Generally Accepted), Radiological, and Non-Radiological Hazard Facilities.

Fig. 1.3. Oak Ridge National Laboratory Necessary and Sufficient process comparison.

ORNL Other Industrial, Radiological, and Non-Radiological Hazard Facilities

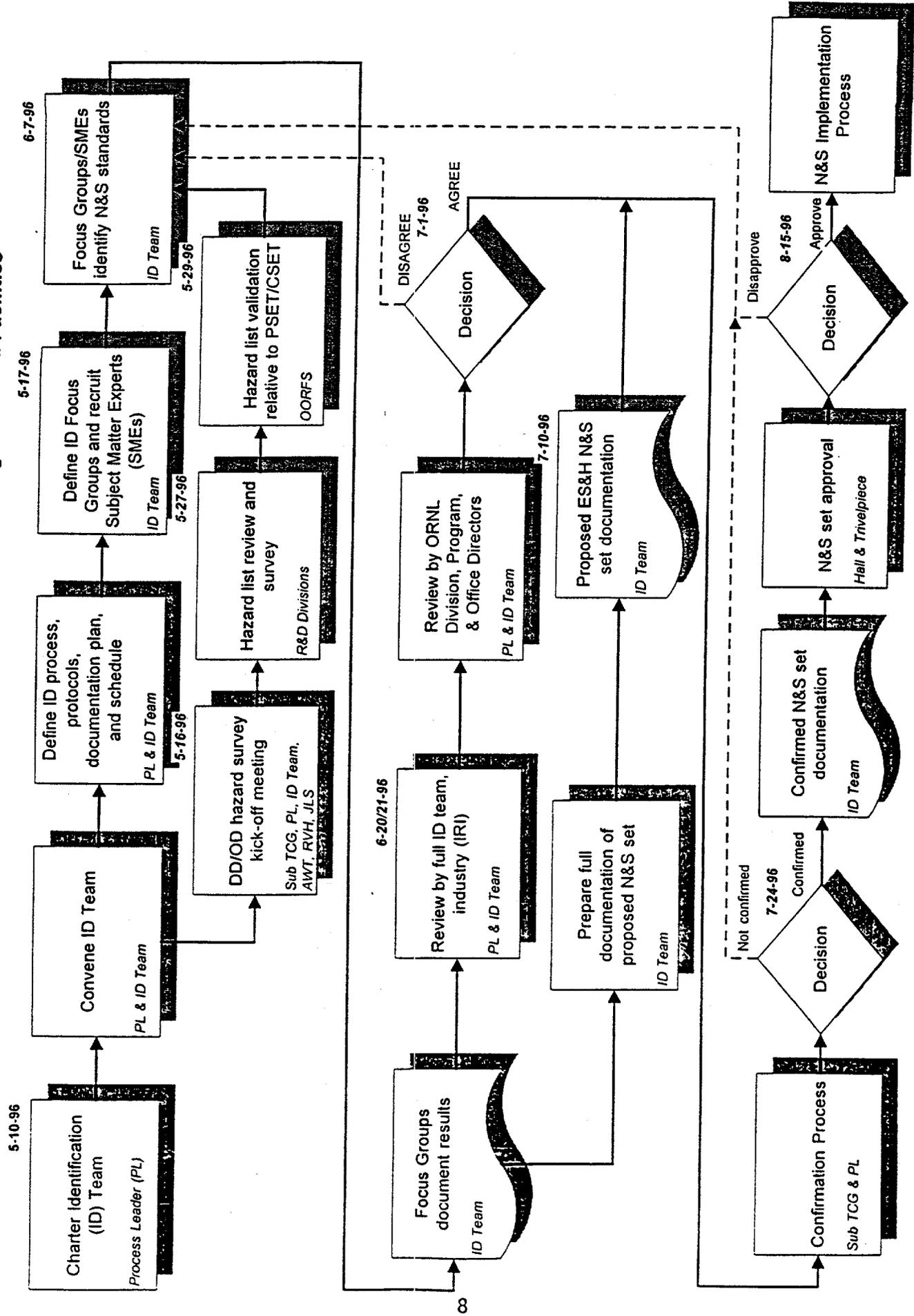


Fig. 1.4. Necessary and Sufficient closure process.

Emergency Management

- W. J. DeRossett - Office of Laboratory Protection
- K. G. Edgemon - Waste Management and Remedial Actions Division
- B. L. Lindley - Research Reactors Division
- H. R. Yook * - Robotics and Process Systems Division

Environmental Compliance

- T. W. Joseph - Department of Energy - Oak Ridge Operations
- S. B. Kennedy - Physics Division
- W. W. Pope * - Plant and Equipment Division
- H. D. Quarles - Environmental Sciences Division
- C. A. Schrof - Office of Environmental Compliance and Documentation
- F. E. Sharples - Environmental Sciences Division
- D. D. Skipper - Office of Environmental Compliance and Documentation
- R. M. Walker - Finance and Budget Division (Transportation)

Incident Reporting

- K. W. Haff - Chemical Technology Division
- J. A. Long - Office of Quality Programs and Inspections
- L. L. Triplett * - Biology Division

Radiation Protection

- A. C. Bassett - Department of Energy - Oak Ridge Operations
- S. A. Hamley - Office of Radiation Protection
- R. R. Shoun - Chemical Technology Division
- C. S. Sims - Office of Radiation Protection
- F. J. Smith * - Chemical and Analytical Sciences Division

Safety and Health

- J. P. Hill - Atomic Trades and Labor Council
- J. D. Miller - Office of Safety and Health Protection
- J. G. Mullins - Department of Energy - Oak Ridge Operations
- R. B. Ogle - Metals and Ceramics Division
- A. S. Saulsbury * - Office of Safety and Health Protection
- C. H. Scott - Robotics and Process Systems Division

*Focus Group Leader

Fig. 1.5. Oak Ridge National Laboratory Identification Team Focus Groups for Other Industrial, Radiological, and Non-Radiological Hazard Facilities.

Widespread stakeholder involvement was encouraged in the ORNL N&S process. Presentations were made at two public meetings, the Tennessee Department of Environmental Conservation (TDEC) was provided a draft of the standards for review and comment, and TDEC staff were invited to attend the standards review and discussion. Routine teleconferences were held with DOE Headquarters staff to provide updates and solicit input and feedback, and personnel from the Oak Ridge Operations Office participated in the closure process. ORNL management and staff were informed of the process in a series of meetings. Staff with expertise or interest were involved as SMEs by the Focus Groups. Members of the ATLC, the bargaining unit at ORNL, were also involved. An ATLC Safety and Health expert was a member of the Identification Team, and other members served as subject matter experts.

The recommendations and supporting documentation developed by the Focus Groups were provided to the Identification Team, TDEC, and a consultant from industry for evaluation. The standards recommended by the Focus Groups for each hazard were then discussed with the Identification Team, the industry consultant, an R&D Division Director not involved in the process, and a representative from the ORNL Associate Director of ES&H. Consensus was reached on the recommendations. In addition to evaluating the completeness of the proposed set of standards, the feasibility of implementing the recommended standards was evaluated and considered in the recommended set. Where consensus could not be reached, a minority report was prepared and transmitted for consideration by the Confirmation Team. The set contained one minority report in Safety and Health. The minority report was adopted by the Confirmation Team.

Necessary standards are requirements placed upon ORNL by external regulatory agencies (such as the Environmental Protection Agency [EPA], TDEC, and Corps of Engineers) that are legally binding on industrial or academic facilities conducting the same activities. In addition, some requirements, such as the National Environmental Policy Act (NEPA), rules promulgated by DOE, and other legislation that applies only to federal actions are identified as necessary standards. It should be noted that requirements such as NEPA are unique to Federal Facilities, causing an increase in costs. In the rare circumstances where legal requirements do not provide adequate protection of staff, the public, environment, and the sufficient standards, which are standards published by recognized international or national organizations that will provide adequate protection of staff, the public, and the environment not provided by legal requirements, were adopted. When approved, this set of standards will be the ES&H requirements of the contract to manage and operate ORNL activities within Other Industrial, Radiological, and Non-Radiological Hazard Facilities.

The recommended set of standards is, in the opinion of the Identification Team, complete and appropriate. The standards adequately address all work reviewed and all hazards identified. The justification for the standards selected is robust and fully meets the requirements of the *DOE Closure Process for Necessary and Sufficient Sets of Standards* (DOE M 450.3-1).

Numerous other documents provide extremely useful and important guidance for safe and efficient operations. However, these documents are written to assist in the performance of work, rather than as strict requirements. Therefore, these documents are not appropriate for inclusion as either necessary or sufficient standards. However, such documents are appropriate to guide the implementation of effective programs, and the implementation of the information in guidance documents is critical to effective ES&H performance.

2.0 PROPOSED NECESSARY AND SUFFICIENT SET OF STANDARDS

Table 2.1 is a rolled-up standards list that contains the necessary and sufficient standards recommended by ORNL's Identification Team and confirmed by ORNL's Confirmation Team. This is the list that the Identification and Confirmation Teams propose for inclusion in the DOE-LMER operating contract, with the intent that only those applicable and enforceable parts of the standards will be implemented by LMER. Citations were included that are not applicable to ORNL operations and/or not enforceable. Rather than attempt an explicit and precise analysis of all necessary standard citations to remove each and every part that is not applicable, broad inclusive citations were made and thus, must be qualified by the phrase, "applicable and enforceable parts thereof."

Table 2.1 Recommended Necessary and Sufficient Standards

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
Accidents Involving Hazardous Materials, Tenn. Code Ann. §§ 58-2-30j et seq.				X	
Animal Welfare Act, 7 U.S.C. §§ 2131 et seq.		X			
Archaeological Resources Protection Act, 16 U.S.C.A. §§ 470aa et seq.		X			
Atomic Energy Act of 1954, 42 U.S.C. §§ 2011 et seq.	X	X	X	X	
Authorized Emergency Vehicles, Tenn. Code Ann. § 58-8-108.				X	
Bald & Golden Eagle Protection Act, 16 U.S.C. §§ 668 et seq.		X			
Clean Air Act and permits issued pursuant to, 42 U.S.C.A. §§ 7401 to 7671q.	X	X			
Comprehensive Environmental Response, Compensation & Liability Act, 42 U.S.C.A. §§ 9601-9675.	X	X			
Emergency Community Right-to-Know Act, 42 U.S.C.A. §§ 11001-11050.	X	X			
Endangered Species Act of 1973, 16 U.S.C. §§ 1531 et seq.		X			
Federal Facility Compliance Act, 42 U.S.C.A. §§ 6939c et seq.		X			
Federal Insecticide, Fungicide, & Rodenticide Act, 7 U.S.C.A. §§ 136-136y.		X		X	
Federal Water Pollution Control Act and permits issued pursuant to, 33 U.S.C.A. §§ 1251-1387.		X			
Fire Protection, Tenn. Code Ann. § 62-32-101 et seq.					X

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
Fish & Wildlife Conservation Act, 16 U.S.C. §§ 2901 et seq.		X			
Hazardous Materials Transportation Act, 49 U.S.C. §§ 1813 et seq.		X			
Hazardous Materials Transportation Uniform Safety Act, 49 U.S.C.A. §§ 5701 et seq.	X				
Health Research Extension Act, 42 U.S.C. §§ 2858e-9 et seq.		X			
Hotels, Food Service Establishments & Public Swimming Pool Inspection Act, Tenn. Code Ann. §§ 68-14-101 et seq.				X	
Migratory Bird Treaty Act, 16 U.S.C. §§ 703 et seq.		X			
Motor Carrier Safety, 49 U.S.C. §§ 3101 et seq.		X			
Motor Carriers, Tenn. Code Ann. §§ 65-15-101 et seq.		X			
National Environmental Policy Act, 42 U.S.C.A. §§ 4321 to 4370b.		X			
National Historic Preservation Act, 16 U.S.C. §§ 470 et seq.		X			
Native American Graves Protection & Repatriation Act, 25 U.S.C. §§ 3001 et seq.		X			
Noxious Weed Act, 7 U.S.C. §§ 2801 et seq.		X			
Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 et seq.	X	X		X	
Operation of Vehicles: Rules of the Road, Tenn. Code Ann. §§ 55-8-101 et seq.				X	
Plant Quarantine Act, 7 U.S.C. §§ 151 et seq.		X			

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
Plant Pest Act, 7 U.S.C. §§ 150aa et seq.		X			
Pollution Prevention Act, 42 U.S.C.A. §§ 13101-13109.		X			
Resource Conservation & Recovery Act and permits issued pursuant to, 42 U.S.C.A. §§ 6901 et seq.	X	X			
Safe Drinking Water Act, 42 U.S.C.A. §§ 300f to 300j-26.				X	
Tennessee Air Quality Act and permits issued pursuant to, Tenn. Code Ann. §§ 68-201-101 et seq.		X			
Tennessee Application of Pesticides Act, Tenn. Code Ann. §§ 68-21-101 et seq.		X			
Tennessee Boating Safety Act of 1965, Tenn. Code Ann. §§ 69-10-201 et seq.		X			
Tennessee Hazardous Waste Management Act and permits issued pursuant to, Tenn. Code Ann. §§ 68-212-101 et seq.		X			
Tennessee Hazardous Waste Reduction Act, Tenn. Code Ann. §§ 68-212-301 et seq.		X			
Tennessee Insecticide, Fungicide & Rodenticide Act, Tenn. Code Ann. §§ 43-8-101 et seq.		X		X	
Tennessee Nongame & Endangered or Threatened Wildlife Species Conservation Act of 1974, Tenn. Code Ann. §§ 70-8-101 et seq.		X			
Tennessee Oil Spill Cleanup & Environmental Preservation Act, Tenn. Code Ann. §§ 68-216-101 et seq.		X			
Tennessee Petroleum Underground Storage Tank Act, Tenn. Code Ann. §§ 68-215-101 et seq.		X			
Tennessee Safe Drinking Water Act, Tenn. Code Ann. § 68-221-701 et seq.				X	
Tennessee Solid Waste Disposal Act, Tenn. Code Ann. §§ 68-211-801 et seq.		X			

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
Tennessee Used Oil Collection Act of 1993, Tenn. Code Ann. §§ 68-211-1001 <u>et seq.</u>		X			
Tennessee Valley Authority Act, 16 U.S.C. §§ 831 <u>et seq.</u>		X			
Tennessee Water Quality Control Act of 1977 and permits issued pursuant to, Tenn. Code Ann. §§ 69-3-101 <u>et seq.</u>		X			
Toxic Substances Control Act, 15 U.S.C.A. §§ 2601 to 2692.	X	X		X	
Water & Sewage, Tenn. Code Ann. §§ 68-221-101 <u>et seq.</u>		X			
Water Environmental Health Act, Tenn. Code Ann. §§ 68-221-901 <u>et seq.</u>		X			
Wild Bird Conservation Act, 16 U.S.C. §§ 4901 <u>et seq.</u>		X			
7 C.F.R. § 301 - Domestic Quarantine Notices.		X			
7 C.F.R. § 318 - Hawaiian & Territorial Quarantine Notices.		X			
7 C.F.R. § 319 - Foreign Quarantine Notices.		X			
7 C.F.R. § 355 - Endangered Species Regulations Concerning Terrestrial Plants.		X			
9 C.F.R. §§ 1-3 - Animals and Animals Products.		X			
10 C.F.R. § 834 - Radiation Protection - Public Environment (current draft or promulgated version).		X			
10 C.F.R. § 835 - Occupational Radiation Protection.	X		X		
10 C.F.R. § 962 - By-product Material.		X			

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
10 C.F.R. § 1021 - National Environmental Policy Act (NEPA) Implementation Procedures.	X				
10 C.F.R. § 1022 - Compliance with Floodplain/Wetlands Environmental Review Requirements.	X				
18 C.F.R. § 1304 - Approval of Construction in the Tennessee River System.	X				
29 C.F.R. § 1903 - Inspections, Citations & Proposed Penalties.				X	
29 C.F.R. § 1904 - Recording Occupational Injuries & Illness.				X	
29 C.F.R. § 1910 - Occupational Safety & Health Standards.	X	X		X	
29 C.F.R. § 1926.1101 - Asbestos.		X			
29 C.F.R. § 1928 - Occupational Safety & Health Standards for Agriculture.				X	
29 C.F.R. § 1975 - Coverage of Employers under the Williams-Steiger Occupational Safety & Health Act of 1970.				X	
29 C.F.R. § 1977 - Discrimination Against Employees Exercising Rights under the Williams-Steiger Occupational Safety & Health Act of 1970.				X	
33 C.F.R. §§ 320-323 - Regulations of Wetlands.		X			
33 C.F.R. §§ 328-330 - Definition of Waters/Navigable Waters in the United States & Nationwide Permit Program.		X			
36 C.F.R. § 60 - National Register of Historic Places.		X			
36 C.F.R. § 63 - Determination of Eligibility for Inclusion in the National Historic Places.		X			
36 C.F.R. § 65 - National Historic Landmarks Program.		X			

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
36 C.F.R. § 78 - Waiver of Federal Agency Responsibilities under § 110 of NHPA.		X			
36 C.F.R. § 79 - Curation of Federally Owned & Administered Archaeological Collections.		X			
36 C.F.R. § 800 - Protection of Historic & Cultural Properties		X			
39 C.F.R. § 111.1 - Domestic Mail Manual.		X			
40 C.F.R. §§ 50-90 - CAA Implementing Regulations.	X	X			
40 C.F.R. §§ 104-149 - Implementing Regulations for Federal Water Pollution Control Act & Safe Drinking Water Act.		X		X	
40 C.F.R. § 156 - Labeling Requirements for Pesticides & Devices.		X			
40 C.F.R. § 162 - State Registration of Pesticide Products.				X	
40 C.F.R. § 166 - Exemption of Federal & State Agencies for Use of Pesticides Under Emergency Conditions.				X	
40 C.F.R. § 170 Worker Protection Standard.				X	
40 C.F.R. § 171 - Certification of Pesticide Applicators.		X		X	
40 C.F.R. § 232 - 404 Program Definitions: Exempt Activities Not Requiring 404 Permits.		X			
40 C.F.R. § 255 - Corps of Engineers Dredged Material Permits.		X			
40 C.F.R. §§ 260-280 - Federal Hazardous Waste Regulations.	X	X			
40 C.F.R. § 300 - National Oil & Hazardous Substance Pollution Contingency Plan.	X	X			

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
40 C.F.R. § 302 - Designation, Reportable Quantities & Notification.	X	X			
40 C.F.R. § 311 - Worker Protection.	X	X			
40 C.F.R. § 355 - Facility Notification & Release Reporting Requirements.	X	X			
40 C.F.R. § 370 - Hazardous Chemical Inventory Reporting Requirements.	X	X			
40 C.F.R. § 372 - Toxic Release Reporting Requirements.	X	X			
40 C.F.R. § 373 - Reporting Hazardous Substance Activity when Selling or Transferring Federal Real Property.		X			
40 C.F.R. § 503 - Standards for Use/Disposal of Sewage Sludge.		X			
40 C.F.R. § 720 - Premanufacturing Notices.				X	
40 C.F.R. § 761 - PCBs Manufacturing, Processing, Distribution in Commerce and Use Prohibitions.	X	X			
40 C.F.R. § 763 - Asbestos.		X		X	
40 C.F.R. §§ 1500-1508 - Council on Environmental Quality.		X			
41 C.F.R. § 101-38.301 - Official Use of Government Motor Vehicles.				X	
43 C.F.R. § 7 - Protection of Archaeological Resources.		X			
49 C.F.R. §§ 106-199 - U.S. Department of Transportation (DOT) Hazardous Materials Regulations.	X	X		X	
49 C.F.R. §§ 325-399 - DOT Federal Motor Carrier Safety Regulations.		X			

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
50 C.F.R. §§ 1-697 - Wildlife and Fisheries, as applicable.		X			
Tenn. R. & Reg. § 0080-6-14 - Pest Control Operators.		X			
Tenn. R. & Reg. § 0080-6-16 - Regulations Governing Use of Restricted Use Pesticides.		X			
Tenn. R. & Reg. § 0400-6-2 - Rare Plant & Conservation Regulations.		X			
Tenn. R. & Reg. § 1200-1-6 - Regulation to Govern Subsurface Sewage Disposal Systems.		X			
Tenn. R. & Reg. § 1200-1-7 - Solid Waste Processing & Disposal.		X		X	
Tenn. R. & Reg. § 1200-1-11 - Hazardous Waste Management.		X			
Tenn. R. & Reg. § 1200-1-11-.11 - Standards for the Management of Used Oil.		X			
Tenn. R. & Reg. § 1200-1-12 - Handling of Solid & Hazardous Waste Facility Application.		X			
Tenn. R. & Reg. § 1200-1-15 - Underground Storage Tank Program.		X			
Tenn. R. & Reg. § 1200-3-1 - Division of Air Pollution Control Regulations.		X			
Tenn. R. & Reg. § 1200-4-1 - Tennessee Water Quality Regulations.		X			
Tenn. R. & Reg. § 1200-2-1-20 - Tennessee DOT Safety Rules & Regulations.		X			
Tenn. R. & Reg. § 1200-23-1 - Rules Governing Food Service Establishments.				X	
Tenn. R. & Reg. § 1200-5-1 - Public Water Systems.				X	

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
Tenn. R. & Reg. § 1220-2-1-20 - Adoption of DOT Safety Rules and Regulations.	X				
Tenn. R. & Reg. § 1600-1-2 - Wildlife.	X				
E.O. 11988 - Floodplain Management.	X				
E.O. 11990 - Protection of Wetlands.	X				
E.O. 12843 - Procurement of Ozone-Depleting Substances.	X				
E.O. 12856 - Federal Compliance with Right-to-Know Laws & Pollution Prevention Requirements.	X				
DOE Order 231.1 - Environment, Safety, and Health Reporting, Section 4, Requirements.				X	
DOE Order 231.1 - Environment, Safety, and Health Reporting Manual, chapters II, 2, and 3.				X	
DOE Order 232.1 - Occurrence Reporting. (applicable only to radiological events), until replaced by N&S standard approved for ORNL nuclear facilities.					X
DOE Order 440.1 - Worker Protection, Attachment 1, Section 5(h).				X	
DOE Order N 441.1 - Radiological Protection for DOE Activities.		X			
DOE Order 5820.2a - Radioactive Waste Management, excluding chapters 1, 5, and 6.		X			
American Conference of Governmental Industrial Hygienists, [Threshold Limit Values (TLVs) reference].				X	
ANSI B30.5 (1995) - Mobile and Locomotive Cranes (design specifications only).				X	

Table 2.1 Recommended Necessary and Sufficient Standards (Continued)

Standards	Emergency Management	Environmental Protection	Radiation Protection	Safety & Health	Incident Reporting
ANSI B30.11 (1993) - Monorails & Underhung Cranes (design specifications only).				X	
ANSI B30.16 (1993) - Overhead Hoists (design specifications only).				X	
ANSI B30.20 (1993) - Below-the-Hook Lifting Devices (design specification only).				X	
ANSI B30.21 (1994) - Manually Operated Hoists (design specifications only).				X	
ANSI D 6.1e - Manual on Uniform Traffic Control Devices.				X	
Army Regulation (AR 385-63) - Policies & Procedures for Firing Ammunition for Training, Target Practice and Combat.				X	
Department of Defense 6055.9-STD - DOD Ammunition & Explosive Safety Standards.				X	
National Electric Safety Code, as applicable as determined by the AHJ.				X	
National Fire Protection Association (NFPA), Life Safety Code, as applicable, as determined by the AHJ.				X	
National Fire Protection Association (NFPA) Standards, as applicable, as determined by the AHJ (i.e., National Electric Code), NFPA 70.				X	
National Fire Protection Association (NFPA) Standards, as applicable, as determined by the AHJ.				X	



3.0 JUSTIFICATION FOR THE PROPOSED SET

The proposed set was determined through the implementation of the N&S closure process outlined in DOE Policy 450.3, *Use of the Necessary & Sufficient Process*. The proposed set is based on the hazards associated with operations and activities at ORNL's Other Industrial, Radiological, and Non-Radiological Hazard Facilities. The elements of the process described below, and the rigor with which this process was implemented, provide confidence that the proposed set of standards is both complete and adequate.

The Identification Team believes the work scope and hazards for these facilities were thoroughly defined. An extensive hazards identification process was employed as follows:

- A preliminary list of hazard and ES&H issues was developed by ORNL ES&H subject matter experts and representatives of operations and R&D divisions based on the work and activities conducted in Other Industrial, Radiological, and Non-Radiological Hazard Facilities.
- All ORNL divisions/offices were surveyed using the preliminary list to ensure that every hazard or ES&H issue associated with its work was included.
- ORNL's Office of Operations Readiness and Facility Safety, which has primary responsibility for management and implementation of the facility-by-facility hazard screening process, reviewed the list of hazards and issues to verify that the list included all hazards used to classify the facilities as Other Industrial, Radiological, or Non-Radiological Hazard Facilities.
- These efforts resulted in a list of hazards. These hazards were evaluated by the Identification Team based on their knowledge and experience of ORNL's work in Other Industrial and Radiological Facilities. The Identification Team used the hazard list to ensure every identified hazard/ES&H issue was considered from a N&S perspective during the identification phase of this effort.

A thorough and effective standards identification process was also implemented. Five Focus Groups were formed to address Emergency Management, Environmental Compliance, Incident Reporting, Radiation Protection, and Safety & Health in detail. Each Focus Group included Identification Team members, R&D SMEs, and ES&H SMEs. Some Focus Groups called on other SMEs (e.g., DOE and external SMEs) as needed. Each Focus Group used the following process to identify N&S standards:

- Review hazards and issues and select those applicable to the Focus Group responsibility.
- Identify the necessary standards (laws, regulations, etc.) applicable to each hazard or issue.

- Determine if compliance with the necessary standards provides ES&H protection equivalent to industrial facilities.
- If necessary, identify additional external standards needed for sufficiency.
- Determine level of ES&H protection based on compliance with external sufficient standards.
- If necessary, identify additional internal standards needed for sufficiency.
- Identify implementation issues.
- Document details of the process and results.

The results from each Focus Group were reviewed in detail by the Identification Team, and all issues/comments identified in the review were resolved. An SME from private industry participated in this review and provided both oral and written comments and recommendations.

It is the consensus of the Identification Team that the N&S set presented herein meets the decision making process stated in the referenced DOE Policy and should be incorporated into the DOE/LMER contract.

3.1 THE PROPOSED STANDARDS ARE NECESSARY

The proposed necessary standards are the ES&H laws and regulations with which ORNL must legally comply. These are the same standards applicable to private sector companies working with similar hazards.

3.2 THE PROPOSED STANDARDS ARE SUFFICIENT

In some instances a law or other regulation either was not identified or was not adequate to address the specific hazard or issue. As appropriate, non-mandatory external *sufficient standards* were identified and proposed to reduce the risk associated with the hazard/issue to acceptable industrial levels. In most instances, these *sufficient standards* are recognized and adopted in private industry to provide worker protection.

The Identification Team documentation forms list the N&S set in detail and provide individual justification for their selection.

3.3 POTENTIAL BENEFITS OF THE PROPOSED SET OF NECESSARY AND SUFFICIENT STANDARDS

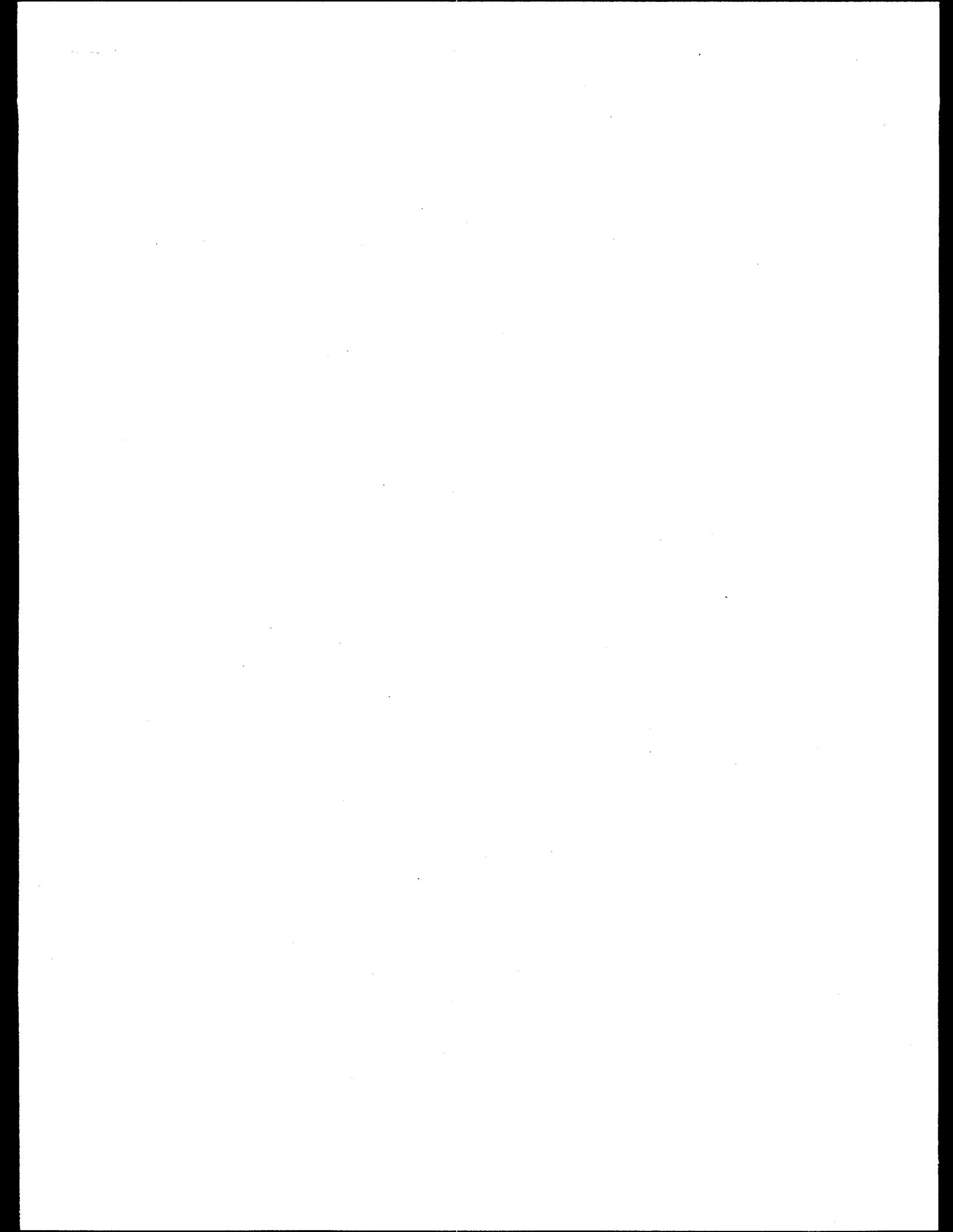
The N&S set defined herein comprises requirements which are appropriate and commensurate with the hazards of the work done in the facilities considered during this process. The implementation of this set will lead to adequate control of ES&H, to work/control/process improvements, and to potential improvements in utilization of available resources.

4.0 VARIANCES AND EXCEPTIONS

Several variances/exceptions to regulations have been, and others may be, granted to ORNL. Examples of those granted by the TDEC that would continue to be applicable to ORNL are:

- TDEC's Division of Air Pollution Control requires that all emission sources be either permitted by the Department or exempt under Tenn. R. & Reg. 1200-3-9. The regulations did not recognize a de minimus exemption for hazardous air pollutants (HAPs). In order to avoid permitting hundreds of sources that emit undetectable amounts of HAPs, TDEC established a de minimus level for ORNL sources emitting HAPs. This provision has since formally been codified by TDEC as part of its Clean Air Act Title V implementation. Thus, all other regulated entities in Tennessee will now be able to use this exemption.
- TDEC's Division of Solid Waste Management granted ORNL a waiver of inspection schedules and storage unit requirements for remote handled transuranic (RH-TRU), contact handled transuranic (CH-TRU), and Class III/IV waste storage units and TRU 90-day Accumulation Areas at ORNL operated under interim status. TDEC granted ORNL this waiver in order to keep radiation exposures to workers as low as reasonable achievable (ALARA).
- ORNL's National Pollutant Discharge Elimination System (NPDES) Permit expired in 1991. ORNL is currently operating on an administrative permit until a new NPDES Permit is issued by TDEC. All discharge points must be identified on a facility's NPDES Permit. Since the expiration of the permit, ORNL has discovered several new discharge points that require its NPDES Permit to be modified. Federal and state regulations prohibit modification of an NPDES Permit after it has expired. By agreement with TDEC's Division of Water Pollution Control, ORNL has been allowed to discharge from these new sources until a new permit could be issued. ORNL's new NPDES Permit will identify these sources. Issuance of the new permit is expected in the fall of 1996.
- The TDEC Division of Underground Storage Tanks (UST) regulations contain provisions that allow exemptions to the UST standards when the regulated entity can demonstrate unique conditions exist at the site that warrant an exemption. ORNL has used this exemption.

Also, two potential additional exemptions were identified by the Safety and Health and Environmental Focus Groups. Those will be addressed during implementation of the N&S standards.



5.0 IMPLEMENTATION CONSIDERATIONS

The Identification Team made a clear distinction between a standard and an implementation issue. Standards are those requirements that must be followed because they are legally required or should be followed because they are industry practices used to ensure protection of workers and the environment. Implementation is the mechanism ORNL uses to ensure compliance with the N&S standards. Implementation plans should not be adopted as standards because they inhibit the flexibility needed to adapt to changing research and operations.

5.1 IMPLEMENTATION ASSUMPTIONS

The only implementing assumption is that ORNL will have in place appropriate management systems to allow and facilitate implementation of this N&S set.

5.2 IMPLEMENTATION INTERFACES

Specific Quality Assurance and Training requirements driven by specific ES&H regulatory drivers were identified and are noted on the documentation sheets. This was done to provide a road map during the implementation process so the N&S principles are carried out.

5.3 IMPLEMENTATION ISSUES

The Necessary and Sufficient process has identified a robust set of statutes, regulations, requirements, and other standards that define the key components of an effective, efficient ES&H program. The standards are generally comparable to the issues addressed by industrial and academic entities of performing similar activities. Inherent in developing an excellent ES&H program is reliance on guidance documents, handbooks, and carefully selected portions of major reference documents. Including these in the Necessary and Sufficient set of standards is inappropriate, for strict compliance with the documents is not applicable to all activities at ORNL, and may lead to reviews that focus on the process of determining compliance with a large list of standards, rather than on the appropriate legal standards, followed by review of the performance of the ES&H programs. In addition to careful selection of the relevant and appropriate sections of reference documents, ORNL management must determine the appropriate level of internal oversight and guidance documents needed to ensure compliance with the N&S standards.

5.3.1 Environmental Compliance

5.3.1.1 Environmental Monitoring

No necessary standards adequately address environmental monitoring not related to compliance with specific permits. Information provided in the DOE Rule 10 CFR834, when promulgated, and

enhanced by portions of DOE Order 5400.1, *Environmental Monitoring Requirements*, should be used as implementation guidance.

5.3.1.2 Laboratory Animals

The care of laboratory animals is not directly addressed by any necessary standards. ORNL currently follows the *Public Health Service Policy on Humane Care and Use of Laboratory Animals*. All institutions involved in the use of animals who receive Public Health Service funds must be in compliance with this policy. Appropriate portions of this standard will also be applied to laboratory animal work not funded by the Public Health Service.

5.3.1.3 No Rad Added

A number of issues associated with "No Rad Added" exist.

Performance Objectives developed by DOE-EM have not been included as a sufficiency standard for internal activities but the waste acceptance criteria of the receiving facility must be met for off-site shipment of wastes.

5.3.1.4 Underground Storage Tanks

TDEC issued a "UST Reference Handbook" in January 1992. This handbook is a collection of technical guidance documents, policy statements, and other relevant information often referred to by TDEC. It should be adopted in implementation of the ORNL UST program.

5.3.1.5 Asbestos

Both the EPA "Purple Book," *Guidance for Controlling Asbestos-Containing Materials in Buildings*, and the "Green Book," *Managing Asbestos in Place - A Building Owners Guide to Operation and Maintenance for Asbestos-Containing Materials*, should continue to be used as guidance documents in the Asbestos Management Program. Due to continuous revisions in the guidance documents, they were not included in the standards set.

5.3.2 Safety and Health

Some hazards exist at ORNL which are not covered by specific necessary or sufficient standards. The Occupational Safety and Health Administration (OSHA) General Duty Clause (Williams-Steiger Occupational Safety and Health Act of 1970 [84 Stat. 1593, Section 5 (a), (1).]) addresses hazards in a general manner. However, additional appropriate protective and/or control measures must be considered during the implementation process. Examples include: ergonomic risks, firearms, airborne biological hazards (*Legionella*, sick building syndrome), recombinant DNA, robotics safety, extended workshifts (fatigue), external environment (weather), on-site transport of materials and equipment, and radiant heat (open flame/closed system).

For each identified ORNL hazard or issue, the implementation process must include consideration of appropriate elements of DOE orders, consensus standards, corporate standards, and internal procedures. The implementation process should also include a mechanism to consider all

related standards, including consideration of new publications, updates, revisions, and interpretations. The following documents, identified relative to specific hazards and issues, should be considered during the implementation phase:

- ACGIH Threshold Limit Values for establishing workplace exposures
- DOE Hoisting and Rigging Technical Standard
- DOE Order 440.1-1., *DOE Explosives Safety Manual*, and other external standards (i.e., Army Regulation 385-64, *Ammunition and Explosives Safety Standards*; Department of Defense *Ammunition and Explosives Safety Standards*, [DOD] 6055.9-STD)
- Factory Mutual (FM) Data Sheets
- Compressed Gas Association Pamphlets C-6, C-8, S-1.1, S-1.2, G-1, G-1.3, and G-1.4
- American Conference Governmental Industrial Hygienists (ACGIH) *Industrial Ventilation Manual*
- American National Standards Institute (ANSI)/American Society of Heating, Refrigerating, Air-Conditioning Engineers, Inc. (ASHRAE) 61.1989 - *Ventilation for Acceptable Indoor Air Quality*
- ANSI Z136.1, *Safe Use of Lasers*
- ANSI Z358.1, *Emergency Eyewash and Shower Equipment*
- ANSI Z359.1-1992, *Safety Requirements for Personal Fall Arrest Systems, Subsystems, and Components*
- ORNL/M-808, *ORNL On-site Transportation Operation Manual for Transporting Hazardous Materials and Hazardous Wastes*
- Forestry standards
- Non-mandatory appendices in OSHA

5.3.2.1 Quality

The Focus Group identified additional quality issues (i.e., design, testing, and inspection) to address during the implementation phase to include the following:

- elevators;
- ladders;
- pressure vessels (code and non-code stamped);
- suspect/counterfeit bolts;
- piping systems; and
- safety belts, harnesses.

Examples of quality-related standards include:

- Underwriters Laboratories (UL) Listings and Directories;
- High-Efficiency Particulate Air (HEPA) Filter Tests - DOE NE F 3-43, *Quality Assurance Testing of HEPA Filters*;
- ANSI/American Society of Mechanical Engineers (ASME) N510-1989, *Testing of Nuclear Air*; and
- American Society for Testing and Materials (ASTM) standards.

5.3.2.2 Aviation Safety

No necessary standards were identified that are applicable to ORNL. In the event of flyovers

and aircraft landings at ORNL, DOE Order 440.2, *Aviation Safety*, should be used as implementation guidance.

5.3.3 Emergency Preparedness

Emergency preparedness requirements, including notification, action levels, and other specific requirements are included in the Tennessee Oversight Agreement (TOA) between DOE and TDEC. Implementation Plans are required for each issue addressed in the TOA. Because both the content and applicability of these plans change frequently, they are not properly included in the standards. However, the approved plans will be incorporated in the ORNL emergency management program.

5.3.4 Radiological Protection

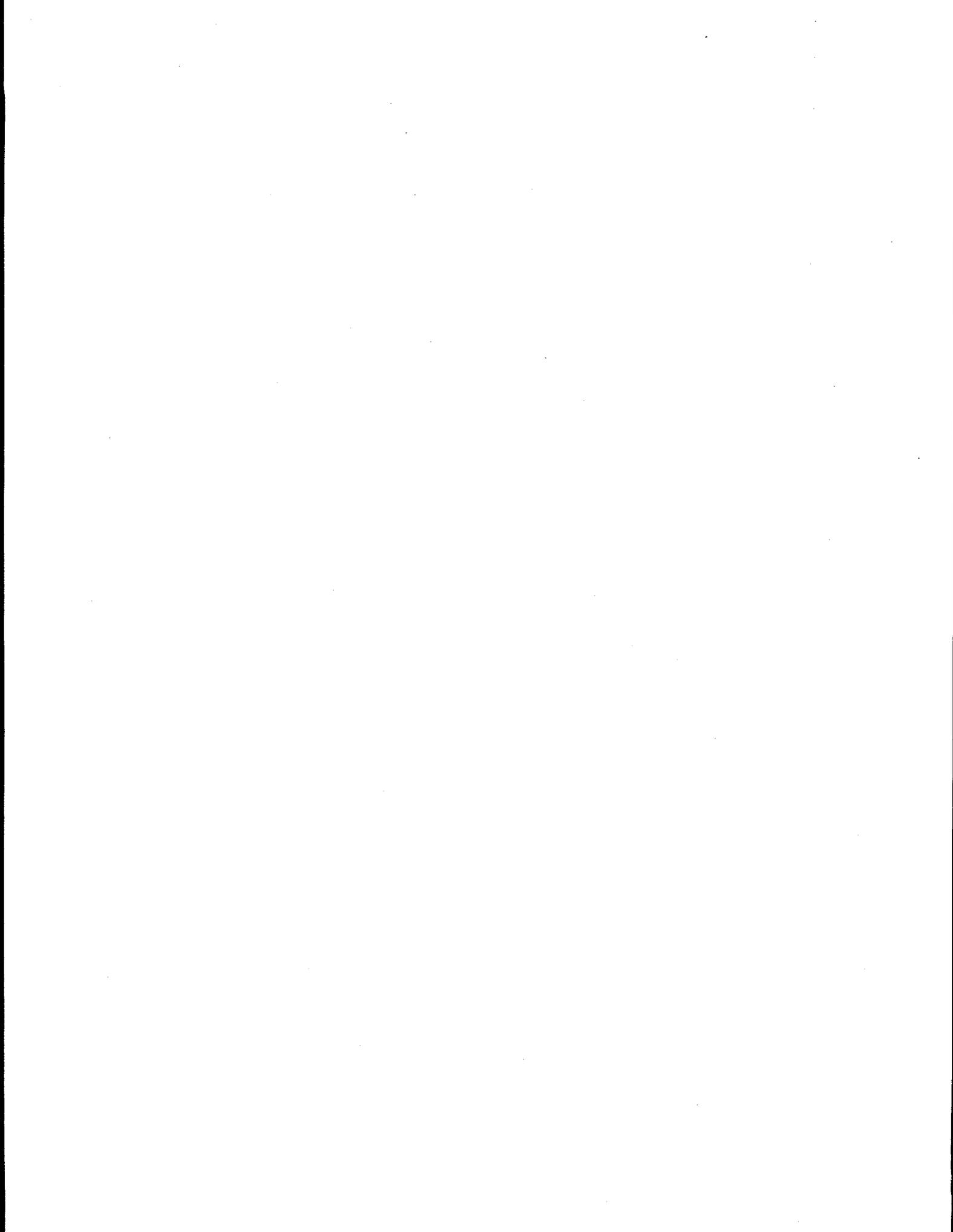
The proposed necessary and sufficient standard set defines a comprehensive basic radiation protection program. Additional, consensus standards addressing specific issues were identified. The appropriate sections of these standards will be implemented at ORNL.

- ANSI N 43.3-1993, *Installations Using Non-Medical X-Ray and Sealed Sources, Energies Up to 10 MeV*
- ANSI N 43.2-1977, *Radiation Safety for X-Ray Diffraction and Florescence Analysis Equipment*
- ANSI N 323-1978, *Radiation Protection Instrument Test and Calibration*

6.0 RECOMMENDATION

The ORNL N&S Identification Team asserts that the adoption of this set of standards, along with appropriate implementation, is both necessary and sufficient for achievement of protection of workers, the public, and the environment for the body of work performed in ORNL's Other Industrial, Radiological, and Non-Radiological Hazard Facilities. The Identification Team also asserts that this proposed standards set is feasible for implementation and, coupled with appropriate implementation, will provide a cost-effective program at ORNL.

The N&S Process has been implemented utilizing the combined resources of subject matter expertise of R&D divisions, compliance organizations, the ATLC, and the DOE Field Office. In addition, overview advice has been obtained from the TDEC and DOE Headquarters. The final rigorous screening of this standards set included presentation to the assembled Identification Team and independent reviewers including an ES&H industry expert, a Laboratory R&D Division Director, and a Laboratory Operations and ES&H Representative. This independent review resulted in a standards set which is consistent with a seasoned ES&H program in industry.



APPENDIX A
HAZARDS ISSUE LIST

APPENDIX A: HAZARDS ISSUE LIST

The following outlines the method used to identify ORNL's ESH hazards and issues:

- A general and comprehensive list of ORNL hazards and ESH issues was developed by ESH subject matter experts and operations/R&D personnel
- Each ORNL division/office used this list to identify every hazard/ESH issue present in its work area.
- The ORNL office having primary responsibility for management and implementation of the facility-by-facility hazard screening process reviewed these division/office-specific hazard/issues lists to verify that the facilities being considered during this phase of ORNL's N&S work were of the appropriate facility hazard classes.
- The focus groups used these division/office-specific lists to cause every ORNL hazard/ESH issue to be considered from a N&S perspective during the identification phase of this effort.

Hazard Screening Matrix

Hazard	Safety & Health	Rad Protection	Environmental	Emergency Management	Incident Reporting
Fire Hazards					
electrical	X				
flammable liquids, gases or solids	X		X		
welding, torch cutting, brazing	X				
spark producing tools near combustibles	X				
spontaneous combustion	X				
storage of combustibles	X		X		
transportation (rail, vehicle, fueling)	X		X	X	
special hazardous materials	X		X		
radiant heat, closed systems	X				
radiant heat, open flame	X				
stationary combustion engines	X				
battery charging station	X				
open flame	X				
other					
Electrical Hazards					
exposed >50 V	X				
high voltage, 50-600V	X				
substations/transformers	X		X		
stored energy/capacitors	X		X		
stored energy/inductors	X				
lighting	X				
motors	X				
battery	X		X		
other					
Nonionizing Radiation					
lasers	X				
radio frequency radiation	X				
ultraviolet light	X				
intense light sources	X				

Hazard Screening Matrix

Hazard	Safety & Health	Rad Protection	Environmental	Emergency Management	Incident Reporting
other					
Magnetic Fields					
quench effects	X				
fringe fields	X				
high magnetic fields	X				
other					
Radiation Hazards					
radiological control area		X			
contamination area		X			
radiation area		X			
high radiation area		X			
fissile material		X			
legacy contamination		X	X		
other					
Material Handling Hazards					
cranes & hoists	X				
fork lift operation	X				
chemical spills	X				
conveyer systems	X				
hazardous tools, equipment & machinery	X				
transportation of DOT hazardous materials outside buildings			X	X	
elevators used for hazardous materials	X				
storage/handling of toxic materials	X		X		
Environmental					
PCBs			X		
hazardous waste			X		
asbestos	X		X		
surface water discharges			X		
endangered species issues			X		

Hazard Screening Matrix

Hazard	Safety & Health	Rad Protection	Environmental	Emergency Management	Incident Reporting
archeological requirements			X		
air emissions - radioactive			X		
transformer oil (non-PCB)			X		
air emissions - nonradioactive			X		
transformer oil (PCB)			X		
solid waste management units			X		
groundwater protection			X		
ozone depleting substances			X		
pesticide application/use			X		
sewer discharges			X		
offsite radiation exposure			X		
sanitary effluent discharge			X		
drinking water quality	X		X		
cultural resources			X		
industrial waste			X		
solid waste			X		
medical waste			X		
wastewater discharges			X		
transportation of hazardous waste			X		
emergency response/spill cleanup	X		X	X	
mixed waste			X		
contaminated soil			X		
aboveground storage tanks			X		
wetlands			X		
sewage sludge			X		
releases of hazardous substances			X		
nonpoint source discharged			X		
floodplain management			X		
underground storage tanks			X		
used oil			X		

Hazard Screening Matrix

Hazard	Safety & Health	Rad Protection	Environmental	Emergency Management	Incident Reporting
other	x (TSCA)		x (wildlife)		
Biological Factors					
animals	x		x		
insects	x				
poison plants	x				
bloodborne pathogens	x		x		
bacteria (water)	x		x		
sensitizers	x				
other					
Thermal					
heat/cold work environments	x				
cryogenics	x				
high temperature equipment	x				
wet work environments	x				
ultraviolet radiation (sun exposure)	x				
other					
Other Personnel Hazards					
sharp edges	x				
traffic hazards	x				
pinch hazards	x				
work on wet surfaces	x				
confined spaces	x				
lifting/carrying heavy objects	x				
elevated work (>4')	x				
repetitive motion (ergonomic/CTD)	x				
vibrating equipment	x				
dry environment	x				
high noise levels	x				
housekeeping	x				
icy walking/working surfaces	x				

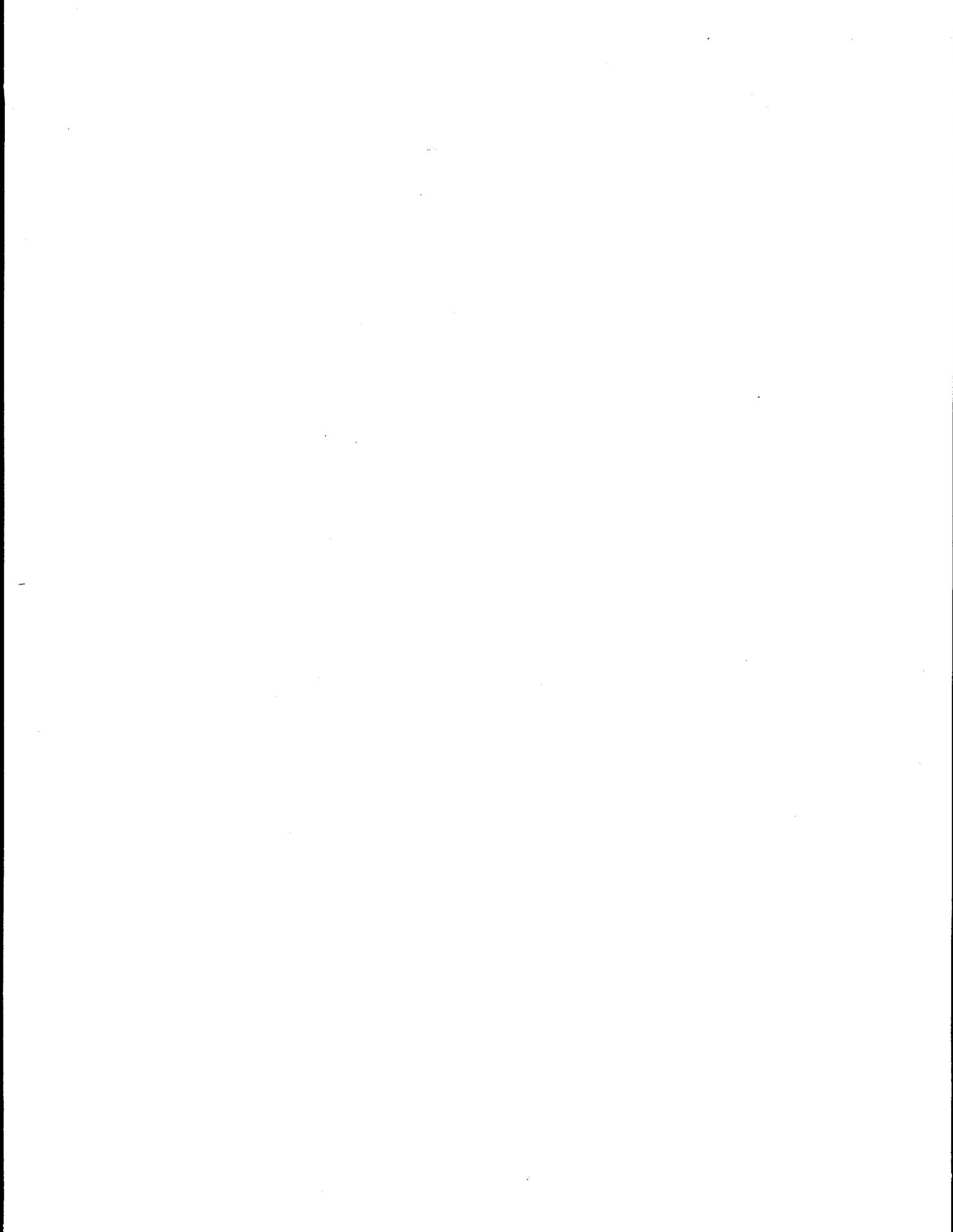
Hazard Screening Matrix

Hazard	Safety & Health	Rad Protection	Environmental	Emergency Management	Incident Reporting
slips, trips & falls	X				
hazards requiring PPE	X				
other					
Chemical Hazards					
acids, solvents, toxic agents & hazardous liquids	X				
heavy metals such as lead	X				
chemical reactions	X				
toxicity in smoke or fumes	X				
pesticides	X		X		
welding fumes	X				
use of toxic materials	X				
carcinogens	X				
nuisance dusts	X				
chemical exposure - exceeding PEL	X				
explosive & blasting agents	X				
other					
Other Mechanical Hazards					
machinery and rotating parts	X				
pressurized tanks, containers & lines	X				
moving vehicles, carts, forklifts	X				
material grinding, cutting, drilling	X				
special hand tools-power driven nail guns, etc.	X				
mobile equipment	X				
means of egress	X				
powered platforms	X				
machine guarding	X				
high pressure (<300 psi) systems	X				
general environmental control	X				
other					

Hazard Screening Matrix

Hazard	Safety & Health	Rad Protection	Environmental	Emergency Management	Incident Reporting
Hazardous Materials Transportation					
spills/chemical releases	X		X	X	
emergency response/spill	X		X	X	
clean-up	X		X	X	
fire/explosion			X	X	
packaging hazardous materials			X	X	
prolonged periods of driving			X	X	
other					
Other					
suspect/counterfeit parts	X				
firearms	X				
general office	X				
inert/flammable/toxic gas	X				
chemical/liquid leak/spill	X				
chemical - vapor leak/spill	X				
engulfment	X				
hazard communication	X				
insecticides, rodenticides	X		X		
pollution prevention/waste reduction			X		
release reporting			X		
movement of quarantined soils/plans			X		
oil pollution prevention act			X		
robotics	X				
incident reporting					X

APPENDIX B
ORNL IDENTIFICATION TEAM DOCUMENTATION
EMERGENCY MANAGEMENT



ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input checked="" type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Comprehensive Emergency Preparedness: includes planning, preparedness, response, and recovery activities of emergency management.

Yes No

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

See attached list.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

The necessary standards cited in item 3 above are those which contain emergency management requirements related to the potential hazards associated with work performed in non-nuclear facilities at ORNL. These same emergency management standards apply equally to non-DOE industrial facilities in Tennessee with work involving similar potential hazards. The current emergency management program for "other industrial, radiological, and non-radiological" facilities at ORNL complies with the necessary standards cited in item 3. No additional standards are needed to add value to the existing emergency management program, which is effective. Adherence to the necessary standards for emergency management at ORNL will achieve a low level of risk that is consistent with private industry and ORNL management goals.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

The potential benefits of implementing an emergency management program based on the necessary standards cited in item 3 are reduced cost and increased effectiveness. The current emergency management program at ORNL complies with both the necessary standards listed in item 3 and DOE Emergency Management Orders (5500 series/151.1). As a result there are some redundancies in the program and some activities which add cost but not value. Implementing a program based only on the necessary standards will allow the elimination of redundancies and non-value added factors (such as duplicate documentation) as well as simplification of procedures without reducing program effectiveness. The available resources can then be focused on sustaining and improving the effectiveness of emergency management at ORNL.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

See attached list.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

29 CFR § 1910.119 (j) (4), (5), and (6) Process Safety Management of Highly Hazardous Chemicals - Mechanical Integrity.

NOTE: 40 CFR § 300.155, "Public Information and Community Relations" uses the terms On Scene Coordinator (OSC) and Remedial Project Manager (RPM) and assigns specific responsibilities to these functions/titles. ORNL does not use these titles. However, these functions and responsibilities are carried out by the Laboratory Shift Superintendent (LSS) during an emergency.

Implementation Issues

- ORNL has an effective emergency management program in place.
- The current ORNL program complies with the N&S standards cited.
- The ORNL program and procedures should be reviewed and updated to:
 - Verify full compliance with the N&S standards, and
 - Remove items and actions not required by the N&S standards

**Attachment to ORNL
Identification Team Documentation Form
Comprehensive Emergency Preparedness**

3. List necessary standards by number and title.

Applicable portions of the following Federal Laws and Regulations:

10 CFR § 835 Occupational Radiation Protection

Occupational Safety and Health Act of 1970, 29 U.S.C.A. §§ 651 etseq.

29 CFR § 1910.38 Employee Emergency Plans and Fire Protection Plans

29 CFR § 1910.119 Process Safety Management of Highly Hazardous
Chemicals

29 CFR § 1919.120 Hazardous Waste Operations and Emergency Response

29 CFR § 1910.130 - 138 Personal Protective Equipment

29 CFR § 1910.1030 Occupational Exposure to Bloodborne Pathogens

Clean Air Act. 42 U.S.C.A. §§ 7401 to 76719.

40 CFR § 68.10 Applicability

40 CFR § 68.15 Hazards Assessment

40 CFR § 68.45 Emergency Response Program

40 CFR § 68.50 Risk Management Plan

Resource Conservation and Recovery Act (RCRA), 42 U.S.C.A. §§ 6901 - 6992k

40 CFR § 264 Standards for Owners and Operators of Hazardous Waste
Treatment, Storage and Disposal Facilities

Comprehensive Environmental Response, Compensations, and Liability Act (CERCLA), 42 U.S.C.A. §§ 9601-9675 and Emergency Planning & Community Right-to-Know Act, (EPCRA), 42 U.S.C.A. §§ 11001-11050

40 CFR §§ 300-372 CERCLA & EPCRA Regulations

Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements.

Toxic Substance Control Act (TSCA), 15 U.S.C.A. §§ 2601-2671

40 CFR §§ 761.120-.135. Subpart G - PCB Spill Cleanup Policy

Hazardous Materials Transportation Uniform Safety Act (HMTUSA), 49 U.S.C.A. §§ 5701 etseq.

49 CFR § 171.15	Immediate Notice of Certain Hazardous Materials Incidents
49 CFR § 172.600	Applicability and General Requirements
49 CFR § 172.602	Emergency Response Information
49 CFR § 172.704	Training Requirements

Applicable portions of the following Tennessee Code Annotated:

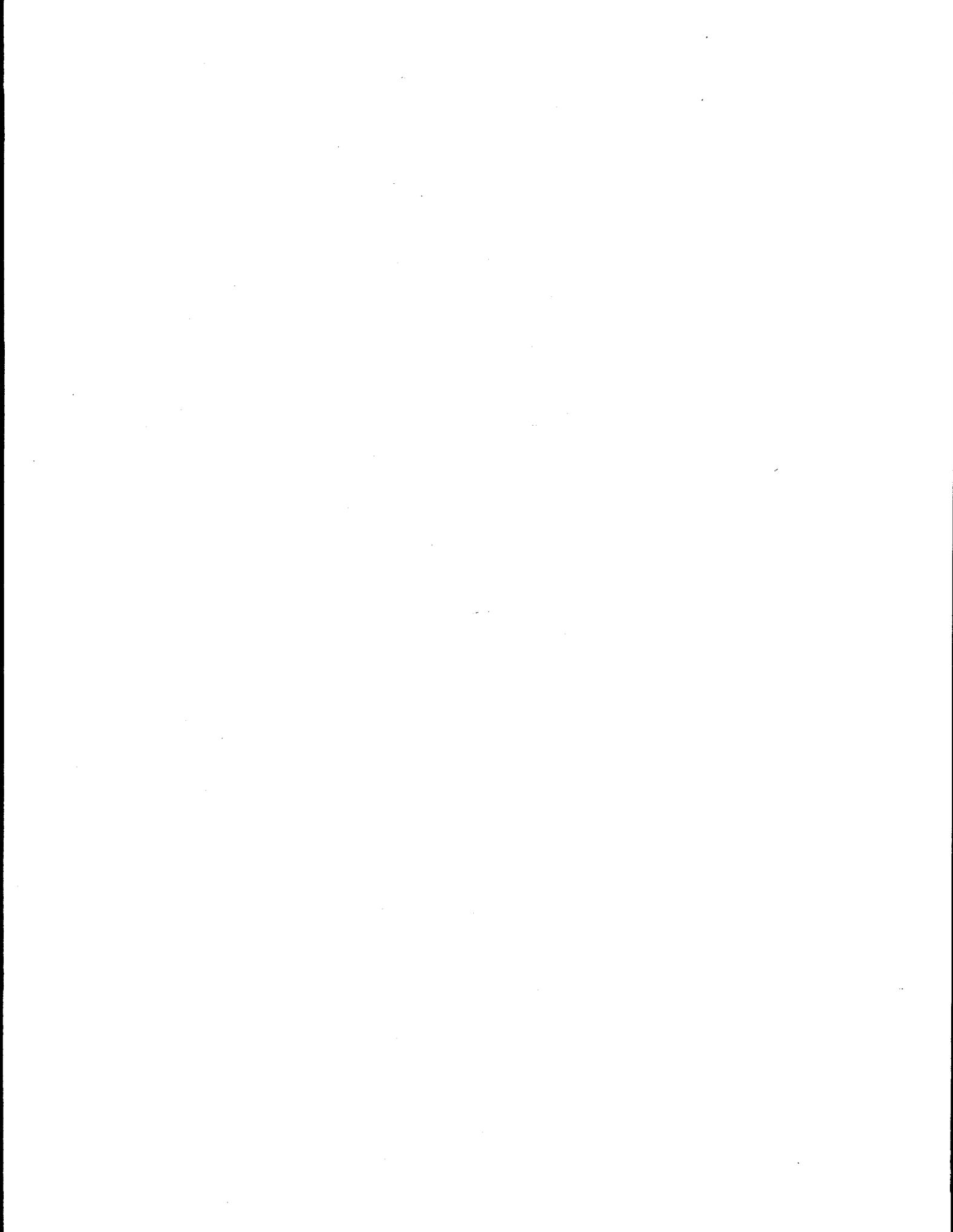
Tenn. Code Ann. § 58-2-301	Accidents Involving Hazardous Materials
Tenn. Code Ann. § 58-8-108	Authorized Emergency Vehicles

**Attachment to ORNL
Identification Team Documentation Form
Comprehensive Emergency Preparedness**

16. List standard section citation(s) requiring training.

- 29 CFR § 1910.38 (a) (5) Emergency Action Plan - Training
(b) (4) Fire Prevention Plan - Training
- 29 CFR § 1910.119 (g) Process Safety Management of Highly Hazardous Chemicals - Training
- 29 CFR § 1910.120 (e) Hazardous Waste Operations and Emergency Response - Training
- 29 CFR § 1910.120 (p) Certain operations conducted under the Resource Conservation and Recovery Act of 1976 (RCRA).
- 29 CFR § 1910.120 (q) Emergency Response to Hazardous Substance Releases
- 40 CFR § 68.45 Chemical Accident Prevention Provisions - Training
- 40 CFR § 264.16 Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities - Personnel Training
- 40 CFR § 300.215 Title III Local Emergency Response Plans
- 49 CFR § 172.704 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements - Training Requirements

APPENDIX C
ORNL IDENTIFICATION TEAM DOCUMENTATION
ENVIRONMENTAL PROTECTION



ENVIRONMENTAL PROTECTION

<u>Issues</u>	<u>Page</u>
Asbestos	53
Boating & Watercraft	56
Cultural Resources	59
Nonradiological Air Emissions	62
Radiological Air Emissions	65
Environmental Monitoring - Nonradiological	68
Environmental Monitoring - Radiological	71
Ozone Depleting Substances	74
Environmental Protection Planning	77
Used Oil	80
Pesticides	83
Pollution Prevention/Waste Minimization	86
PCBs - Polychlorinated Biphenyls	89
Releases to Environment	92
Quarantined Soils	95
Aboveground Storage Tanks (excluding hazardous waste tanks & PCBs)	98
Underground Storage Tanks (USTs)	101
Transportation Safety & Compliance (Off-Site)	104
Hazardous Waste	107
Mixed Waste Management	110
Radioactive Waste Management	113
Solid Waste/Medical Waste/Biological Waste	116
Groundwater Protection	119
Surface Water, Sewage Sludge, Floodplains, Wetlands & Septic Systems	122
Wildlife (Laboratory Animals, Endangered Species, Wildlife)	125

The following does not address agreements that DOE is a party to with various Regulators. This includes, but is not limited to:

- PCB Federal Facility Compliance Agreement
- Federal Facility Agreement
- LDR Federal Facility Compliance Agreement
- Agreement in Principle within State of Tennessee

ORNL IDENTIFICATION TEAM DOCUMENTATION

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|--|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Asbestos

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Asbestos, 40 CFR §763
National Emission Standards for Hazardous Air Pollutants, 40 CFR §61
Asbestos, 29 CFR §1910.1001
Asbestos, 29 CFR §1926.1101
Tenn. R. & Reg. §1200-3-11.02 - Hazardous Air Contaminants
Clean Air Act, 42 U.S.C.A. §§7401 et seq.
Toxic Substances Control Act, 15 U.S.C.A. §§2601 - 2692.
Tennessee Air Quality Act, Tenn. Code Ann. §§68-201-101 et seq.
Occupational Safety & Health Act, 29 U.S.C.A. §§651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These are the general industry standards that minimize risks to employees.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Continued compliance with the law and minimum risks to employees.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Building inspectors, engineers, other professionals, 40 CFR §763
Awareness, asbestos worker training, 29 CFR §1926
Awareness, asbestos worker training, 29 CFR §1910

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Lab Quality Control for Sample Analysis, 29 CFR §1910.1001
Lab Quality Control for Sample Analysis, 29 CFR §1926.1101

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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|--|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Boating & Watercraft

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Tennessee Boating Safety Act of 1965, Tenn. Code Ann. §§69-10-201 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These are the laws followed by all persons, corporations or government entities which operate motorized watercraft.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

EP 5.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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|--|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Cultural Resources

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Native American Graves Protection & Repatriation Act, 25 U.S.C. §§3001 et seq.
Archaeological Resources Protection Act of 1979, 16 U.S.C.A. §470 aa et seq.
National Historic Preservation Act of 1966, 16 U.S.C. §§470 et seq.
Protection of Archaeological Resources, 43 CFR §7
National Register of Historic Places, 36 CFR §60
Determination of Eligibility for Inclusion in the National Historic Places, 36 CFR §63
National Historic Landmarks Program, 36 CFR §65
Waiver of Federal Agency Responsibilities under §110 of NHPA, 36 CFR §78
Curation of Federally Owned and Administered Archaeological Collections, 36 CFR §79
Protection of Historic & Cultural Properties, 36 CFR §800

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the
hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and
management performance goals.

Continuation of current program is comparable with other national laboratories and industry.
It provides an appropriate level of protection at an acceptable cost.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not
escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

EP 6.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- | | | |
|--|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Nonradiological Air Emissions

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Clean Air Act Amendments of 1990 and permits issued pursuant to, 42 U.S.C. §§7401 to 7671g.
CAA Implementing Regulations, 40 CFR §§50-90
Tennessee Air Quality Act, Tenn. Code Ann. §§68-201-101 et seq.
Tenn. R. & Reg. §§1200-3-1 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators? *

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Tenn. R. & Reg. §1200-3-5-Opacity Training
VOC Sampling Training

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Fugitive VOC controls require inspection of valves and joints

* TDEC's Division of Air Pollution Control requires that all emission sources be either permitted by the Department or exempt under Tenn. R. & Reg. 1200-3-9. The regulations did not recognize a de minimus exemption for hazardous air pollutants (HAPs). In order to avoid permitting hundreds of sources that emit undetectable amounts of HAPs, TDEC established a de minimus level for ORNL sources emitting HAPs. This provision has since formally been codified by TDEC as part of its Clean Air Act Title V implementation. Thus, all other regulated entities in Tennessee will now be able to use this exemption.

EP 15.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Radiological Air Emissions

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Clean Air Act Amendments of 1990 and permits issued pursuant to, 42 U.S.C.A. §§7401 to 7671g.
National Emission Standards for Hazardous Air Pollutants, 40 CFR §61. Subpart H
Tennessee Air Quality Act, Tenn. Code Ann. §68-201-101 et seq.
Tenn. R. & Reg. §1200-3-1

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the
hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and
management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Tenn. R. and Reg. §1200-3-5-Opacity Training

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Specifies acceptable sampling methods & dose determination methods, 40 CFR §61.93

EP_16.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Environmental Monitoring - Nonradiological

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Clean Air Act and permits issued pursuant to, 42 U.S.C.A. §§7401 to 7671g.
Federal Water Pollution Control Act and permits issued pursuant to, 33 U.S.C.A. §§1251-1387
Ambient Air Monitoring Reference & Equivalent Methods, 40 CFR §53
Ambient Air Quality Surveillance, 40 CFR §58
National Emission Standards for Hazardous Air Pollutants, 40 CFR §61
Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR §136
Tenn. R. & Reg. §1200-4-3 Tennessee Water Quality Criterion
Tennessee Water Quality Act, Tenn. Code Ann. §§69-3-101 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issue.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Adoption of these standards allows ORNL to have an environmental monitoring program that can adequately measure the impact to the environment and release of pollutants. It provides a level of assurance to the public that releases from DOE sites are not harmful to the environment.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

EP 11.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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|--|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Environmental Monitoring - Radiological

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Clean Air Act and permits issued pursuant to, 42 U.S.C.A. §§7401 to 7671g.
Federal Water Pollution Control Act and permits issued pursuant to, 33 U.S.C.A. §§1251-1387
Ambient Air Monitoring Reference & Equivalent Methods, 40 CFR §53
Ambient Air Quality Surveillance, 40 CFR §58
National Emission Standards for Hazardous Air Pollutants, 40 CFR §61
Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR §136
Radiation Protection - Public Environment, 10 CFR §834 (current draft or promulgated rule)

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These requirements enable ORNL to have an environmental monitoring program that effectively measures the radiation present in the environment near or at ORNL.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

EP 17.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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|--|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Ozone Depleting Substances

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Clean Air Act Amendments of 1990, 42 U.S.C.A. §§7401 to 7671g
Protection of Stratospheric Ozone, 40 §CFR 82
E.O. 12843, Procurement of Ozone-Depleting Substances

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standards]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standards]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Technician training, 40 CFR §82.40

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Extraction & Recycling Equipment, 40 CFR 82. Subpart B. Appendix A

EP 12.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

Emergency Management Hazard Screening Radiation Protection
 Environmental Protection Occurrence Reporting Safety & Health

1. Hazards or Issue(s)

Environmental Protection Planning

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

National Environmental Policy Act, 42 U.S.C.A. §§4321 to 4370b
10 CFR §1021- NEPA Implementation Procedures
40 CFR §§1500-1508 - Council on Environmental Quality

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Continuation of the current program will provide an appropriate level of protection at an acceptable cost. The statute and regulations provide a planning program that assures the appropriate level of consideration for environmental impacts early in the project planning cycle.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

EP 8.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

Emergency Management Hazard Screening Radiation Protection
 Environmental Protection Occurrence Reporting Safety & Health

1. Hazards or Issue(s)

Used Oil

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Used Oil Management Standards, 40 CFR §279
Standards for the Management of Used Oil, Tenn. R. & Reg. §1200-1-11-.11
Resource Conservation and Recovery Act, 42 U.S.C.A. §§6901 - 6992k.
Tennessee Used Oil Collection Act of 1993, Tenn. Code Ann. §§68-211-1001 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Other facilities would not impose additional requirements on the management of used oil.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with regulations minimizes liability and allows recycling of used oil.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

EP 3.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Pesticides

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C.A. §§136-136y.
Labeling Requirements for Pesticides & Devices, 40 CFR §156
Certification of Pesticide Applicators (Restricted Use Only), 40 CFR §171
Worker Protection Standard, 40 CFR §170
Pest Control Operators, Tenn. R. & Reg. §0080-6-14
Regulations Governing Use of Restricted Use Pesticides, Tenn. R. & Reg. §0080-6-16.
Tennessee Application of Pesticides Act, Tenn. Code Ann. §§62-21-101 etseq.
Tennessee Insecticide, Fungicide, and Rodenticide Act, Tenn. Code Ann. §§43-8-101 etseq.
State Registration of Pesticide Products, 40 CFR §162
Exemption of Federal and State Agencies for Use of Pesticides Under Emergency Conditions, 40 CFR §166

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standard(s)]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standard(s)]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Other industrial facilities would not impose additional requirements on pesticide use.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the regulations minimizes liability.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Tenn. R. & Reg. §0080-6-16-.03 - Training for Certification as a Private Applicator

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

EP 2.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

Emergency Management Hazard Screening Radiation Protection
 Environmental Protection Occurrence Reporting Safety & Health

1. Hazards or Issue(s)

Pollution Prevention/Waste Minimization

Yes No

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Tennessee Hazardous Waste Reduction Act, Tenn. Code Ann. §§68-212-301 *et seq.*
Resource Conservation and Recovery Act, 42 U.S.C.A. §§6901 to 6992k
Pollution Prevention Act of 1990, 42 U.S.C.A. §§13101 - 13109
Federal Water Pollution Control Act, 33 U.S.C.A. §§1251 - 1387
Clean Air Act of 1990, 42 U.S.C.A. §§7401 - 7671q.
E.O. 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

The existence of the requirements listed in 3 provide the impetus to focus resources on reducing waste. The risk associated with not complying with the Tennessee Hazardous Waste Reduction Act includes a \$10,000/day fine; not complying with the Resource Conservation and Recovery Act includes a \$25,000/day fine. The biggest risk, however, with not emphasizing pollution prevention is the mismanagement or inefficient use of resources and funds.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Implementing pollution prevention in accordance with the listed standards will increase operational efficiency, reduce compliance and waste management costs and reduce worker exposures to chemical and radiation hazards. Pollution prevention optimizes the use of resources.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

EP 23.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

Emergency Management Hazard Screening Radiation Protection
 Environmental Protection Occurrence Reporting Safety & Health

1. Hazards or Issue(s)

PCBs - Polychlorinated Biphenyls

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standard(s) by number and title.

Toxic Substances Control Act, 15 U.S.C.A. §§2601 to 2692
PCBs Manufacturing, Processing, Distribution in Commerce and Use Prohibitions, 40 CFR §761
Tenn. R. & Reg. §1200-1-7-Solid Waste Processing & Disposal
ORR-PCB-FFCA between DOE and EPA Region IV

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which could be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Disposal Requirements 40 CFR §761.60
PCB Spill Cleanup Policy 40 CFR §§761.120 - 761.130

EP 25.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Releases to the Environment

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Tenn. Oil Spill Cleanup and Environmental Preservation Act, Tenn. Code Ann. §§68-216-101 *et seq.*
Federal Water Pollution Control Act, 33 U.S.C.A. §§1251 - 1387
Comprehensive Environmental Response, Compensation & Liability Act, 42 U.S.C.A. §§9601 to 9675
Emergency Community Right to Know Act, 42 U.S.C.A. §§11001 to 11050
Designation, Reportable Quantities and Notification, 40 CFR §302
Facility Notification & Release Reporting Requirements, 40 CFR §355
Hazardous Chemical Inventory Reporting Requirements, 40 CFR §370
Toxic Release Reporting Requirements, 40 CFR §372
E.O. 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements
National Contingency Plan, 40 CFR §300
Oil Pollution Prevention, 40 CFR §112
Discharge of Oil, 40 CFR §110

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standard(s) by number and title.]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standard(s) by number and title.]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Continuation of the current program will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is largely an industrial issue and the solution chosen is an industrial solution.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

This program minimizes the liability in the event of a release because it sets in motion a system to respond to releases in the environment in a timely manner.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

EP 18.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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|--|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Quarantined Soils

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Plant Quarantine Act, 7 U.S.C. §§151 et seq.
Plant Pest Act, 7 U.S.C. §§150aa et seq.
Noxious Weed Act, 7 U.S.C. §§2801 et seq.
Domestic Quarantine Notices, 7 CFR §301
Hawaiian & Territorial Quarantine Notices, 7 CFR §318
Foreign Quarantine Notices, 7 CFR §319

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Continuation of the current program an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with federal law minimizes risk and reduces liability. Compliance allows research at ORNL to continue without interruption.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Soil must be autoclaved for specific time periods and temperature levels, 7 CFR §§301, 318, 319

EP 13.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Aboveground Storage Tanks (excluding hazardous waste tanks & PCBs)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Federal Water Pollution Control Act, 33 U.S.C.A. §§1251 -1387
Discharge of Oil, 40 CFR §110
Oil Pollution Prevention, 40 CFR §112
Criteria & Standards for NPDES, 40 CFR §125
National Oil & Hazardous Substance Pollution Contingency Plan, 40 CFR §300
Designation, Reportable Quantities & Notification, 40 CFR §302
Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C.A. §§9601 - 9675

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Other industrial facilities would not impose additional requirements on aboveground storage tanks.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with regulations minimizes liability and reduces likelihood of a release to the environment

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

EP 4.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Underground Storage Tanks (USTs)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Resource Conservation & Recovery Act, 42 U.S.C.A. §§6901 to 6992k
Tennessee Petroleum Underground Storage Act, Tenn. Code Ann. §§68-221-101 et seq.
Tenn. R. & Reg. §§1200-1-15- Underground Storage Tank Program
Technical Standards & Corrective Action Requirements for Owners & Operators of
Underground Storage Tanks, 40 CFR §280

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

Exemptions are available when standards need to be modified to meet the unique conditions of the site.

6. Is a variance or exemption to portions of the standard available from the regulator? * Tennessee 1200-1-15-.06 Site Specific Standard for Cleanup.

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Continuation of the current program will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is an industrial issue and the solution chosen is an industrial solution.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

All UST owners in Tennessee must follow the laws and regulations. These standards are consistent with other industry.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Tenn. R. & Reg. §1200-1-15-.04 - Release Section

* The TDEC Division of Underground Storage Tanks (DUSTs) regulations contain provisions that allow exemptions to the UST standards when the regulated entity can demonstrate unique conditions exist at the site that warrant an exemption. ORNL has used this exemption. In addition, the DUST Site Ranking System and UST/CERCLA Integration are available if UST sites are qualified.

ORNL IDENTIFICATION TEAM DOCUMENTATION

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<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Hazard Screening	<input type="checkbox"/> Radiation Protection
<input checked="" type="checkbox"/> Environmental Protection	<input type="checkbox"/> Occurrence Reporting	<input type="checkbox"/> Safety & Health

1. Hazards or Issue(s)

Transportation Safety & Compliance (Off-Site)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

U.S. Department of Transportation (DOT) Hazardous Materials Regulations, 49 CFR §§106-199
DOT Federal Motor Carrier Safety Regulations, 49 CFR §§325-399
Motor Carriers, Tenn. Code Ann. §§65-15-101 et seq.
Hazardous Materials Transportation Act, 49 U.S.C. §§1813 et seq.
Motor Carrier Safety, 49 U.S.C. §§3101 et seq.
Tenn. R. & Reg. §§1220-2-1-20 - Adoption of DOT Safety Rules and Regulations
Domestic Mail Manual, 39 CFR, §111.1

Yes No

4. Are there any aspects of these necessary standard(s) which do not add value?

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standard(s) by number and title.]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standard(s) by number and title.]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Other facilities who ship and transport hazardous materials comply with these requirements only. The USDOT has a program for determining compliance with these requirements and provide ratings. ORNL is subject to these inspections and carries a satisfactory safety rating.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

HAZMAT Employees, 49 CFR §172.700. Subpart H
Driver Training HAZMAT, 49 CFR §177
Federal Motor Carrier Safety Regulations, 49 CFR §390.3
Commercial Driver's License Standards; Requirements and Penalties, 49 CFR §383

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Cargo Tanks, 49 CFR §180
Cylinders, Ram Package, Reusable HAZMAT Package, 49 CFR §173

EP 1.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

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| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Hazardous Waste

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Federal Facility Compliance Act, 42 U.S.C.A. §6939c et seq.
Resource Conservation & Recovery Act and permits issued pursuant to, 42 U.S.C.A. §§6901 to 6992k
Tennessee Solid Waste Disposal Act and permits issued pursuant to, Tenn. Code Ann. §§68-211-101 et seq.
Tennessee Hazardous Waste Management Act and permits issued pursuant to, Tenn. Code Ann. §§68-212-101 et seq.
Solid Waste Processing & Disposal (definitions), Tenn. R. & Reg. §1200-1-7
Hazardous Waste Management, Tenn. R. & Reg. §1200-1-11
Federal Hazardous Waste Regulations, 40 CFR §§260-280

Yes No

4. Are there any aspects of these necessary standard(s) which do not add value?

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

8. Are there external standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the
hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and
management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Personnel Training, 40 CFR §264.16, 40 CFR §265.16

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Test methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Pub SW-846 (RCRA)
Representative Sampling, Tenn. R. & Reg. §1200-1-11 App. I
General Inspection Requirements, 40 CFR §264.15, 40 CFR §265.15

EP 9.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Hazard Screening	<input type="checkbox"/> Radiation Protection
<input checked="" type="checkbox"/> Environmental Protection	<input type="checkbox"/> Occurrence Reporting	<input type="checkbox"/> Safety & Health

1. Hazards or Issue(s)

Mixed Waste Management

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Atomic Energy Act of 1954, 42 U.S.C. §§2011 et seq.
By-product Material, 10 CFR §962
Federal Facility Compliance Act, 42 U.S.C.A. §§6939c et seq.
Resource Conservation & Recovery Act and permits issued pursuant to, 42 U.S.C.A. §§6901 to 6992k
Tennessee Solid Waste Disposal Act, Tenn. Code Ann. §§68-211-101 et seq.
Tennessee Hazardous Waste Management Act and permits issued pursuant to, Tenn. Code Ann. §§68-212-101 et seq.
Tenn. R. & Reg. §1200-1-7, Solid Waste Processing & Disposal (definitions)
Tenn. R. & Reg. §1200-1-11, Hazardous Waste Management
Federal Hazardous Waste Regulations, 40 CFR §§260-280

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators? *

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

DOE Order 5820.2a Radioactive Waste Management, excluding Chapters 1, 5, and 6

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

DOE Order 5820.2a
Personnel Training, RCRA 40 CFR §264.16
Personnel Training, 40 CFR §265.16

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

DOE Order 5820.2a - QA and Performance Assessment
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Pub. SW-846 (RCRA)
Tenn. R. & Reg. §1200-1-11 App. I, Representative Sampling
General Inspection Requirements, 40 CFR §264.15, 40 CFR §265.15

- * TDEC's Division of Solid Waste Management granted ORNL a waiver of inspection schedules and storage unit requirements for remote handled transuranic (RH-TRU), contact handled transuranic (CH-TRU), and Class III/IV waste storage units and TRU 90-day Accumulation Areas at ORNL operated under interim status. TDEC granted ORNL this waiver in order to keep radiation exposures to workers as low as reasonably achievable (ALARA).

EP 21.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

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| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Radioactive Waste Management

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Atomic Energy Act of 1954, 42 U.S.C. §§2011 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

DOE Order 5820.2a - Radioactive Waste Management, excluding Chapters 1, 5, and 6

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

The DOE Order provides equivalent protection to laws governing radioactive waste management (DOE is exempt from these laws). The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the DOE Order is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

DOE Order 5820.2a

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

DOE Order 5820.2a - QA and Performance Assessment

EP 22.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

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Emergency Management Hazard Screening Radiation Protection
 Environmental Protection Occurrence Reporting Safety & Health

1. Hazards or Issue(s)

Solid Waste/Medical Waste/Biological Waste

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Tennessee Solid Waste Disposal Act and permits issued pursuant to, Tenn. Code Ann. §§68-211-101 et seq.
Tenn. R. & Reg. §1200-1-7 - Solid Waste Processing and Disposal

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standards]

10. Assuming compliance with item 9, is the level of risk associated with the
hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standards]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and
management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

EP 20.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

Emergency Management Hazard Screening Radiation Protection
 Environmental Protection Occurrence Reporting Safety & Health

1. Hazards or Issue(s)

Groundwater Protection

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Tennessee Water Quality Control Act, Tenn. Code Ann. §§69-3-101 et seq.
Tenn. R. & Reg. §1200-1-11-.05-.07 - Hazardous Waste Management Regulations
Tenn. R. & Reg. §1200-4-3 - Tennessee Water Quality Regulations
Tennessee Hazardous Waste Management Act, Tenn. Code Ann. §§68-212-101 et seq.
Tennessee Safe Drinking Water Act, Tenn. Code Ann. §§68-211-701 et seq.
Tennessee Petroleum Underground Storage Tank Act, Tenn. Code Ann. §§68-215-101 et seq.
Tenn. R & Reg. 1200-1-15 - UST Program
Tenn. R & Reg. 1200-5-1 - Public Water Systems

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance]

EP 24.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Hazard Screening	<input type="checkbox"/> Radiation Protection
<input checked="" type="checkbox"/> Environmental Protection	<input type="checkbox"/> Occurrence Reporting	<input type="checkbox"/> Safety & Health

1. Hazards or Issue(s)

Surface Water
Sewage Sludge
Floodplains
Wetlands
Septic Systems

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Water & Sewage, Tenn. Code Ann. §§68-221-101 et seq.
Tennessee Water Quality Control Act of 1977 and any permits issued pursuant to, Tenn. Code Ann. §§69-3-101 et seq.
Federal Water Pollution Control Act and any permits issued pursuant to, 33 U.S.C.A. §§1251-1387
E.O. 11988 - Floodplain Management
E.O. 11990 - Protection of Wetlands
Water Environmental Health Act, Tenn. Code Ann. §§68-221-901 et seq.
Tenn. R. & Reg. §§ 1200-4-1-4 et seq. - Tennessee Water Quality Regulations
Implementing Regulations for Federal Water Pollution Control Act, 40 CFR §§104-149
Standards for Use/Disposal of Sewage Sludge, 40 CFR §503
Regulations of Wetlands, 33 CFR §§320-323
Definition of Waters/Navigable Waters in U.S. & Nationwide Permit Program, 33 CFR §§328-330
Compliance with Floodplains/Wetlands Environmental Review Requirements, 10 CFR §1022
Tennessee Valley Authority Act, 16 U.S.C. §§831 et seq.
Approval of Construction in the Tennessee River System, 18 CFR §1304
Regulations to Govern Subsurface Sewage Disposal Systems, Tenn. R. & Reg. §1200-1-6

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators? * Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities? Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency? Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities. Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency? Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Continuation of the current program will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals because management expects to use industrial solutions for industrial issues. This is largely an industrial issue and the solution chosen is an industrial solution.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Sampling/Analysis of Water Samples - 40 CFR §136
Tenn. R. & Reg. §1200-4-2-.01-.07 - Construction of Treatment Facility
Tenn. R. & Reg. §1200-4-2-.11 - Samples

* ORNL's National Pollutant Discharge Elimination System (NPDES) Permit expired in 1991. ORNL is currently operating on an administrative permit until a new NPDES Permit is issued by TDEC. All discharge points must be identified on a facility's NPDES Permit. Since the expiration of the permit, ORNL has discovered several new discharge points that require its NPDES Permit to be modified. Federal and state regulations prohibit modification of an NPDES Permit after it has expired. By agreement with TDEC's Division of Water Pollution Control, ORNL has been allowed to discharge from these new sources until a new permit could be issued. ORNL's new NPDES Permit will identify these sources. Issuance of the new permit is expected in the fall of 1996.

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- | | | |
|--|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Hazard Screening | <input type="checkbox"/> Radiation Protection |
| <input checked="" type="checkbox"/> Environmental Protection | <input type="checkbox"/> Occurrence Reporting | <input type="checkbox"/> Safety & Health |

1. Hazards or Issue(s)

Wildlife (Laboratory Animals, Endangered Species, Wildlife)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Animal Welfare Act, 7 U.S.C. §§2131 et seq.
Animals and Animal Products, 9 CFR §§1-3

Health Research Extension Act of 1985, 42 U.S.C. §§2858e-9 et seq.

Migratory Bird Treaty Act, 16 U.S.C. §§703 et seq.

Wild Bird Conservation Act of 1992, 16 U.S.C. §§4901 et seq.

Bald and Golden Eagle Protection Act, 16 U.S.C. §§668 et seq.

Endangered Species Act of 1973, 16 U.S.C. §§1531 et seq.

Fish & Wildlife Conservation Act of 1980, 16 U.S.C. §§2901 et seq.

Wildlife and Fisheries, 50 CFR §§1-697, as applicable

Endangered Species Regulations Concerning Terrestrial Plants, 7 CFR §355

Tennessee Nongame & Endangered or Threatened Wildlife Species Conservation Act of 1974, Tenn. Code Ann. §§70-8-101 et seq.

Live Wildlife, Tenn. R. & Reg. §§1600-1-2 et seq.

Rare Plant & Conservation Regs., Tenn. R. & Reg. §0400-6-2

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators? Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities? Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency? Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities. Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency? Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Compliance with the law will provide an appropriate level of protection at an acceptable cost. The level of risk is consistent with management performance goals of using industrial solutions for industrial issues.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Compliance with the law is continued. The level of risk is consistent with general industry. Cost is not escalated due to ultra conservative interpretation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Animal Welfare Act, 7 U.S.C. §2143, 9 CFR Ch. 1, Subchapter A, 2.32
Health Research Extension Act, 42 U.S.C., 42 CFR Ch. 1, Part 52a, 283 e

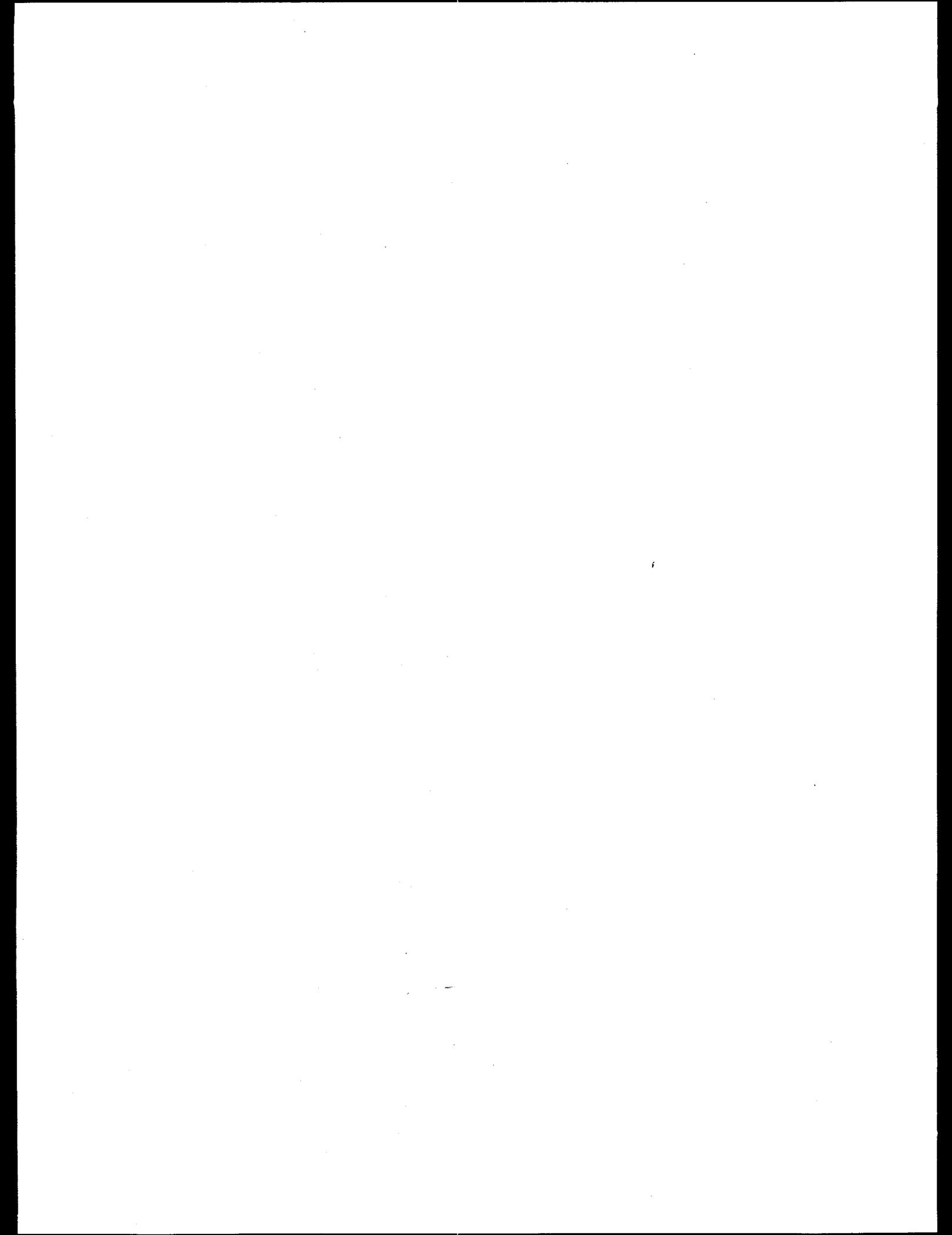
17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

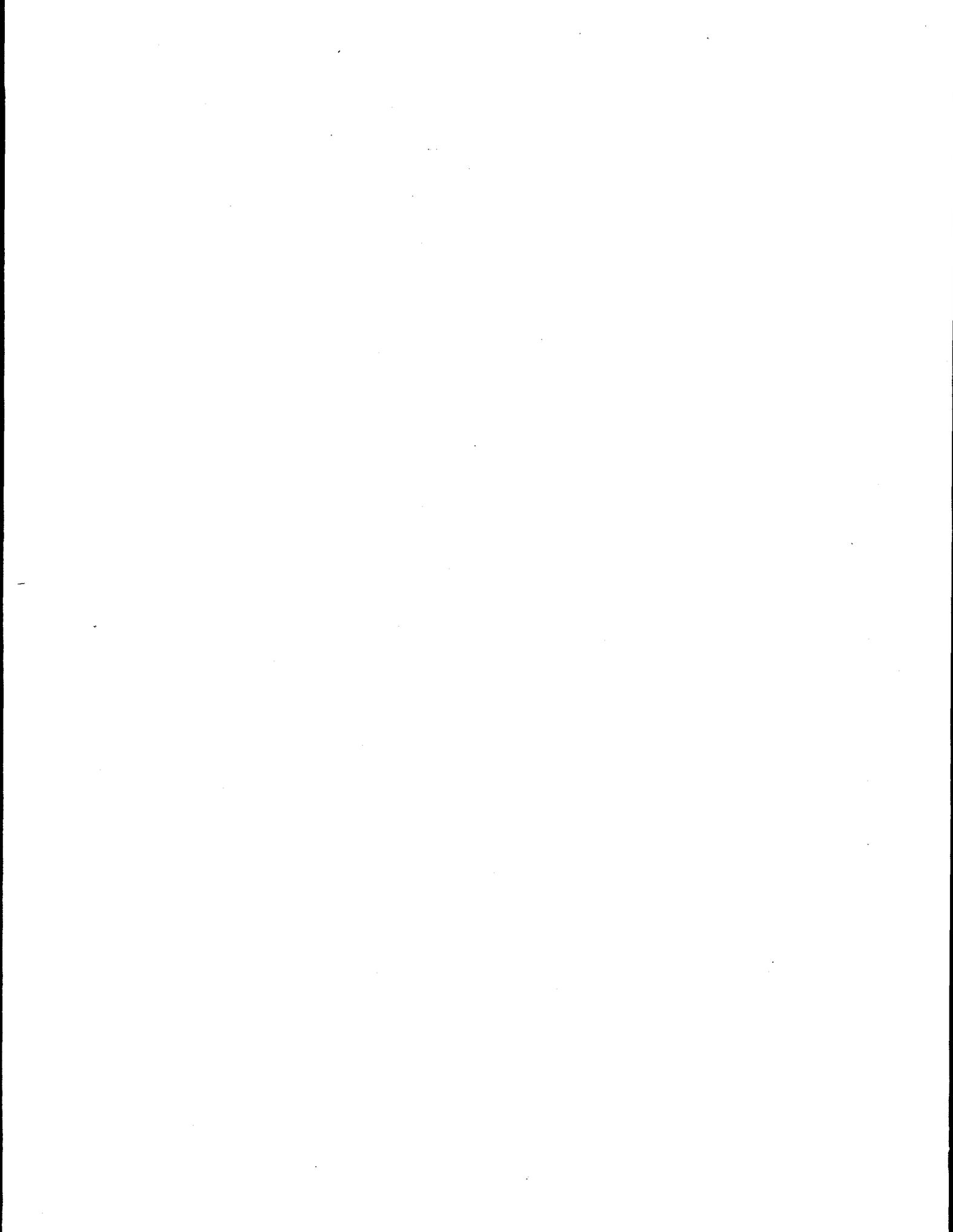
If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance. (Animal Care & Use Committee)

Animal Welfare Act, 7 U.S.C. §2143, 9 CFR Ch. 1, Subchapter A, 2.31
Health Research Extension Act, 42 U.S.C., 42 CFR Ch. 1, Part 52a, 289d, and 290aa-10



APPENDIX D
ORNL IDENTIFICATION TEAM DOCUMENTATION
INCIDENT REPORTING



ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- | | | |
|---|--|--|
| <input type="checkbox"/> Emergency Management | <input checked="" type="checkbox"/> Incident Reporting | <input type="checkbox"/> Safety & Health |
| <input type="checkbox"/> Environmental Protection | <input type="checkbox"/> Radiation Protection | |

1. Hazards or Issue(s)

Incident reporting as defined in DOE Order 232.1

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

--

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

--

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

DOE Order 232.1, Occurrence Reporting - Applies to reporting of radiological events only.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

All radiological - related compliance with 232.1 will be satisfied. Non radiological events will be reported only as required by the other elements of the N&S set.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

This implementation strategy will eliminate much duplicate reporting of incidents while allowing full reporting of all DOE - specific radiological occurrences. All the incident reporting required by the complete necessary and sufficient set is noted in the safety and health, environmental protection, and emergency management identification team documentation.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

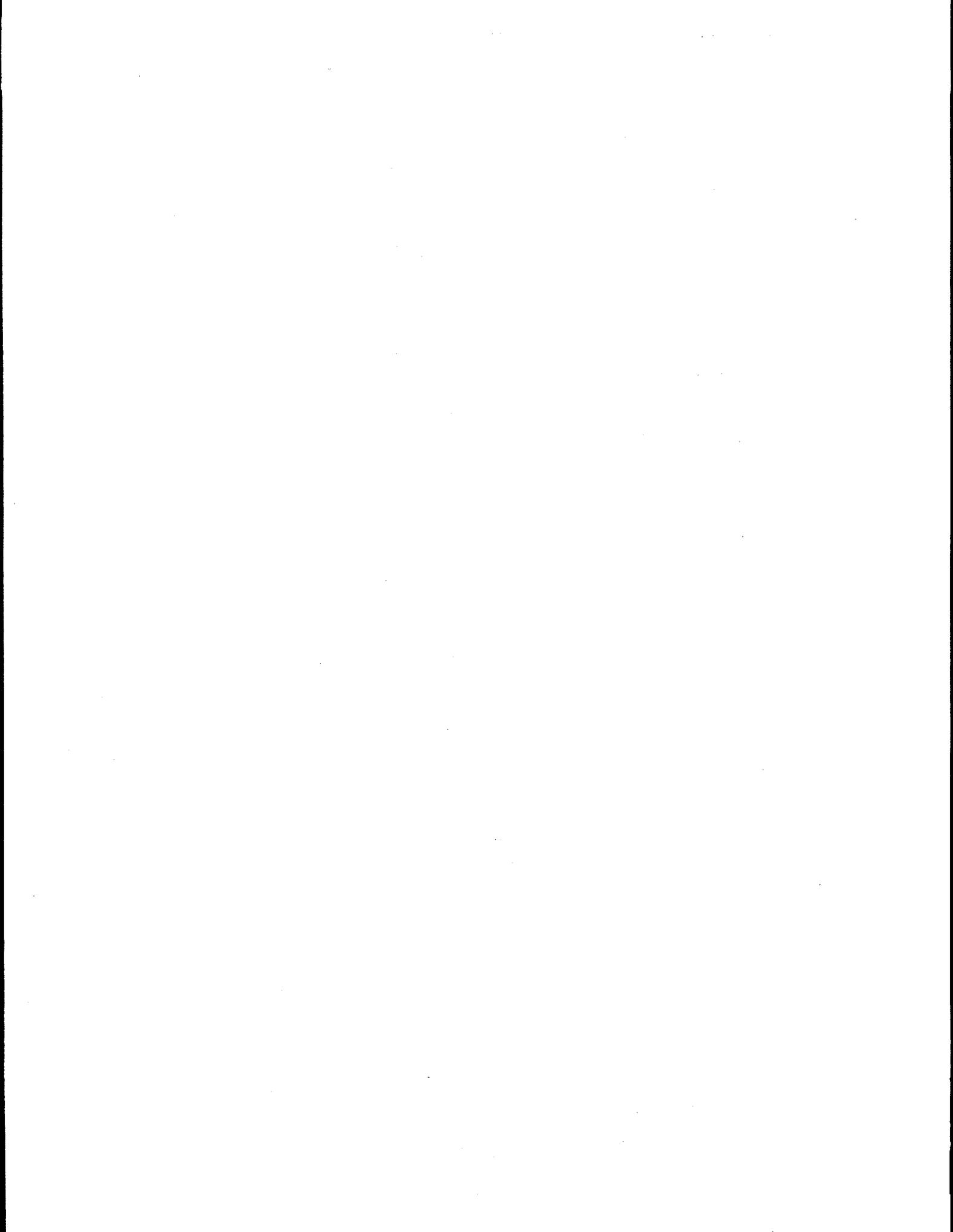
18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

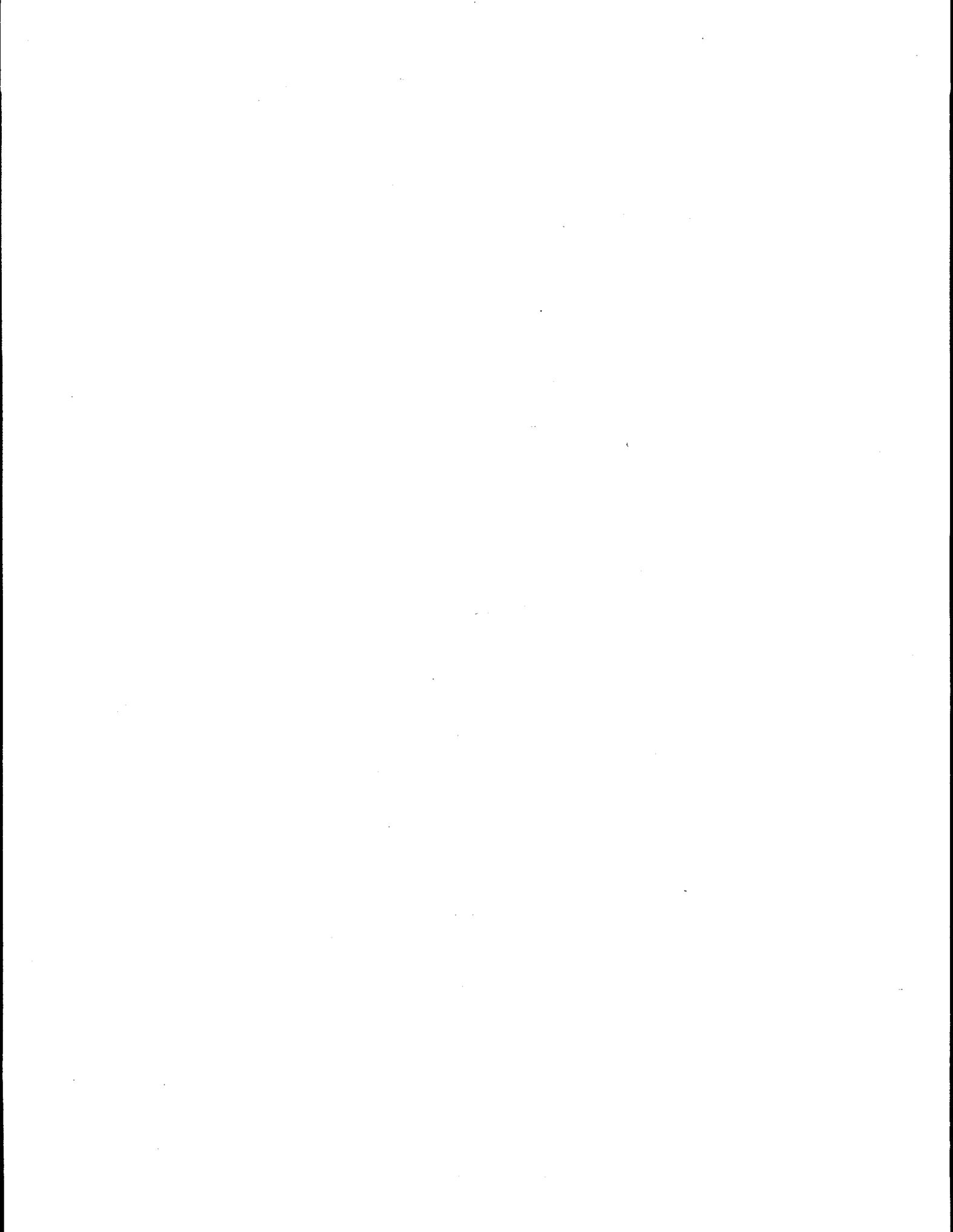
N&S 70.wrd

Implementation Issue

Copies of each incident report required by the necessary and sufficient set will be submitted to DOE-OR.



APPENDIX E
ORNL IDENTIFICATION TEAM DOCUMENTATION
RADIATION PROTECTION



ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

Emergency Management Incident Reporting Safety & Health
 Environmental Protection Radiation Protection

1. Hazards or Issue(s)

RP-2 Radioactive Contamination Control

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

10CFR835, "Occupational Radiation Protection"
Atomic Energy Act of 1954, 42 U.S.C. §§2011 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

DOE Notice N441.1, "Radiological Protection for DOE Activities"

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

The listed items define a basic contamination control program with attributes common to general industry radiological protection programs.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Providing a level of personnel radiation protection equivalent to other industrial institutions and universities operating under NRC regulations.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

10CFR935.901, 902, 903, and N 441.1, 6.c (1), (2) requires training of general employees, radiological workers, and radiological control technicians.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

10CFR835.102 states: "Internal audits of all functional elements of the radiation protection program shall be conducted no less frequently than every three years and shall include program content and implementation."

N&S I RP.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

Emergency Management Incident Reporting Safety & Health
 Environmental Protection Radiation Protection

1. Hazards or Issue(s)

RP-1 Occupational Radiation Exposure Control

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

10CFR835, "Occupational Radiation Protection"
Atomic Energy Act of 1954, 42 U.S.C. §§2011 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

DOE Notice N 441.1, "Radiological Protection for DOE Activities"

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

The items listed define a basic radiation protection program with attributes common to general industry radiological protection programs.

The external sufficiency standard, DOE Order N441.1, supplements 10CFR835 and includes guidance on Administrative Control Levels, Work Authorizations, Posting, Source Control, Radiation Safety Training, Exposure of Minors, and the DOE Laboratory Accreditation Program. The 441.1 requirements are to be included in future revisions of 10CFR835.

NOTE: The referenced standards do not introduce new requirements to the ORNL radiation protection program.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Providing a level of personnel radiation protection equivalent to other industrial institutions and universities operating under NRC regulations.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Note: 10CFR835.901, 902, 903, and N 441.1 6.c (1)(2) require training of general employees, radiological workers, and radiological control technicians.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

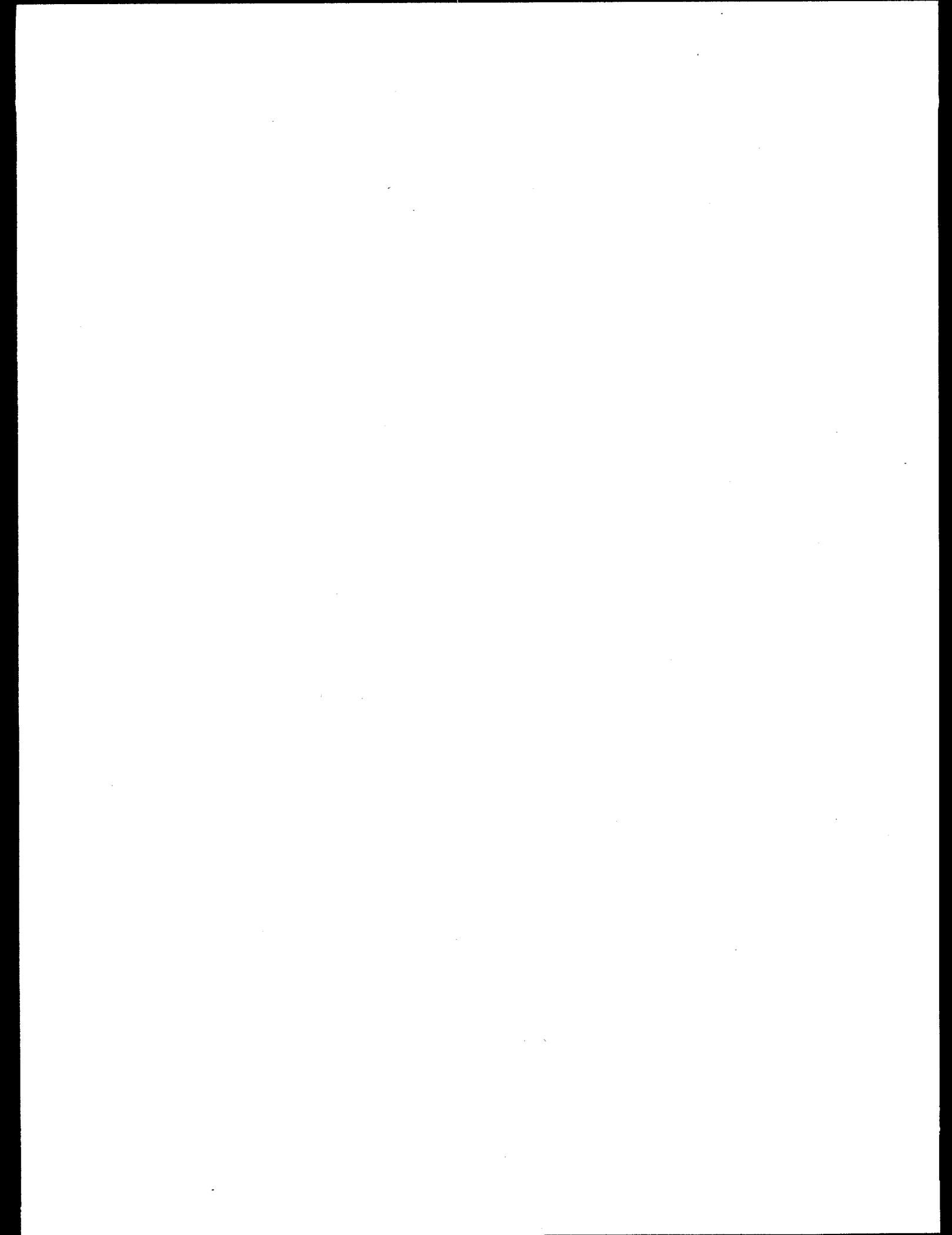
18. List standard section citation(s) and mandatory Quality Assurance.

10CFR835.102 "Internal Audits:" Internal audits of all functional elements of the radiation protection program shall be conducted no less frequently than every three years and shall include program content and implementation.

DOE Order N 441.1 6.g. "DOE Laboratory Accreditation Program:" The DOE Laboratory Accreditation Program (DOELAP) shall be maintained consistent with the applicable DOE standards, and dosimetry programs shall be accredited at periodic intervals consistent with the standards. Additional guidance for the various program elements are contained in the DOELAP Technical Standard.

N&S 2 RP.wpd

APPENDIX F
ORNL IDENTIFICATION TEAM DOCUMENTATION
SAFETY & HEALTH



SAFETY & HEALTH

<u>Issues</u>	<u>Page</u>
Ensure recordkeeping practices for occupational injuries and illnesses (majority opinion)	147
Ensure recordkeeping practices for occupational injuries and illnesses (minority opinion)	150
Administration of OSHA requirements	153
General requirement for ensuring worker safety and health [Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1593)]	156
Ensuring that 29CFR 1926 standards are used when performing construction like activities	159
Employee Access to Records	162
Protection from falls, walking/working surfaces	165
Assuring/protecting employee life safety Means of Egress	168
Provide employee protection from hazards arising out of electrical work using powered platforms (e.g., falls, electrical, mechanical)	171
Ensure proper ventilation	174
Ensure employee protection from occupational noise exposure	177
Ensure employees are protected from non-ionizing radiation (radio frequencies, microwaves, infrared radiation, ultraviolet radiation, magnetic fields)	180
Source (or point of origination) of the OSHA regulations: on ventilation, occupational noise exposure, and non-ionizing radiation	183
Ensure worker safety when handling compressed gases, flammable and combustible liquids, and explosives	186
Process safety management of highly hazardous chemicals	189
Safety and health protection for workers in Hazardous Waste Operations and Emergency Response	192
Protect employees from hazards, personal protective equipment	195
Ensure employee safety and health in proper use of respirators	198
Sanitation - All food service operations, including vending machines	201
Sanitation in general workplaces (e.g., Vermin Control)	204
Ensure availability of safe drinking water	207
Marking physical hazards - safety color code and accident prevention signs and tags	210
Ensure employee safety in confined spaces	213
Protect employees from unexpected energization - Lockout/Tagout	216
Ensure employees are provided medical services and first aid	219
Equipment and systems to meet the fire protection requirements	222
Ensure proper operation and use of compressed air equipment and air receivers	225
Hazards associated with hoisting, rigging, and material handling	228
Hazards associated with servicing multi-piece and single rim wheels	231
Hazards associated with machine guarding of powered equipment	234
Safe condition of hand and portable powered tools and equipment	237
Protection of employees during welding, cutting, and brazing operations	240
Hazards associated with special industries (i.e., logging, agricultural, telecommunications, electrical power generation)	243
Ensure design safety for electrical systems	246
To ensure worker safety during electrical work	249

SAFETY & HEALTH (Continued)

<u>Issues</u>	<u>Page</u>
Hazards associated with diving and related support operations	252
General Chemical Exposures	255
Ensure employee protection from asbestos	258
Bloodborne Pathogens	261
Hazard communication for non-laboratory operations	264
Occupational exposure to hazards chemicals in laboratories	267
Control of Special Toxic/Hazardous Contaminants: nitrobiphenyl, alpha-naphthylamine, methyl chloromethyl ether, 3,3'-dichlorobenzidine (and its salts), bis-chloromethyl ether, beta-naphthylamine, benzidine, 4-aminodopheyl, ethyleneimine, beta propiolactone, 2 acetylaminofluorene, 4-dimethylarninoazobenzene, n-nitrosodimethylamine, vinyl chloride, inorganic arsenic, lead, cadmium, benzene, bloodborne pathogens, 1, 2, dibromo-3-chloropropane, acrylonitrile, ethylene oxide, formaldehyde, methylenedianiline	270
Pesticide use (non-animal handling)	273
Hazards associated with agricultural operations	276
Use of chemicals, import and export of chemicals	279
Ensure employee safety during firearms related activities on the Oak Ridge Reservation (ORR)	282
Ensure employee health during thermal extremes (heat/cold stress)	285
Ensure acceptable indoor air quality	288
Ensure employee protection during use of lasers	291
Ensure personnel safety during pedestrian activities, cyclists, and vehicle operations. This applies to both on and off-site exposure, but does not include transport of materials and equipment.	294
Reproductive system and carcinogenic chemical agents	297
Industrial lighting	300
Reducing Ergonomic Risks to employees	303

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure recordkeeping practices for occupational injuries and illnesses.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

20 CFR 1904.1 - 1904.22
Occupational Safety and Health Act, 29 U.S.C.A. §§651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Recordkeeping requirements are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

General industry accepts the costs of implementation of these standards in accordance with Federal Law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 18.wrd

Carol St. Scott 6/7/96
Randall B. Ofe 6/7/96
J P Hill 6-7-96
J. Doug Miller 6/7/96
Ann W. Sandsbury 6/14/96

ORNL IDENTIFICATION TEAM DOCUMENTATION
MINORITY OPINION REPORT

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure recordkeeping practices for occupational injuries and illnesses.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1904.1 - 1904.22
Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

DOE Order 231.1 "Environment, Safety and Health Reporting," Section 4. Requirements.
DOE M 231.1-1 "Environment, Safety and Health Reporting Manual," Chapter II, 2. and 3.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Recordkeeping requirements are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

General industry accepts the cost of implementation of these standards and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 50. wrd

Minority Report - Basis, rationale, justificaton

DOE Order 231.1 "Environment, Safety, and Health Reporting" and mandatory Manual 231.1-1 should be used for ensuring consistent DOE-wide reporting on injuries/illnesses, property loss, and vehicle accident damage. It is understood that the DOE reporting requirements go beyond those required by OSHA. However, to ensure DOE-wide trending and tracking of the accident data, consistency in reporting must be maintained. OSHA requirements for classifying injuries and illnesses are incorporated in the DOE reporting system. This enables accident statistics to be compared with private industry. The additional information required by DOE assures root causes of accidents are identified and corrective actions are taken to prevent recurrence. DOE is self-insured and must have confidence that operations managed by contractors are not adversely affecting property. This would include reporting damage to property (> \$5,000) and to government vehicles (damage > \$1,000). Maintaining this information is essential for evaluating DOE operations and identifying opportunities for improvement within the DOE.

Jenny Mullins
6-7-96

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Administration of the OSHA requirements

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 et seq.
29 CFR 1903 - Inspections, Citations, and Proposed Penalties
29 CFR 1975 - Coverage of Employers Under the Williams-Steiger Occupational Safety and Health Act of 1970
29 CFR 1977 - Discrimination Against Employees Exercising Rights Under the Williams - Steiger Occupational Safety and Health Act of 1970

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.13 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

General requirements for ensuring worker safety and health. [Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1593)]

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.1-1910.7 - (Subpart A) General Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.10 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensuring that 29CFR 1926 standards are used when performing construction like activities

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29CFR 1910.11 - 1910.19 - (Subpart B) Adoption and Extension of Established Federal Standards
Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 20. wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Employees Access to Records

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
---	-----------------------------

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.20 - Access to Employee Exposure and Medical Records Occupational Safety & Health Act, 29 U.S.C.A. §§ 651 <u>et seq.</u>

4. Are there any aspects of these necessary standard(s) which do not add value?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

--

6. Is a variance or exemption to portions of the standard available from the regulators?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
---	-----------------------------

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standards]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standards]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These issues arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.20 (h) Transfer of records

N&S 16.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Protection from falls, walking/working surfaces.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.21 -.32 - (Subpart D) Walking - working surfaces
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

Those standards listed in 1910.31, as applicable.

N&S.9 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Assuring/protecting employee life safety Means of Egress

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.35 - 1910.40 - (Subpart E) Means of Egress
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

National Fire Protection Association, NFPA 101, Life Safety Code

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.38 (a) (5), Provide training to selected employees regarding emergency evacuation of employees.
1910.38 (b) (4), Provide initial review of the fire prevention plan and emergency actions.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.15 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Provide employee protection from hazards arising out of electrical work using powered platforms, i.e., falls, electrical, mechanical.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910. 66 - 1910.70 - (Subpart F) Powered Platforms, Manlifts, and Vehicle - Mounted Work Platforms
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standards]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standards]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.66 (i) (1) Includes the following: Recognition and prevention of hazards in work tasks and platform operation, emergency action plan, work procedures, and fall arrest system inspection care and use.
1910.67 (c) (2) (ii) Required training of personnel prior to operating an aerial lift.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.11 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- Emergency Management Incident Reporting Safety & Health
 Environmental Protection Radiation Protection

1. Hazards or Issue(s)

Ensure proper ventilation

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29CFR 1910.94 - Ventilation (Subpart G)
29CFR 1910.252 (c) - Welding, Cutting, and Brazing (Subpart Q)

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standards]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standards]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 9.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employee protection from occupational noise exposure

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.95 - Occupational Noise Exposure (Subpart G)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

American Conference of Governmental Industrial Hygienists, Threshold Limit Values (TLVs)

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

The OSHA standard was promulgated to protect workers in general industry, however, the OSHA standard does not contain the most recently developed guidance on noise. Therefore, the TLVs are used to supplement OSHA. Adherence to both provides the minimal health protection deemed appropriate for general industry.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal Law. Adherence to the TLVs provides the minimal health protection deemed appropriate for general industry and current industrial hygiene practice.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.95 (k) The employer shall institute a training program for all employees exposed to noise at or above an 8-hour time weighted average of 85 decibels, and shall ensure participation in such program.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

N&S 10.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employee are protected from non-ionizing radiation (radio frequencies, mowaves, infrared radiation, ultraviolet radiation, magnetic fields)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.97 - Non-ionizing Radiation
20 CFR 1910.133 (a) (5) - Eye and Face Protection
29 CFR 1910.252 (b) - Welding, Cutting, Brazing
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

American Conference of Governmental Industrial Hygienists, Threshold Limit Values

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 11.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Source (or point of origination) of the OSHA regulations: on ventilation, occupational noise exposure, and nonionizing radiation.

Yes No

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.98 - 1910.100
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

Yes No

4. Are there any aspects of these necessary standard(s) which do not add value?

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.1 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure worker safety when handling compressed gases, flammable and combustible liquids, and explosives.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.101- .116 - (Subpart H) Hazardous Materials
49 CFR Parts 171-179, as applicable to visual inspection of compressed gas cylinders
Occupational Safety and Health Act, 29 U. S. C. A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

National Fire Protection Association (NFPA) standards, as applicable, as determined by the AHJ.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

- 1910.109 (g) (3) (iii) (a) The driver or other attendant during transport of Class A or B explosives shall be trained, familiar with the vehicle, made aware of the explosives and its dangers and instructed in the measures and procedures to be followed in order to protect the public.
- .109 (h) (4) (ii) (b) Operator shall be trained in the safe operation of the vehicle and related equipment.
- .110 (b) (16) Personnel performing installation, removal, operation, and maintenance work shall be trained in such function.
- .110 (d) (12) (I) When standard watch service is provided, it shall be extended to the LP-Gas installation and personnel properly trained.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

- 29 CFR 1910.101 (a) Inspections in accordance with Compressed Gas Association Pamphlet C-6 and C-8.

N&S.5 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Process safety management of highly hazardous chemicals.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.119 - (Subpart H) Hazardous Materials
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

29 CFR 1910.119 (g)(1)(I) Employees shall be trained in the process and operating procedures. Training shall include specific safety and health hazards, emergency operations including shutdown, and safe work practices.

(g)(2) Refresher training at least every three years.

(g)(3) Employees must receive and understand the training covered in this section and specific records must be maintained.

(h)(3)(I) Contract employees must be trained in safe work practices.

(h)(3)(iii) Contract employees must receive and understand training covered in this section and specific records must be maintained.

(j)(3) Employees shall be trained in maintaining the on-going integrity of process equipment, its hazards, and applicable procedures.

(1)(3) Employees involved in processes shall be trained in changes prior to start-up of the process or affected part of process.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

20 CFR 1910.119 (j)(4)(iv) Each inspection and test performed on process equipment shall identify (1) the date of the inspection and test, (2) the person who performed the inspection or test, (3) the serial number or other identifier of the equipment on which the inspection or test was performed, (4) a description of the inspection or test, and (5) results of the inspection or test.

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Safety and Health protection for workers in Hazardous Waste Operations and Emergency Response.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.120 - Hazardous Waste Operations and Emergency Response (Subpart H)
Occupational Safety and Health Act, 29 U.S.C.A §§651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

American Conference of Governmental Industrial Hygienists, Threshold Limit Values (TLVs)

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.120(e) - 24 hour, 40-hour, 8-hour supervisor and 8-hour annual refresher.
1910.120(p) - 24-hour training and 8-hour annual refresher for RCRA TSD workers.
1910.120(q) - Five levels of required training for emergency responders.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

N&S 5. wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Protect employees from hazards, personal protective equipment.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.132, 133, 135, 136, 137, 138, 139, and 140 - (Subpart I) Personal Protective Equipment
Occupational Safety and Health Act, 29 U.S.C.A §§651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.132 (f) Training to properly utilize personal protective equipment

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.137 Testing requirements for electrical protective equipment

N&S.16 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employee safety and health in proper use of respirators.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.134 - Respiratory Protection
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

NOTE: DOE Order 440.1, Attachment 1, Section 5 (h). This Section allows for use of special respiratory protection for special DOE hazards.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and unique government operations and the control measures applied are generally consistent with industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

29 CFR 1910.134 (b) (3) and (e) employees shall be instructed in the proper use of respirators.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

29 CFR 1910.134, (f) Maintenance and care of respirators
29 CFR 1910.134, Applicable references to ANSI

N&S 53.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Sanitation - All food service operations, including vending machines.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Hotels, Food Service Establishment and public Swimming Pool Inspection Act, Tenn. Code Ann. §§ 68-14-401 et seq.
Chapter 1200-23-1, Rules Governing Food Service Establishments.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

This issue arises from general services provided for employees and visitors at ORNL. Control measures applied for all food service operations are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are issues in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Tennessee Department of Health and Environment Food Service Establishments Law 14, Chapter 1200-23-1.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.4 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Sanitation in general workplaces (e.g., Vemnin control)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.141 - Sanitation
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These issues arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 17.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure availability of safe drinking water.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Tenn R & Reg 1200-5-1 - Public Water Systems
29 CFR 1910.141 (b)(1) - Sanitation
Safe Drinking Water Act, 42 U.S.C.A. §§ 300f to 300j-26
40 CFR 141-142 - Safe Drinking Water Regulations
Tennessee Safe Drinking Water Act, Tenn. Code Ann. § 68-221-701 et seq.
Occupation Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 62.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Marking physical hazards - safety color code and accident prevention signs and tags.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR 1910.142, 143, 144, 145, 148, 149, and 150 - (Subpart J) General Environmental Controls
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 *et seq.*

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 17.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employee safety in confined spaces

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR § 1910.146 - Permit-required Confined Spaces (Subpart J)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

29 CFR 1910.146(g) Training shall be provided to each affected employee.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 6.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Protect employees from unexpected energization - (Lockout/Tagout)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.147 - The Control of Hazardous Energy (lockout/tagout) (Subpart J)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.147 (c) (7) To train employees to the purpose and function of the energy control program.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.147 (c) (1) & (6) Requires energy control procedures, training, and periodic inspections.

N&S.18 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employees are provided medical services and first aid.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR § 1910.151 - 153 - (Subpart K) Medical and First Aid
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.151 (b) Instances where employees do not have access to a hospital or infirmary in near proximity to the workplace have to be trained in First Aid

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.19 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Equipment and systems to meet the fire protection requirements.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.155 through 165 - (Subpart L) Fire Protection
29 CFR §1910 - (Subpart L) Appendix E
Fire Protection - Tenn. Code Ann. §§ 62-32-101 et seq.
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

National Fire Protection Association (NFPA) Standards, as determined applicable by AHJ.

10. Assuming compliance with item 9, is the level of risk associated with the
hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and
management performance goals.

These hazards arise from the general industrial environment and the control measures applied are
consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the
minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12
above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.156 (c) (1) - (4) Fire brigade training and frequency.
1910.157 (g) (3) Requirements for employees designated to use fire fighting equipment.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.157 (e) Inspection of portable fire extinguishers
(f) Hydrostatic testing of extinguishers
1910.158 (e) Hydrostatic testing of piping of Class II and III systems; Hydrostatic testing of hose on all standpipe systems
1910.159 (c) (3) Acceptance tests on sprinkler systems
1910.164 (c) Testing of fire detection systems

N&S 51.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure proper operations and use of compressed air equipment and air receivers.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.166-171 - Compressed gas and Compressed Air Equipment (Subpart M)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 *et seq.*

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

National Fire Protection Association (NFPA) standards as applicable as determined by the AHJ.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 52.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Hazards associated with hoisting, rigging, and material handling.

Yes No

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §§ 1910.176, 178-184, 189-190 - Materials Handling and Storage (Subpart N)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

Design specification requirements only of the following ANSI standards:
B30.5 (1995) Mobile and Locomotive Cranes
B30.11 (1993) Monorails and Underhung Cranes
B30.16 (1993) Overhead Hoists
B30.20 (1993) Below the Hook Lifting Devices
B30.21 (1994) Manually Operated Hoists

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal Law

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.178 (1) Operators should be trained in safe operation of powered industrial trucks

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.179 (j), (1), (2), & (3) identifies new or altered crane inspection requirements including frequencies
1910.180 (d) (1) - (6) Inspection requirements for crane
1910.180 (e) Operational tests for cranes
1910.180 (g) Rope Inspections

N&S 26. wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Hazards associated with servicing multi-piece and single piece rim wheels.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.177 - Servicing multi-piece and single piece rim wheels.
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.177(c)(1)-(3) Employees must be informed of servicing hazards, correct procedures, and be able to demonstrate proficiency.

Yes No

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.177(d)(3)(iv) - Prior to returning restraining devices or barriers after repair, they must be certified by manufacturer or a registered Professional Engineer.

N&S 1.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Hazards associated with machine guarding of powered equipment.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.211-222 - Machinery and Machine Guarding (Subpart O)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.217 (e) (3) - Assuring competence of maintenance personnel who care for, inspect, and maintain power presses.
1910.217 (f) (2) - Operator instruction/training
1910.218 (h) (13) - Operator training/refreshing training
1910.218 (a) (2) - Personnel responsible for inspection and maintenance of forging machinery/equipment

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.217 (e) (1) - Inspection and maintenance records
1910.218 (a) (2) - Certification records of person inspecting equipment

N&S 53. wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Safe condition of hand and portable powered tools and equipment

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
---	-----------------------------

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.241-247 - Hand and Portable Powered Tools and other Hand-held Equipment (Subpart P) Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 <u>et seq.</u>

4. Are there any aspects of these necessary standard(s) which do not add value?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

--

6. Is a variance or exemption to portions of the standard available from the regulators?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
---	-----------------------------

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise s

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise sk

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise sk

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

N&S 54.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Protection of employees during welding, cutting, and brazing operations.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910. 251 - 257 - Welding, Cutting, and Brazing (Subpart Q)
Occupational Safety and Health Act, 29 U.S.C.A. §§651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

NFPA Standards as applicable as determined by AHJ.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.252 (a) (2) (iii) (B) - Training required for a "firewatch"

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.255 (e) equipment inspection and certification records

N&S.14 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Hazards associated with special industries. (i.e., logging, agricultural, telecommunications, electrical power generation)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.261-275 - Special Industries (Subpart R)
29 CFR §1910.266 Appendices A&B
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

1910.266 (i)(1-9) - Safe operation of tools, machines, vehicles; S&H hazard recognition in the logging industry, PPE, etc.
1910.266 Appendix B - First Aid & CPR training
1910.268 (c) - Precautions and safe practices for telecommunications work and first aid training
1910.268 (j)(4)(iv) (D) - Only persons trained in derrick trucks shall operate such equipment
1910.269 (a)(2) - Safe work practices, procedures, first aid/CPR training,
1910.270 (b)(1)&(e)(2),(q)(3), and (x) - Enclosed space training, live-line and bare-hand work for overhead lines.
1910.272 (e)(1)&(2) - Annual job task training hazard recognition unique to the industry

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.266 (10)&(11) - Certification of training and documenting S&S meetings.
1910.269 (a)(2)&(d)(2) - Annual inspection, periodic inspection, LO/TO practices.

ORNL IDENTIFICATION TEAM DOCUMENTATION

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<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure design safety for electrical systems.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.301-330 - Electrical (Subpart S)
(Note: 1910.309 through .330 - Reserved)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

National Fire Protection Association (NFPA) standards, as applicable, as determined by AHJ.
National Electrical Safety Code, as applicable, as determined by the AHJ.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance]

N&S 59.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

To ensure worker safety during electrical work.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.331-.399 - Electrical (Subpart S)
29 CFR §1910.137
(Note: 1910.336 through .398 - Reserved)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

National Fire protection Association Standards, as applicable, as determined by AHJ, i.e., the National Electrical Code, (NEC), NFPA 70.
National Electrical Safety Code (NESC)

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

29 CFR 1910.332 (a)	Employees in occupations listed in Table S-4 are required to be trained to electrical hazards
29 CFR 1910.332 (b)(1)	Familiarity with safety-related work practices required by 1910.331 thru .335
(2)	Non qualified persons should receive familiarity training on electrically related safety practices not specifically addressed by 1910.331 thru 1910.335
(3)	Qualified persons shall be trained:
(i)	Skills and techniques necessary to distinguish live electrical parts
(ii)	Skills and techniques necessary to determine nominal voltage of exposed live parts
(iii)	Clearance distances and corresponding voltage.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

29 CFR 1910.137 Testing requirements for electrical protective equipment.

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- Emergency Management Incident Reporting Safety & Health
 Environmental Protection Radiation Protection

1. Hazards or Issue(s)

Hazards associated with diving and related support operations.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standard(s) by number and title.

29 CFR §1910.401-.441 - Commercial Diving Operations (Subpart T)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

[Empty box for description of non-value added aspects]

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.401 (a)(2) - Criteria for diver training (general reference)
1910.410 (a)(b)&(c) - Techniques of diving mode, operations, emergency procedures; use of tools, equipment, and systems; First Aid & CPR, diving-related physics and physiology (as applicable)

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1910.430 (a)(2) - Documentation for equipment repair, modification, calibration or maintenance
1910.430 (b)(3), (4)&(c) - Breathing air quality, compressor output purity, hose testing
1910.430 (e)(f)(g) and (h) - Testing and certification of compressed gas cylinders, decompressed gas cylinders, decompression chambers, gauges, and masks/helmets
1910.440 - Recordkeeping requirements

N&S 56.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

General Chemical Exposures

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
---	-----------------------------

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.1000 - Air Contaminants Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 <u>et seq.</u>

4. Are there any aspects of these necessary standard(s) which do not add value?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

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6. Is a variance or exemption to portions of the standard available from the regulators?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11

9. List the external sufficient standard(s) by number and title.

American Conference of Governmental Industrial Hygienist Threshold Limit Values (TLV)

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Potential for exposure to chemical hazards is common for general industry. Since most of the OSHA exposure limits found in subpart Z are over 20 years old, it is common to use annually updated TLVs. Adherence to the TLVs is common practice in general industry.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.1200 (h)(1)	Employees shall be trained on hazardous chemicals in their work areas; retraining when hazards change.
1910.1200 (h)(2)	Employees trained on requirements of this section, hazardous chemicals present, and location/availability of hazard communication program.
1910.1200 (h)(3)	Employee training shall include: methods and observations used to detect hazardous chemicals, physical and health hazards chemicals in the work area, measures to protect themselves from hazards, and details of the hazard communication program.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 15.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employee protection from asbestos

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.1001 - Asbestos (Subpart Z)
40 CFR §763 - Asbestos
Toxic Substances Control Act (TSCA) - 15 USC 2601 et seq.
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the
hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and
management performance goals.

29 CFR 1910.1001 is the general industry standard for worker protection from asbestos hazards.
40 CFR 763 has portions of the standard applicable to public buildings.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the
minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

29 CFR 1910.1001 (j)(7)(ii) Training shall be provided prior to or at the time of initial assignment and at least annually thereafter.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 63.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Bloodborne Pathogens

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.1030
29 CFR §1910.1450
49 CFR §173 - Transportation of Regulated Medical Waste
Tenn. R. & Reg. 1200-1-7-.01 - Definition of Medical Waste
Tennessee Solid Waste Disposal Act, Tenn. Code Ann. §§68-211-1001 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

8. Are there external standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the
hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and
management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

29 CFR 1910.1030 (g) - Employers shall ensure that all employees with occupational exposure participate in a training program (on annual basis).

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 3.wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- | | | |
|---|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Incident Reporting | <input checked="" type="checkbox"/> Safety & Health |
| <input type="checkbox"/> Environmental Protection | <input type="checkbox"/> Radiation Protection | |

1. Hazards or Issue(s)

Hazard communication for non-laboratory operations

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.1200 - Hazard Communication (Subpart Z)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

[Empty box for description of non-value added aspects]

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.1200 (h) (1) -	Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new hazard is introduced into their work area.
1910.1200 (h) (3) -	Employee training shall include: methods and observations used to detect hazardous chemicals, physical and health hazards of chemicals in the work area, measures to protect themselves from hazards, and details of the hazard communication program.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

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N&S 4.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Occupational exposure to hazardous chemicals in laboratories

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.1450 - Occupational Exposure to Hazardous Chemicals in Laboratories (Subpart Z)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

National Fire Protection Association (NFPA), as applicable, as determined by AHJ.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

29 CFR 1910.1450 (f) (4) Employer shall provide employees with information and training to ensure they are apprised of the hazards of chemicals present in their work area.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 8.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- | | | |
|---|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Incident Reporting | <input checked="" type="checkbox"/> Safety & Health |
| <input type="checkbox"/> Environmental Protection | <input type="checkbox"/> Radiation Protection | |

1. Hazards or Issue(s)

Control of Special Toxic/Hazardous Contaminants: nitrobiphenyl, alpha-naphthylamine, methyl chloromethyl ether, 3,3' -dichlorobenzidine (and its salts), bis-chloromethyl ether, beta-naphthylamine, benzidine, 4-aminodophenyl, ethyleneimine, beta-propiolactone, 2 acetylaminofluorene, 4-dimethylaminoazobenzene, n-nitrosodimethylamine, vinyl chloride, inorganic arsenic, lead, cadmium, benzene, bloodborne pathogens, 1, 2 dibromo-3-chloropropane, acrylonitrile, ethylene oxide, formaldehyde, methylenedianiline

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.1003 nitrobiphenyl
 29 CFR §1910.1004 alpha-naphthylamine
 29 CFR §1910.1006 methyl chloromethyl ether
 29 CFR §1910.1007 3, 3' -dichlorobenzidine (and its salts)
 29 CFR §1910.1008 bis-chloromethyl ether
 Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.
**Continued after 18 on last page*

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

American Conference of Governmental Industrial Hygienist Threshold Limit Values (TLV)

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910.1003 (e); 1910.1017 (j); 1910.1018 (o); 1910.1025 (1); 1910.1027 (m); 1910.1028 (j); 1910.1044 (n); 1910.1045 (o); 1910.1047 (j); 1910.1048 (n); 1910.1050 (k); 1910.1010 (e) (5); 1910.1004 (e) (5), 1910.1006 (e) (5) - Training addresses nature of hazards and how employees are to protect themselves.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 57.wrd

- *29 CFR §1910.1009 beta-naphthylamine
- 29 CFR §1910.1010 benzidine
- 29 CFR §1910.1011 4-aminodiphenyl
- 29 CFR §1910.1012 ethyleneimine
- 29 CFR §1910.1013 beta-propiolactone
- 29 CFR §1910.1014 2 acetylaminofluorene
- 29 CFR §1910.1015 4-dimethylaminoazobenzene
- 29 CFR §1910.1016 n-nitrosodimethylamine
- 29 CFR §1910.1017 vinyl chloride
- 29 CFR §1910.1018 inorganic arsenic
- 29 CFR §1910.1025 lead
- 29 CFR §1910.1027 cadmium
- 29 CFR §1910.1028 benzene
- 29 CFR §1910.1030 bloodborne pathogens
- 29 CFR §1910.1044 1,2 dibromo-3-chloropropane
- 29 CFR §1910.1045 acrylonitrile
- 29 CFR §1910.1047 ethylene oxide
- 29 CFR §1910.1048 formaldehyde-190.1048 (p)(3)(5)
- 29 CFR §1910.1050 methylenedianiline

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Pesticide use (non-animal handling)

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910 Subpart Z, as applicable
Federal Insecticides, Fungicides, and Pesticides Act, 7 U.S.C.A. §§136-136y
40 CFR 162, 166, 170, 171
Tennessee Insecticide, Fungicide, and Rodenticide Act (TIFRA), Tenn. Code Ann. §§43-8-101 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standards]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standards]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1910 Subpart Z, as applicable
1910, 272, Appendix A, "Grain Handling Facilities" - Hazard Awareness Training
TIFRA, training required every 4 years

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.2 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- | | | |
|---|---|---|
| <input type="checkbox"/> Emergency Management | <input type="checkbox"/> Incident Reporting | <input checked="" type="checkbox"/> Safety & Health |
| <input type="checkbox"/> Environmental Protection | <input type="checkbox"/> Radiation Protection | |

1. Hazards or Issue(s)

Hazards associated with agricultural operations.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1928 - Occupational Safety and Health Standards for Agriculture
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

1928.51(d) - Initial and annual refresher instruction on operating practices in Subpart C, Appendix A.
1928.57(a)(6) - Initial and annual refresher instruction on safe operation and servicing of covered equipment.
1928.1027(m)(1);(n)(4) and (p)(2) - Comprehensive training program on hazards, exposures and controls for cadmium. Employer shall certify employees have been trained in all the above.
1928.1027, Appendix C - Review of respirator selection and fit test criteria with employees.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

1928.10027(n)(4) - Retention of training certification for 1 year beyond date of training.

N&S 2.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- Emergency Management Incident Reporting Safety & Health
 Environmental Protection Radiation Protection

1. Hazards or Issue(s)

Use of chemicals
Import and export of chemicals

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Toxic Substance Control Act, 15 U.S.C.A. §2601-2611
40 CFR §720 - Premanufacturing Notices

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

[Empty box for description of non-value added aspects]

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

8. Are there external standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the
hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/
issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and
management performance goals.

These hazards arise from the general industrial environment and the control measures applied are
consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the
minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

N&S 65.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employee safety during firearms related activities on the Oak Ridge Reservation (ORR)

NOTE: Does not address programmatic aspects of safeguards and security.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Atomic Energy Act of 1954, 42 U.S.C.A. §§ 2011 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

[Empty box for listing external sufficient standards]

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

[Empty box for listing internal sufficient standards]

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

Atomic Energy Act of 1954 - Definition of use of deadly force.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S.6 wpd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employee health during thermal extremes (heat/cold stress).

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

American Conference of Governmental Industrial Hygienists Threshold Limit Values for heat stress and cold stress

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

N&S 12.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

- Emergency Management Incident Reporting Safety & Health
 Environmental Protection Radiation Protection

1. Hazards or Issue(s)

Ensure acceptable indoor air quality.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

- Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

4. Are there any aspects of these necessary standard(s) which do not add value?

- Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

- Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

- Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

American Conference of Governmental Industrial Hygienists Threshold Limit Values (TLV)

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

An effective IAQ program decreases the number of employee concerns and absenteeism, which in turn will lead to successful mission completion.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance]

N&S 13.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure employee protection during use of lasers.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

American Conference of Governmental Industrial Hygienists Threshold Limit Value (TLV)

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

ORNL has a significant number of high power lasers. The TLVs present generally accepted exposure limits for employer protection from laser energy.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Lasers can constitute a high risk to people and property. Use of these limits provides the appropriate level of protection followed by research organizations similar to ORNL.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

N&S 58.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Ensure personnel safety during pedestrian activities, cyclists, and vehicle operations. This applies to both on and off-site exposure, but does not include transport of materials and equipment.

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Operation of Vehicles: Rules of Road, Tenn. Code Ann. §§ 55-8-101 et seq.
41 CFR §101-38.301 - Official Use of Government Motor Vehicles

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

ANSI D6.1e, "Manual on Uniform Traffic Control Devices"

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

These hazards arise from the general industrial environment and the control measures applied are consistent with general industry practices.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

These are recognized risks to employees in an industrial environment. The listed standards provide the minimum acceptable level of protection and compliance with Federal law.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

N&S 22.wrd

ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Reproductive system and carcinogenic chemical agents

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

29 CFR §1910.1000.1450 (Subpart Z)
Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

The American Conference of Governmental Industrial Hygienists Threshold Limit Value (TLV) Booklet

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Similar to general industry/businesses, reproductive system and carcinogenic chemical agents are recognized as being present in ORNL. OSHA recognized carcinogens are regulated in specific standards in subpart Z. Additionally special hazard communication and laboratory control provisions address these hazards (1910.1200 and 1910.1450). The ACGH TLV Booklet is widely accepted as providing up to date listing of these hazardous chemical contaminants.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Recognizing risks to employees and controlling them is required of all industries. Efficient control of these hazards can result in a safer more efficient work environment.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

[Empty box for listing standard section citation(s) and mandatory Quality Assurance.]

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ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Industrial Lighting

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
---	-----------------------------

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 <u>et seq.</u> General Duty Clause.
--

4. Are there any aspects of these necessary standard(s) which do not add value?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

--

6. Is a variance or exemption to portions of the standard available from the regulators?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

If no, continue to 8; otherwise skip to 13.

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to 11.

9. List the external sufficient standard(s) by number and title.

The American conference of Governmental Industrial Hygienists Threshold Limit Value (TLV) Booklet.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to 13.

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to 13.

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

It is widely accepted that inadequate lighting can present a risk to employees (related to egress, working around machinery or doing detailed work). Excessive lighting can also present a hazard to employees (risk to eyesight). Controlling light is recognized as essential in industries and business for safety and efficiency.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Recognizing risks to employees and controlling them is required of all industries. Efficient control of these hazards can result in a safer more efficient work environment.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

If yes, continue to 16; otherwise skip to

16. List standard section citation(s) and required training.

--

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

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ORNL IDENTIFICATION TEAM DOCUMENTATION

FOCUS GROUP

<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Incident Reporting	<input checked="" type="checkbox"/> Safety & Health
<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Radiation Protection	

1. Hazards or Issue(s)

Reducing Ergonomic Risks to employees

2. Is there a necessary standard (i.e., law, regulation, ordinance) which applies to this issue?

Yes No

If yes, continue to 3; otherwise skip to 8.

3. List necessary standards(s) by number and title.

General duty, Section 5 (a)(1) of the OSHA Act: Public Law 91-596, 91st Congress, S. 2193, December 29, 1979, as amended by Public Law 101-552, Section 3101, November 5, 1990. Occupational Safety and Health Act, 29 U.S.C.A. §§ 651 et seq. General Duty Clause.

4. Are there any aspects of these necessary standard(s) which do not add value?

Yes No

If yes, continue to 5; otherwise skip to 7.

5. Description of non-value added aspects of necessary standard(s).

6. Is a variance or exemption to portions of the standard available from the regulators?

Yes No

7. Assuming compliance with item 3, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities?

Yes No

8. Are there external standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 9; otherwise skip to

9. List the external sufficient standard(s) by number and title.

10. Assuming compliance with item 9, is the level of risk associated with the hazard/issue consistent with that of other industrial facilities.

Yes No

If no, continue to 11; otherwise skip to

11. Are there internal standards which should be applied to this hazard/issue for sufficiency?

Yes No

If yes, continue to 12; otherwise skip to

12. List the internal sufficient standard(s) by number and title.

13. Describe for items 3, 9, and 12 how the levels of risk are consistent with other industrial facilities and management performance goals.

Similar to general industry/businesses, ergonomic risks are recognized as existing at ORNL. There are no specific regulations nor are there widely accepted consensus standards, however, it is recognized that there is a general duty to provide safe and healthy working conditions.

14. Describe the potential benefits of implementation of items 3, 9, and 12.

Recognizing risks to employees and controlling them is required of all industries. Efficient control of these hazards can result in a safer more efficient work environment.

15. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above require compliance training.

Yes No

If yes, continue to 16; otherwise skip to 17.

16. List standard section citation(s) and required training.

[Empty box for listing standard section citation(s) and required training.]

17. Do any of the necessary and sufficient standards listed in 3, 9, and 12 above explicitly specify any mandatory Quality Assurance actions such as inspections or tests.

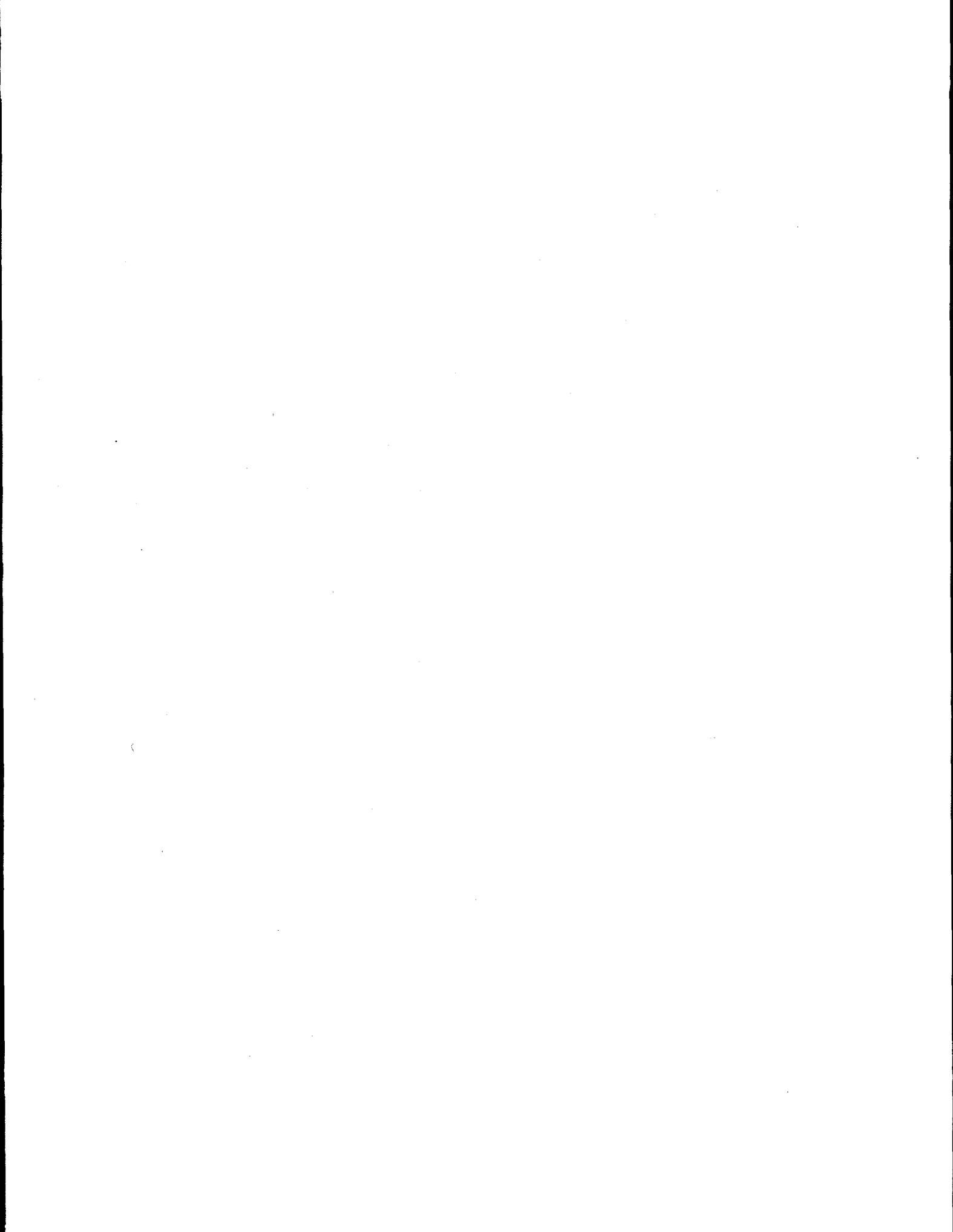
Yes No

If yes, continue to 18.

18. List standard section citation(s) and mandatory Quality Assurance.

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