S

ENGINEERING CHANGE NOTICE

H

Page 1 of 2

1. ECN 650988

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental ○	D. D. Volkman, 31500, T3-02, 372-0159	○ Yes ◉ No	8/31/99
Direct Revision ◉			
Change ECN ○			
Temporary ○			
Standby ○			
Supersedure ○			
Cancel/Void ○			

6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
WMH QA Program	NA	Q

9. Document Numbers Changed by this ECN (includes sheet no. and rev.)	10. Related ECN No(s).	11. Related PO No.
HNF-SD-WM-QAPP-036, Revision 2	650986	N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Completed	12d. Restored to Original Condition (Temp. or Standby ECNs only)
○ Yes (fill out Blk. 12b) ◉ No (NA Blks. 12b, 12c, 12d)	N/A	N/A Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? ○ Yes ◉ No

This change incorporates ECN 650986 which extensively revised Attachment 7 and added Attachment 8. This change also adds Attachment 9, "WMH Suspect/Counterfeit Items Plan", and incorporates an updated organizational chart in Attachment 2 as well as numberous procedure reference updates in the text and Attachments 1, 3, 4, 5, and 6. Additionally, editorial changes were made throughout the document. All changes are noted by change bars in the left margin.

14a. Justification (mark one)	14b. Justification Details
Criteria Change ○	Procedure references were out of date due to extensive procedure changes in the HNF-PRO's. Attachment 9 was added as a result of corrective actions from a WMH Assessment of Suspect/Counterfeit Items. Other changes were a result of EH-10 Extent of Conditions commitments.
Design Improvement ○	
Environmental ○	
Facility Deactivation ○	
As-Found ◉	
Facilitate Const. ○	
Const. Error/Omission ○	
Design Error/Omission ○	

15. Distribution (include name, MSIN, and no. of copies)

C. J. Wolfe	T3-06	1
B. R. Hill	T3-02	1
D. D. Volkman	T3-02	1
R. D. Warriner	B1-13	1
Central Files	B1-07	1

RELEASE STAMP

OCT 27 1999

DATE:

STA: 5

HANFORD RELEASE

ID: 12

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 650988

16. Design Verification Required
- ○ Yes
- ◉ No

17. Cost Impact

	ENGINEERING	CONSTRUCTION
Additional	○ $ N/A	○ $ N/A
Savings	○ $ N/A	○ $ N/A

18. Schedule Impact (days)
- Improvement ○ N/A
- Delay ○ N/A

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	Tickler File	☐
Environmental Report	☐	Inspection Plan	☐	_____	☐
Environmental Permit	☐	Inventory Adjustment Request	☐	_____	☐

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
N/A	N/A	N/A

21. Approvals

	Signature	Date		Signature	Date
Design Authority	N/A		Design Agent		
Cog. Eng.	D. D. Volkman	8-31-99	PE		
Cog. Mgr.	B. R. Hill	8-31-99	QA		
for QA	B. R. Hill	8-31-99	Safety		
Safety	N/A		Design		
Environ.	N/A		Environ.		
Other			Other		

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

S

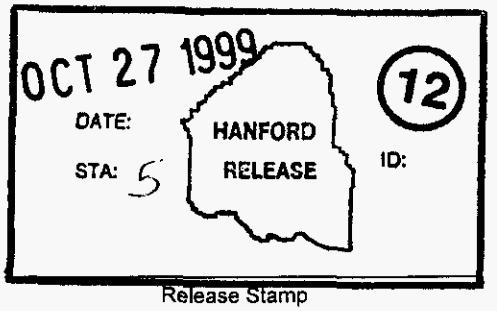
QUALITY ASSURANCE PROGRAM PLAN for Waste Management Federal Services of Hanford, Inc.

D. D. Volkman
Waste Management Federal Services of Hanford, Inc.
Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: 650988 UC: N/A
Org Code: 31500 Charge Code: 101755
B&R Code: N/A Total Pages: 101

Key Words: Quality Assurance Program Plan, Quality Assurance Policy, Quality Systems, basic requirements Quality Assurance Plan Index, quality affecting activities.

Abstract: Incorporates ECN 650986 which extensively revised Attachment 7 and added Attachment 8. Also adds Attachment 9 "WMH Suspect/Counterfeit Items Plan," and incorporates an updated organizational chart in Attachment 2 as well as numerous procedure reference updates in the text and Attachments 1, 3, 4, 5, and 6. Additionally, editorial changes were made throughout the document. All changes are noted by change bars in the left margin.



Release Approval 10/27/99 Date

Release Stamp

Approved For Public Release

RECORD OF REVISION

(1) Document Number: HNF-SD-WM-QAPP-036

(2) Title: QUALITY ASSURANCE PROGRAM PLAN FOR WASTE MANAGEMENT FEDERAL SERVICES OF HANFORD, INC.

Change Control Record

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release	
		(5) Cog. Engr.	(6) Cog. Mgr. Date
0	(7) Revision 0 not formally released.		
1	Initial release EDT 622875 dated March 5, 1998.		
2	This change incorporates FDH QA comments and also WMH internal review comments, ECN 637485.	DD Volkman	RB Millward
RS 3	Incorporates ECN 650986 which extensively revised Attachment 7 and added Attachment 8. Adds	DD Volkman	BR Hill 10/25/99
	Attachment 9, updates Attachment 2, and updates numerous procedure references (ECN 650988).		

Project Hanford Management Contract

Quality Assurance Program Plan

Waste Management Federal Services of Hanford, Inc.

HNF-SD-WM-QAPP-036
Revision 3

Waste Management Federal Services of Hanford, Inc.

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Revision 3

Waste Management Federal Services of Hanford, Inc.

Quality Assurance Program Plan

HNF-SD-WM-QAPP-036
Revision 3

8/31/99

Edward S. Aromi, Jr.
President and General Manager
Waste Management Federal Services of Hanford, Inc.

Date

8-31-99

FOR B. R. Hill
Director, Quality Systems
Waste Management Federal Services of Hanford, Inc.

Date

9/15/99

R. D. Warriner,
Acting Director, Quality Assurance
Fluor Daniel Hanford, Inc.

Date

9/9/99

J. D. Williams
Project Director, Waste Management
Fluor Daniel Hanford, Inc.

Date

Waste Management Federal Services of Hanford, Inc.
Quality Assurance Policy

Waste Management Federal Services of Hanford, Inc. (WMH), is committed to excellence in our work and to delivering quality products and services to our customers. We will continually strive to understand customer requirements, perform services, and activities that meet or exceed customer expectations, and be cost effective in our performance.

The achievement of quality will require the total commitment of all WMH employees to our ethic that **Quality, Health and Safety**, and **Regulatory Compliance** must come before **profits**. The successful implementation of this policy and ethic requires a formal, documented management quality system to ensure quality standards are established and achieved in all activities.

The following principles are the foundation of our quality system.

- Senior management will take full ownership of the quality system and will create an environment that ensures quality objectives are met, standards are clearly established, and performance is measured and evaluated.

- Line management will be responsible for quality system implementation. Each organization will adhere to all quality system requirements that apply to their function.

- Every employee will be responsible for their work quality.

- Quality will be addressed and verified during all phases of our work scope from proposal development through closeout including contracts or projects.

- **Continuous quality improvement will be an ongoing process.**

Our quality ethic and these quality principles constantly guide our actions. We will meet our own quality expectations and exceed those of our customers with vigilance, commitment, teamwork, and persistence.

Table of Contents

1.0 SCOPE

This document is the Quality Assurance Program Plan (QAPP) for Waste Management Federal Services of Hanford, Inc. (WMH), that implements the requirements of the Project Hanford Management Contract (PHMC), HNF-MP-599, *Project Hanford Quality Assurance Program Description (QAPD)* document, and the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), Sections 6.5 and 7.8.

WHM is responsible for the treatment, storage, and disposal of liquid and solid wastes generated at the Hanford Site as well as those wastes received from other U.S. Department of Energy (DOE) and non-DOE sites. WMH operations include the Low-Level Burial Grounds, Central Waste Complex (a mixed-waste storage complex), a nonradioactive dangerous waste storage facility, the Transuranic Storage Facility, T Plant, Waste Receiving and Processing Facility, 200 Area Liquid Effluent Facility, 200 Area Treated Effluent Disposal Facility, the Liquid Effluent Retention Facility, the 242-A Evaporator, 300 Area Treated Effluent Disposal Facility, the 340 Facility (a radioactive liquid waste handling facility), 222-S Laboratory, the Waste Sampling and Characterization Facility, and the Hanford TRU Waste Program.

This QAPP provides the requirements and implementing controls for WMH to manage and operate DOE-owned facilities in accordance with the requirements of:

- Title 10, Code of Federal Regulation, Part 830, "Nuclear Safety Management," Section 830.120, *Quality Assurance Requirements,* (10 CFR 830.120) for non-reactor nuclear facilities. The requirements of 10 CFR 830.120 are subject to enforcement actions under the rules of the Price-Anderson Amendments Act (PAAA). The requirements of the Project Hanford Quality Assurance Program subject to PAAA enforcement actions are identified in HNF-MP-599, Attachment 1, "10 CFR 830.120 Enforcement Applicability."

- DOE O 414.1 *Quality Assurance,* for all activities and facilities not within the scope of 10 CFR 830.120; and

- United States Environmental Protection Agency (EPA) Quality Assurance Management Staff (QAMS) 004/80, *Interim Guidelines and Specifications for Preparing Quality Assurance Program Plans*, for activities involving the generation, acquisition, and use of environmental data. The guidance of EPA QAMS 005/80, *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, is met for a project in its implementing plans, procedures, and documents, as identified in Appendix A of Attachment 4 and Appendix B of Attachment 5.

The QA Program requirements of this QAPP are to be applied to nuclear and non-nuclear facilities and related activities using a graded approach in accordance with HNF-PRO-259, ***Graded Quality Assurance.*** A graded approach permits a range of control over items and activities that is commensurate with the level of risk they present.

Note

The graded approach process shall not be used to gain relief from the requirements of 10 CFR 830.120, or DOE O 414 1, which apply to the scope of work performed; rather, it shall be used to determine the scope and degree of rigor of the application of those requirements.

In nuclear facilities, the Safety Equipment List (SEL) and safety-basis documents, such as Safety Analysis Report (SAR), Interim Safety Basis (ISB), or Safety Analysis Report for Packaging (SARP), identify the structures, systems and components (SSC) important to safety functions in a facility or project. Safety-basis documents have hazards analysis and accident scenarios that identify SSCs whose proper functioning is critical to preventing or mitigating non-routine events. These SSCs are identified on the applicable SELs by using the safety classification system found in HNF-PRO-704, *Hazard and Accident Analysis Process*. Cognizant design organizations identify critical characteristics in design drawings, specifications, etc. of every SSC determined to be necessary to preserving safety support functions. These organizations also ensure critical characteristics are included on the SEL by identifying safety SSCs and their designations. They further apply design criteria to safety SSCs by including recommended codes and standards, as required by HNF-PRO-704, *Hazard and Accident Analysis Process*. To preserve the integrity of SSC safety functions, Quality Assurance Engineers assist design organizations in applying quality requirements, as necessary, to those SSCs identified on the SEL.

Safety-basis documents for WMH are:

1. Central Waste Complex (CWC)

   - WHC-SD-WM-ISB-007, latest revision, "CWC Interim Safety Basis"
   - WHC-SD-WM-SEL-009, latest revision, "Safety Equipment List"

2. Burial Grounds

   - WHC-SD-WM-ISB-002, latest revision, "Solid Waste Burial Grounds Interim Safety Basis"

   - WHC-SD-WM-SEL-012, latest revision, "Low Level Burial Grounds Safety Equipment List"

4. T Plant

   - HNF-SD-WM-ISB-006, latest revision, "Interim Safety Basis for Solid Waste Facilities (T Plant)

5. Waste Receiving and Processing Facility (WRAP)

   - HNF-SD-W-026-SAR-002-0, latest revision, "Waste Receiving and Processing Facility FSAR"

- HNF-SD-WM-TSR-007-0, latest revision, "Waste Receiving and Processing Facility Technical Safety Requirements"

- HNF-1936, latest revision, "Safety Equipment List for the Waste Receiving and Processing Facility"

6. 340 Facility

   - WHC-SD-WM-ISB-003, latest revision, "340 Waste Handling Facility Interim Safety Basis"

7. 242-A Evaporator

   - WHC-SD-WM-SAR-023, latest revision, "242-A Evaporator Safety Analysis Report"

   - HNF-SD-WM-SEL-028, latest revision, "242-A Evaporator Safety Equipment List"

8. 222-S Laboratory

   - HNF-SD-CP-ISB-002, latest revision, "222-S Laboratory Interim Safety Basis"

   - WHC-SD-CP-SEL-001, latest revision, "222-S Laboratories Facilities Safety Equipment List"

The graded approach for nuclear and non-nuclear applications gives flexibility in the degree of rigor involved when implementing QA program requirements. This allows them to be applied in the best way feasible to items and activities. Use of the graded approach must involve consideration of the factors listed below when determining the quality assurance requirements and the degree of rigor to be applied in their implementation to an activity or process.

1. Nuclear safety classification of the item or activity, as described above.
2. Level of risk and impact associated with a failure or deficiency.
3. Age, status, and condition of a facility, process, or an item.
4. History of problems with facility processes or items.
5. Adequacy of existing controlling documentation.
6. Complexity of product, service, or activity involved.
7. Control of potential project delays and costs if failures or deficiencies occur.
8. The graded approach for environmental activities is based on the intended use of the data and on parameters of accuracy, precision, comparability, completeness, and representativeness, which are part of the Data Quality Objectives (DQO) process.

Items, services and processes having no engineered safety function per HNF-PRO-704 are classified as General Service (GS). The graded approach for GS items and activities consists of:

1. Using the administrative processes established in Hanford Procedures (HNF-PROs) and WMH procedures (see Attachment 1) to manage, perform, and assess the work being performed (e.g., document control, work control, records management, corrective action management, etc.).

2. The design authority, on a case-by-case basis, may determine a need to apply additional quality assurance controls (e.g., inspection, testing, reviews, and approvals, etc.) to mitigate the risk associated with an item failure or performing a task. If additional controls are necessary, drawings, specifications, or other work instructions will be prepared that identify the characteristics and functions to be verified, inspected, or tested, along with the necessary acceptance criteria to measure conformance.

3. Listed below are criteria that should be considered when determining when additional controls are appropriate.

    a. The task or SSC performs a function that minimizes risk to workers or the public (e.g., HVAC system, glove box, high-pressure steam line, backflow preventer, etc.).

    b. Independent verification is required by a code, or national standard (e.g., AWS D1.1, ANSI B31.3, ASME B&PV Code, etc.).

    c. The task or SSC performs a function that minimizes damage to the facility or its critical equipment that could jeopardize the facility or project mission (e.g., fire protection systems, backup power supplies, etc.).

    d. The task or SSC performs a function that minimizes negative impacts to the environment (e.g., air monitoring systems, structural containment barriers, HEPA filtration systems, etc.).

    e. The item, if it fails, causes radiological risk that is under the purview of 10 CFR 835, Occupational Radiation Protection, even if it is below the threshold of "Safety Significant" as defined in HNF-PRO-704.

    f. Other factors (e.g., mission success, high cost of replacement, adverse publicity, etc.) not previously addressed that are determined by management and/or the design authority to require these controls.

Activities shall be controlled through appropriate planning, staffing, procedures, reviews, verification, and deficiency resolution.

Routine administrative and business activities do not normally require control beyond the combination of any applicable DOE orders or routine management and business practices. Such activities do not require documentation of the application of this QAPP.

All WMH personnel and their activities shall comply with this QAPP to the extent the graded approach dictates. Additional facility or project QAPPs or QAPjPs (e.g., *Hanford*

Site Transuranic Waste Quality Assurance Project Plan) will be prepared to cover specific activities that are not covered by this QAPP. QAPPs and QAPjPs may be in other formats (e.g., ASME NQA-1, *Quality Assurance Requirements for Nuclear Facility Applications*; ANSI/ASQC E4, *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs*, etc.) to satisfy the requirements of the customer.

2.0 ORGANIZATION RESPONSIBILITIES AND AUTHORITY

2.1 Organizational Structure

The structure, interfaces, functional responsibilities and levels of authority established for the Project Hanford Management Contract (PHMC) organization are defined in the QAPD, Part 1, Section 1, and in the PHMC Management and Integration Plan (HNF-MP-001).

The WMH organizational structure, with its lines of communication and authorities, is presented in Attachment 2. The QA organization reports to the WMH President and is functionally independent from organizations responsible for performing work and from groups generating environmental data.

2.2 Responsibilities

The achievement of quality in all activities is the responsibility of all WMH employees.

2.2.1 President and General Manager, Waste Management Hanford

The President, WMH, is responsible for establishing the Quality Assurance Policy and for the scope and implementation of the WMH QA Program, including the approval of all QAPPs.

2.2.2 Vice Presidents

The Vice Presidents are responsible for:

- establishing and cultivating quality principles and a favorable environment in which they can be effectively applied,
- establishing organizational goals and objectives,
- defining operational requirements,
- assessing performance and correcting deficiencies when found.

2.2.3 Vice President, Environmental, Safety, and Health

The Vice President of Environmental, Safety, and Health is responsible for establishing and maintaining safety, quality, and environmental protection policies and standards in support of the WMH contract with Fluor Daniel Hanford, Inc. (FDH).

2.2.4 Facility/Project Managers

The Facility/Project Manager is responsible for:

- cultivating quality assurance principles and integrating them into daily tasks,
- providing individuals with the information, tools, support, training, and encouragement to perform their assigned work,
- assigning qualified personnel to ensure that facility operations and waste management activities are in compliance with federal, state, and local environmental regulations,
- providing the resources and staff necessary to implement the requirements of this QAPP, including environmental sampling and testing activities,
- achieving consistent quality improvement through commitment and leadership in implementing this QAPP.

2.2.5 Director, Quality Systems

The Director, Quality Systems, is responsible for:

- developing and maintaining this QAPP and additional facility or project QAPPs to cover specific activities not covered by this QAPP,
- interpreting QA requirements,
- directing the performance of periodic assessments of WMH activities to verify compliance with the requirements in this QAPP,
- providing qualified quality professionals to assist other organizations in meeting their quality objectives,
- representing WMH to outside organizations in matters relating to the QA program.

2.2.6 Director, Quality Improvement and Assessment Management

The Director, Quality Improvement and Assessment Management, is responsible for:

- coordinating administrative functions for the development, implementation, integration, and maintenance of the Assessment Management program,

- developing and maintaining an annual integrated assessment plan and schedule that ensures assessments are conducted in a cost-effective, efficient manner,
- ensuring consistent application of Corrective Action Management programs and providing support to facility and project management to implement the programs,
- performing formal trending of deficiencies and providing trend reports to facility and project management,
- administering the WMH Nuclear Regulatory Compliance function.

2.2.7 Manager, Environmental Compliance

The Manager, Environmental Compliance, is responsible for:

- achieving consistent quality improvement through commitment and leadership in implementing this QAPP,
- establishing, implmenting, and maintaining the WMH environmental management system to ensure compliance with environmental requirements,
- ensuring sufficient resources are available to implement the requirements of this QAPP applicable to environmental compliance at WMH,
- serving as the primary interface between WMH management and environmental regulatory personnel from federal, state, and local agencies when they assess WMH activities,
- conducting environmental assessments, coordinating the development of environmental responses and corrective action plans, implementing environmental corrective actions, and reviewing environmental assessment results and deficiencies to look for company-wide impacts and trends.

2.2.8 Manager, Generator Services

The Manager, Generator Services, is responsible for:

- achieving consistent quality improvement through commitment and leadership in implementing this QAPP,
- providing resources and staff to implement the requirements of this QAPP applicable to the acceptance of solid and liquid wastes into WMH facilities,
- assigning qualified personnel to ensure facility operations and waste management activities are in compliance with federal, state, and local environmental regulations.

2.2.9 Manager, Technical Operations Management

The Manager, Technical Operations Management, is responsible for:

- achieving consistent quality improvement through commitment and leadership in implementing this QAPP,
- sharing responsibilities with Generator Services in providing resources and staff to implement the requirements of this QAPP applicable to the acceptance of solid and liquid wastes into WMH facilities,
- assigning qualified personnel to ensure facility operations and waste management activities are in compliance with federal, state, and local environmental regulations,
- providing production scheduling and coordination to operations for their process activities.

2.2.10 Manager, Waste Management Engineering

The Manager, Waste Management Engineering, is responsible for:

- implementing an engineering and design control system that conforms to the requirements of this QAPP,
- demonstrating commitment and leadership to achieve and consistently improve quality through active involvement in the implementation of this QAPP,
- providing resources and staff necessary to implement the requirements of this QAPP,
- ensuring consistent application of the engineering and design control process.

2.2.11 Employees

All employees are accountable to comply with this program. They should be continually alert to identify problems affecting quality and to recommend improvements to items and activities. All are to be knowledgeable of and complete required training, designed to aid them in doing their jobs right the first time fully in accordance with procedures or other requirements.

3.0 SPECIFIC REQUIREMENTS

Fluor Daniel Hanford, Inc. (FDH), issued quality assurance requirements to WMH in their *Project Hanford Quality Assurance Program Description* (QAPD), HNF-MP-599. The ten QA Program criteria discussed later in this subsection parallel the ten criteria in the QAPD. Documented compliance with the QAPD is found collectively in the WMH QAPP, applicable PHMC-wide procedures, and WMH implementing procedures. For detailed company-wide implementation references, see Attachment 1, *Basic Requirements Quality*

Assurance Plan Index (QAPI). Attachments 3 through 8 identify additional implementation references specific to facilities and activities.

Due to the diversity and complexity of the PHMC, emergence of new procedures or cancellations are common. Consequently, the procedures listed in Attachments 1 and 3 through 8 are for reference and should not be construed to be a complete list. The absence of a procedure from the attachments does not preclude compliance to that procedure. The Attachments are updated during each revision or at least annually.

WMH imposes applicable QA requirements on subtier contractors by:

- Passing QA requirements to PHMC Team Members through PHMC work-agreement documents.
- Passing QA requirements to subtier contractors on the ESL through procurement documents, in accordance with this document.
- Requiring subtier contractors not on the ESL to develop a QAPP or work to the WMH QAP.

3.1 Management

3.1.1 Program

1. Quality Assurance Program Plans

This QAPP, including its attachments, documents the application of the QAPD to WMH's scope of work and incorporates applicable requirements from codes and standards. It has been prepared in accordance with HNF-PRO-261, *Quality Assurance Program Plans*. Attachments 3 through 8 for Facility Management, Solid Waste, Liquid Waste, Analytical Services, Generator Services, and TRU Waste Program respectively, contain further information specific to their activities.

Other facility, laboratory, and project-specific QAPPs and QAPjPs have been prepared to meet particular sets of requirements. Approved WMH QAPPs and QAPjPs include:

- HNF-SD-CM-016, ***222-S Laboratory Quality Assurance Plan***
- HNF-SD-CM-QAPP-017, ***Waste Sampling and Characterization Facility Quality Assurance Plan***
- WHC-SD-CP- QAPP-018, ***Process Chemistry & Statistics Quality Assurance Plan***

HNF-SD-CM-QAPP-019, *Waste Sampling and Characterization Facility Quality Assurance Project Plan for Industrial Hygiene Analysis*

HNF-EP-0528-3, *NESHAP Quality Assurance Project Plan for Radioactive Air Emissions*

HNF-2599, *TRU Waste Characterization Quality Assurance Project Plan*

HNF-2600, ***Hanford Site Transuranic Waste Certification Plan,*** Chapter 5, Quality Assurance Plan

2. Quality Planning

   Management at all levels shall plan, organize, and provide the support necessary to compliantly apply the WMH QA Program to their activities and facilities.

3. Quality Assurance Program Interfaces

   Internal interfaces between organizations are defined in PHMC and WMH procedures. Responsibilities and authorities connected with external interfaces are documented in contract and procurement documents.

   Any document prepared by other organizations that prescribes or implements quality requirements, defines interfaces affecting the QA organization, or assigns work to the QA organization must be forwarded to the QA organization for review before start of work. The Director, Quality Systems, will evaluate the document for appropriateness, scheduling of QA personnel, and budgetary effects. Comments on, or acceptance, or rejection of the interfaces and assignments shall be documented.

4. Environmental Quality Assurance

   The WMH environmental program implements the requirements of all applicable environmental regulations including but not limited to the Resource Conservation and Recovery Act (RCRA), Washington Administrative Code (WAC) 173-216, "State Waste Discharge Permit," National Pollutant Discharge Elimination System (NPDES), National Emissions Standards for Hazardous Air Pollutants (NESHAP), and the National Environmental Policy Act (NEPA).

   QAMS applies to all WMH environmental activities that deal with the collection, evaluation, and use of data associated with environmental investigation or remedial operations under the Tri-Party Agreement. The design, construction, testing, operation, and closure of any treatment, storage, or disposal facility operating under a permit (e.g., RCRA Part B permit) issued by the State of Washington Department of Ecology (Ecology) or EPA must meet QAMS requirements.

   QAMS is the basic set of requirements by which a system of quality programs involving environmental data collection can be planned, implemented, and assessed. WMH shall implement environmental quality program elements that address the following:

   - QA objectives for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness,

   - sampling procedures,

- analytical procedures,
- preventive maintenance procedures and schedules for equipment that impact data quality,
- specific procedures to be used to routinely assess data precision, accuracy, completeness, comparability, and representativeness of specific measurement parameters involved,
- corrective action procedures for resolving potential problems with data outside acceptable limits,
- QA reports to management on the performance and effectiveness of the measurement systems used to assess data quality,
- data reporting requirements,
- data validation and verification methods,
- requirements for calibration and performance evaluation samples related to analytical methods,
- requirements for data (and database) security, archival, and retention,
- requirements for field and laboratory QA and QC activities,
- requirements and qualifications for sampling and analysis personnel,
- requirements for sample handling, packaging, shipping, and chain of custody,
- requirements for sample types, number quantities and sampling locations,
- selection of field sampling or testing methodologies, including specific sampling or field analytical instrumentation requirements and other analytical testing requirements.

Appendix B of Attachment 4 and Appendix B of Attachment 5 describe the means by which those environmental quality program elements are implemented.

Examples of data and samples not subject to the environmental requirements in QAMS 004 and 005 are those related to system operational information (i.e., process knowledge), compliance with a nuclear facility safety-basis document (e.g., Safety Analysis Report, Interim Safety Basis), or assessing or monitoring worker exposure to hazardous constituents both nonradioactive and radioactive. Samples taken under the NESHAP air monitoring program are within the scope of WHC-EP-0536-3, *Quality Assurance* ***Project*** *Plan for Radioactive Nuclide Airborne Emissions Monitoring*, and, hence, lie outside the authority of QAMS 004 and 005.

5. Stop Work Authority

   All WMH employees are accountable to stop activities when conditions jeopardizing safety or quality are recognized. A suspension of activities may be ordered by the Director, Quality Systems, if conditions affecting quality have not been addressed by cognizant management. Any suspension of subcontractor activities will be issued through the WMH Procurement organization.

All WMH organizations shall implement systematic approaches for performing their work in a manner that will achieve quality objectives while safely and effectively accomplishing WMH missions.

The WMH Quality Systems (QS) organization defines the QA program and has independent authority to assess the systematic implementation of requirements specified for WMH activities. It also has direct access to management at a level necessary for effecting appropriate action. QS has sufficient authority, access to work areas, and organizational freedom to:

1. Identify quality problems.

2. Initiate, recommend, or provide solutions to quality problems through designated channels.

3. Verify implementation of solutions and ensure that further processing, delivery, installation, or use of defective materials, equipment, and services are controlled until proper disposition of the nonconformance, deficiency, or unsatisfactory condition has occurred.

The WMH organizational structure and assignment of responsibility are designed to assure that quality is achieved and maintained by those who perform the work. The achievement of quality is verified by persons not directly responsible supervising or performing the work.

A complete listing of procedures and other documents that implement the "Program" element of this QAPP is in Attachment 1, Section 1, "Program." Additional facility- and project-specific implementing procedures and other documents are listed in Attachments 3 through 8.

10 CFR 830.120, (c)(1)(i) Program
DOE O 414.1, Contractor Requirements Document B(1)(a) Criterion 1 - Program
QAMS 004/80, 4.0 Quality Assurance Management

3.1.2 Personnel Training and Qualification

Employees are trained and qualified in accordance with WMH-200, *Waste Management Hanford Procedures*, Section 5.1, "Training Plan," to perform assigned tasks in a manner that minimizes risk to the environment, public, coworkers, facilities, and equipment as well as to themselves. Training and qualification requirements for specific positions are based on a management analysis of the duties and tasks associated with those positions.

Training records are maintained and updated in accordance with WMH-200, *Waste Management Hanford Procedures*, Section 5.1, "Training Plan," to ensure personnel receive initial training and retraining and re-testing to maintain the required level of qualification and/or certification.

Personnel performing inspections for quality acceptance shall be trained and certified in accordance with HNF-PRO-263, *Qualification and Certification of Inspection and Test Personnel.* Personnel performing tasks at a satellite accumulation area, 90-day accumulation area, and those performingTSD unit inspections and verification are not considered inspectors within the scope of HNF-PRO-263. Personnel performing Nondestructive Examinations shall be trained and certified in accordance with written procedures based on ASNT-SNT-TC-1A-1992 or other standards applicable to the work performed. The specific standards used shall be identified in implementing documents for qualification and certification. FDH is responsible for training and certifying WMH Inspection personnel. COGEMA Engineering Corporation provides Nondestructive Examination (NDE) services to WMH and is responsible for the training and certification of NDE personnel. WMH is responsible for ensuring NDE personnel are properly trained and qualified to perform their designated work.

Records of inspector qualifications and certifications are maintained by the FDH QA Level III Inspection Coordinator in accordance with HNF-PRO-263.

A complete listing of procedures and other documents implementing the "Personnel Training and Qualification" element of this QAPP is in Attachment 1, Section 2, "Personnel Training and Qualification." Additional facility- and project-specific implementing procedures and other documents are listed in Attachments 3 through 8.

10 CFR 830.120, (c)(1)(ii) Personnel Training and Qualification
DOE O 414.1, Contractor Requirements Document B(1)(b) Criterion 2 - Personnel Training and Qualification
QAMS 004/80, 5.0 Personnel Qualifications

3.1.3 Corrective Action and Quality Improvement

Through designated channels, all members of WMH organizations have authority to identify problems affecting quality and to initiate, recommend, and provide solutions to them.

1. Control of Nonconforming Items

Items, services, and processes not conforming to specified requirements shall be identified, controlled, and corrected as soon as practicable. Controls are to provide the means to identify, document, evaluate, segregate (when practical), and disposition nonconforming items as well as to notify affected organizations. When items cannot be segregated, precautions are to be taken to avoid their inadvertent use or installation. Hold Tags, In-process Tags, and Conditional Accept envelopes are used in accordance with HNF-PRO-298, *Nonconformance Item Reporting and Control*, to control nonconforming items. Only QS personnel are authorized to place or remove Hold, In-process Tags, and Conditional Accept envelopes. The status of nonconforming items shall be tracked to closure. HNF-PRO-298, *Nonconforming Item Reporting and Control,* defines the method for controlling, documenting, evaluating, and dispositioning nonconforming items and for processing nonconformance reports (NCR).

Any suspect/counterfeit items (S/CI) detected will be controlled in accordance with HNF-PRO-301, *Control of Suspect/Counterfeit Items* and Attachment 9 of this QAPP.

2. Corrective Action

WMH shall promptly identify and correct deficiencies in accordance with WMH-200, *Waste Management Hanford Procedures*, Section 1.3, "Corrective Action Management," which implements HNF-PRO-052, *Corrective Action Management*, and HNF-PRO-653, *Deficiency Tracking System.*

3. Quality Improvement

Trend Analysis reports, corrective action reports, and assessment reports, as appropriate, are evaluated to identify actions to improve quality in accordance with WMH-200, *Waste Management Hanford Procedures*, Section 1.9, "Trending Program."

Performance data are analyzed and evaluated in accordance with HNF-SD-CP-QAPP-016, "222-S Laboratory Quality Assurance Plan," HNF-SD-CP-QAPP-017, "WSCF Quality Assurance Plan," and HNF-SD-CP-QAPP-019, "WSCF Quality Assurance Project Plan for Industrial Hygiene," as appropriate to identify actions to improve quality. Management analyzes and documents the results of quality improvement activities and follows up to verify effectiveness.

4. Lessons Learned

When lessons learned are identified, in accordance with WMH-200, *Waste Management Hanford Procedures,* Section 1.3, "Corrective Action Management," they will be beneficially used in accordance with HNF-PRO-067, *Managing Lessons Learned.*

5. Professional Disagreements

Professional disagreements will be handled in accordance with WMH management practices, within the chain of command.

A complete listing of procedures and documents implementing the "Corrective Action and Quality Improvement" element of this QAPP is in Attachment 1, Section 3, "Quality Improvement."

10 CFR 830.120, (c)(1)(iii) Quality Improvement
DOE O 414.1, Contractor Requirements Document B(1)(c) Criterion 3 - Quality Improvement
QAMS 004/80, 10.4 Corrective Action

3.1.4 Documents and Records

1. Document Control

Documents that specify quality requirements or prescribe activities affecting quality are prepared, reviewed, approved, issued, and revised in accordance with HNF-PRO-224, *Document Control* and WMH-200, *Waste Management Hanford Procedures*, Section 1.1, "Procedure Control." Controlled WMH documents that have been superseded or canceled are identified and kept as records for their specified retention period in accordance with WMH-200, Section 1.1, "Procedure Control."

2. Records

WMH management shall ensure all records under their control that support the WMH mission accurately reflect completed work, demonstrate compliance with applicable requirements. The records shall be evaluated, stored, and preserved in accordance with HNF-PRO-210, *Records Management Program*, HNF-PRO-222, *Quality Assurance Records*, HNF-PRO-214, *Record Inventory and Disposition Schedules*, and WMH-200, *Waste Management Hanford Procedures*, Section 1.4, "Records Management Program." Documents and records may be written, printed, microfilm, photographs, or electronically stored.

A complete listing of procedures and documents that implements the "Documents and Records" element of this QAPP is in Attachment 1, Section 4, "Documents and Records." Additional facility- and project-specific implementing procedures and documents are in Attachments 3 through 8.

10 CFR 830.120, (c)(1)(iv) Documents and Records
DOE O 414.1, Contractor Requirements Document B(1)(d) Criterion 4 - Documents and Records
QAMS 004/80, 4.4 Document Control

3.2 Performance

3.2.1 Work Processes

1. Control of Measuring and Test Equipment (M&TE), Process Monitoring and Data Collection Equipment

   Tools, gages, instruments, analytical instruments, sampling equipment, and other M&TE used for activities affecting quality are controlled and calibrated and/or adjusted at specified intervals to maintain precision and accuracy within prescribed limits in accordance with HNF-PRO-490, *Control Of Measuring and Test Equipment* and HNF-PRO-072, *Plant Instrumentation and Equipment Functional Status Identification.* PHMC interfaces that apply to this activity include DynCorp who coordinates calibration services to PHMC Team members.

   Process monitoring and data collection equipment is controlled in accordance with WMH-200, Section 3.18, "Calibration Management". WMH-200, Section 3.18 provides a systematic methodology for managing and evaluating process monitoring and data collection equipment to national standards, where applicable.

2. Control of Processes

   Management will ensure the policies, procedures, and instructions controlling work performance are prepared, controlled, and implemented. The level of detail within work documents will be commensurate with the complexity and risk associated with the work. Included will be definitions of performance standards and acceptance criteria for work processes. Management will also ensure qualified personnel are assigned to accomplish work, trained in the requirements of the job and retrained when the work process changes. Management will ensure work process documents are readily accessible to the workers and work is completed in accordance with applicable requirements.

   Employees will advise their supervisors or managers of work that cannot be performed safely and/or in accordance with work control documents.

3. Identification and Control of Items

   Identification and control of items are established and maintained to ensure that only correct items are used or installed. When used, marking or labeling shall not be detrimental to the item.

4. Handling, Shipping, and Storing

   The handling, marking, storing, preserving, packaging, and shipping of materials and environmental samples are controlled to minimize deterioration and to prevent damage, loss, or misuse.

   Methods used to control packaging, shipping, receiving, storage, handling, cleaning, and preserving items shall be documented in accordance with applicable procedures. Required marking and labeling of items shall be maintained throughout the cycles of packaging, shipping, handling, and storing.

5. Quality-Affecting Software

Quality-affecting software used for work processes shall be controlled in accordance with HNF-PRO-309, *Control of Computer Software*.

A complete listing of procedures and documents implementing the "Work Processes" element of this QAPP is in Attachment 1, Section 5, "Work Processes." Additional facility- and project-specific implementing procedures and documents are in Attachments 3 through 8.

10 CFR 830.120, (c)(2)(I) Work Processes
DOE O 414.1, Contractor Requirements Document B(2)(a) Criterion 5 - Work Processes

3.2.2 Design

1. Requirements

Requirements upon which a final design is based include performance requirements, regulatory requirements, national and local codes, standards, environmental conditions, safety significance, and structure/equipment interfaces and shall be verified during the review process.

2. Verification and Validation

In accordance with the requirements of HNF-PRO-1819, *PHMC Engineering Requirements,* design adequacy is verified and validated by qualified individuals other than those who created the original design. Verification and validation shall be completed before approval and implementation of the design.

Computer software used to originate or verify safety or other risk-significant design solutions during the design process shall be validated. The validation shall be identified and documented prior to using the software.

3. Changes

Design changes, which include field changes, are governed by the same control measures applied to the original design in accordance with HNF-PRO-440, *Engineering Document Change Control Requirements*. Computer programs that affect design quality shall be controlled to ensure changes are documented and approved by authorized personnel.

4. Control

Design information sent across organizational interfaces shall be documented and controlled. Interface points shall be identified and controlled and transmittal efforts coordinated. When WMH is not performing the design activities, WMH shall procure

the necessary design services, including software development services, in accordance with the PHMC procurement process. Applicable quality-affecting requirements shall be passed down in procurement documents to the vendor or major subcontractor performing design or software development. Further, WMH shall review and assess vendor or major subcontractor design activities for compliance with procurement requirements.

A complete listing of procedures and documents implementing the "Design" element of this QAPP is in Attachment 1, Section 6, "Design." Additional facility- and project-specific implementing procedures and documents are in Attachments 3 through 8

10 CFR 830.120, (c)(2)(ii) Design
DOE O 414.1, Contractor Requirements Document B(2)(b) Criterion 6 - Design

3.2.3 Procurement

The procurement of items and services is controlled to ensure conformance with specified requirements. Such controls provide for the following, as appropriate:

- Quality Assurance Program requirements,
- design bases,
- source evaluation and selection,
- verification of supplier-furnished information,
- source inspections,
- control of nonconforming items,
- audits and surveillances,
- examination of items or services upon delivery or completion.

Procurement activities are planned and documented to ensure requirements are accurately, completely, and clearly communicated to the supplier using FDH PHMC-wide procurement-process procedures. QA procurement requirements are specified in HNF-MP-599, and HNF-PRO-268, *Control of Purchased Items and Services.*

FDH manages the PHMC-wide supplier evaluation program and maintains the Evaluated Supplier List (ESL). FDH also performs source and receipt inspections, except when they are within WMH's scope of work, and manages the PHMC-wide suspect/counterfeit items program.

When requested, WMH provides expertise and assistance to FDH with its QA source and receipt inspections and supplier evaluations.

Supplier-generated documents required by the procurement contract are identified, controlled, approved, and issued as discussed in Subsection 3.1.4.

Reported deficiencies pertaining to purchased items or services will be reviewed by the appropriate technical and QA organizations. Any necessary remedial or corrective actions will be performed in accordance with Subsection 3.1.3.

Designs requiring commercial-grade items (CGI) for use in safety-class or safety-significant installations or applications may adhere to the following acceptable requirements that are alternatives to others presented in this section:

- cognizant design organizations shall identify CGI and their critical characteristics,
- cognizant design organizations shall specify the acceptance method used for CGI and provide assurance that items received will meet specified critical characteristics,
- procurement documents shall indicate that the material or item is intended to be dedicated for use in safety- class or safety-significant installations or applications.

A complete listing of procedures and documents implementing the "Procurement" element of this QAPP is in Attachment 1, Section 7, "Procurement" Additional facility- and project-specific implementing procedures and documents are in Attachments 3 through 8.

10 CFR 830.120, (c)(2)(iii) Procurement
DOE O 414.1, Contractor Requirements Document B(2)(c) Criterion 7 - Procurement

3.2.4 Inspection and Acceptance Testing

1. Inspections and Testing

Systems, structures, and components that require inspecting or testing are identified by design documents, required codes and standards, and/or safety basis documents (Safety Analysis Reports [SAR], Interim Safety Basis [ISB], etc.).

Inspections shall be performed in accordance with HNF-PRO-283, *Control of Inspections*, and HNF-PRO-1607, *Visual Weld Inspection.*

Inspection planning shall be documented and include hold, witness, and verification points; methods used; acceptance criteria; and a method for recording inspection results.

Test requirements and acceptance criteria shall be identified, documented, and approved by cognizant design authorities.

Inspections and tests shall be performed by qualified personnel in accordance with approved test procedures and inspection plans to ensure only accepted items are installed, used, or operated. Personnel doing inspections shall verify that M&TE instruments used are properly calibrated and maintained. Those M&TE instruments shall be identified in the record documentation. The status of the inspections and tests shall be identified on the items or in documents traceable to the items in accordance with HNF-PRO-297, *Inspection, Test, and Operating Status.* Final acceptance shall be verified and documented.

WMH shall assure these requirements are passed on to subcontractors through the procurement process when appropriate. Subcontractors are responsible for verifying and documenting the final acceptance of their structures, systems, or components.

A complete listing of procedures and documents implementing the "Inspection and Acceptance Testing" element of this QAPP is in Attachment 1, Section 8, "Inspection and Acceptance Testing." Additional facility- and project-specific implementing procedures and documents are in Attachments 3 through 8.

10 CFR 830.120, (c)(2)(iv) Inspection and Acceptance Testing
DOE O 414.1, Contractor Requirements Document B(2)(d) Criterion 8 - Inspection and Acceptance Testing

3.3 Assessment

3.3.1 Management Assessment

Management assessments identify strengths and weaknesses affecting the achievement of organizational objectives. This information is useful in devising meaningful action to improve quality. Effective management assessments must also evaluate knowledge of employees, adequacy of communication throughout the organization, and adequacy of resources. Under the environmental QA program, management assessments may also be referred to as management systems audits.

WMH management assessments will be planned, scheduled, conducted, evaluated, and, where appropriate, trended in accordance with HNF-PRO-246, *Management Assessment,* and WMH-200, *Waste Management Hanford Procedures*, Section 1.2, "Assessment Program."

Management will review and analyze assessment results for compliance issues, conditions adverse to quality, opportunities for quality improvement, including lessons learned, and applicability to their areas of functional responsibility.

As requested by the Manager, Assessment Management, corrective actions will be independently verified and validated by the QA function in accordance with WMH-200, *Waste Management Hanford Procedures*, Section 1.2, "Assessment Program."

3.3.2 Quality System Assessments

Quality assurance assessments will be performed periodically by personnel familiar with the subject being assessed, to verify compliance with the requirements in this QAPP. Assessments will be performed in accordance with WMH-200, *Waste Management Hanford Procedures*, Section 1.2, "Assessment Program." When necessary, follow-up work will be done to assess the adequacy of any required corrective action.

A complete listing of procedures and documents implementing the "Management Assessment" element of this QAPP is in Attachment 1, Section 9, "Management Assessment." Additional facility- and project-specific implementing procedures and documents are in Attachments 3 through 8.

10 CFR 830.120, (c)(3)(I) Management Assessment
DOE O 414.1, Contractor Requirements Document B(3)(a) Criterion 9 - Management

3.3.3 Independent Assessment

Independent assessments in compliance with 10 CFR 830.120(c)(3)(ii), "Independent Assessment," and DOE O 414.1 Contractor Requirements Document, B(3)(b), "Criterion 10—Independent Assessment," are the responsibility of FDH in accordance with HNF-MP-599, *Project Hanford Quality Assurance Program Description*, Section 10, "Independent Assessment." When requested, WMH will assist the FDH independent assessment organization(s) in its activities. Assessment results are documented and reported to management for review and, as appropriate, action. Any necessary corrective actions will be processed in accordance with the requirements of WMH-200, *Waste Management Hanford Procedures*, Section 1.3, "Corrective Action Management." Under the environmental QA program, independent assessments may also be referred to as technical systems audits.

Independent assessments may be performed by groups such as Waste Management Federal Services, the Defense Nuclear Facilities Safety Board, DOE-Richland Operations Office, DOE-Headquarters, and WMH-contracted consultants. The follow-up activities for these assessments will be the same as for the assessments performed by the FDH.

Performance Audit/Performance Evaluation

Performance audits or performance evaluation (PE) studies are independent checks to measure the performance of a laboratory's analytical operations. WMH participation is detailed in HNF-SD-CP-QAPP-016, HNF-SD-CP-QAPP-017, "Waste Sampling and Characterization Facility Quality Assurance Plan," HNF-SD-CP-QAPP-018, "Process Chemistry and Statistics Quality Assurance Plan," and HNF-SD-CP-QAPP-019, "Waste Sampling and Characterization Facility Quality Assurance Project Plan for Industrial Hygiene."

10 CFR 830.120, (c)(3)(ii) Independent Assessment
DOE O 414.1, Contractor Requirements Document B(3)(b) Criterion 10 - Independent Assessment

4.0 DESIGNATED REVIEWERS

This QAPP shall be reviewed by Quality Systems and selected WMH Management personnel. Approval will be by WMH President, WMH Director, Quality Systems, FDH Project Director, and FDH Director, Quality Assurance."

5.0 REFERENCES

- 10 CFR 830.120, *Quality Assurance Requirements*
- DOE O 414.1, *Quality Assurance*
- EPA QAMS 004/80, *Guidelines and Specifications for Preparing Quality Assurance Program Plan*
- EPA QAMS 005/80, *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*
- DOE-RL-96-68, *Hanford Analytical Services Quality Assurance Requirements Document*
- HNF-MP-599, *Project Hanford Quality Assurance Program Description*
- HNF-SP-1228, *Quality Assurance Program Implementation Plan For Nuclear Facilities*
- HNF-PRO-261, *Quality Assurance Program Plans*
- WMH-100, *Waste Management Hanford Policies.*

6.0 ATTACHMENTS

Attachment 1: Quality Assurance Plan Index
Attachment 2: Organization Chart
Attachment 3: WMH Facility Management
Attachment 4: WMH Solid Waste
Attachment 5: WMH Liquid Waste
Attachment 6: WMH Waste Management Laboratory
Attachment 7: WMH Generator Services
Attachment 8: Hanford TRU Waste Program
Attachment 9: WMH Suspect/Counterfeit Items Plan

ATTACHMENT 1: QUALITY ASSURANCE PLAN INDEX

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Section 1, Program		
Quality Assurance Program Plans	HNF-PRO-261, *Quality Assurance Program Plans*	
Project Hanford QA Requirements Flowdown	HNF-PRO-261, *Quality Assurance Program Plans* HNF-PRO-265, *Standards/Requirement Identification Document (S/RID) Proces*	
Quality Planning	HNF-PRO-261, *Quality Assurance Program Plans*	
Organization, Responsibilities, and Interfaces		WMH-100, Section 4.2, President and General Manager Charter WMH-100, Section 4.3, Environment, Safety and Health Charter WMH-100, Section 4.4, Waste Management Operations Charters WMH-100, Section 4.5, Waste Management Services Charters WMH-200, Section 2.1, Organization and Administration
Readiness Review	HNF-PRO-055, *Facilities Start-Up Readiness*	WMH-200, Section 1.6, Operational Readiness Activities
Stop Work Authority	HNF-PRO-074, *Safety Responsibilities*	
Graded Application of Project Hanford QA Program	HNF-PRO-261, *Quality Assurance Program Plans* HNF-PRO-259, *Graded Quality Assurance* HNF-PRO-704, *Hazard & Accident Analysis Process*	
Resolution of Professional Disagreements		
Developing and Maintaining S/RIDS	HNF-PRO-265, *Standard/Requirements Identification Document (S/RID) Process*	
Section 2, Personnel Training and Qualification		
Project Hanford Training and Qualification Program	HNF-PRO-168, *Employee Training* HNF-PRO-169, *Assigning Training Responsibilities* HNF-PRO-170, *Analyzing Training Requirements*	WMH-200, Section 5.1, Training Plan WMH-200, Section 5.3,

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
	HNF-PRO-174, *Evaluating Training* HNF-PRO-263, *Qualification and Certification of Inspection and Test Personnel* HNF-PRO-329, *Radiological Training* HNF-PRO-346, *Fire Protection in Facility Operating Procedures* HNF-PRO-378, *Radiation Protection First-Line Supervisor Qualifications* HNF-PRO-386, *Radiological Control Technicians Qualification & Training* HNF-PRO-459, *Environmental Training* HNF-PRO-538, *Criticality Safety Training*	TrainingImplementation Matrix
Training and Indoctrination	HNF-PRO-057, *Hanford General Employee Training* HNF-PRO-65, *Environmental Training* HNF-PRO-111, *Occupational Medical Qualification and Monitoring* HNF-PRO-179, *Obtaining Training Equivalencies, Waivers and Extensions* HNF-PRO-263, *Qualification and Certification of Inspection & Test Personnel* HNF-PRO-329, *Radiological Training* HNF-PRO-347, *Employee Fire Protection Training* HNF-PRO-378, *Radiation Protection First-Line Supervisor Qualifications* HNF-PRO-386, *Radiological Control Technicians Qualifications & Training* HNF-PRO-459, *Environmental Training* HNF-PRO-538, *Criticality Safety Training*	WMH-200, Section 2.5, Control of On-Shift Training WMH-200, Section 2.14, Required Reading WMH-200, Section 5.1, Training Plan WMH-200, Section 5.2, Drill Program
Qualification and Certification	HNF-PRO-111, *Occupational Medical Qualification and Monitoring* HNF-PRO-176, *Preparing Qualification Programs at Nuclear Facilities* HNF-PRO-177, *Preparing Certification Programs at Nuclear Facilities* HNF-PRO-178, *Qualifying Instructional Staff* HNF-PRO-263, *Qualification and Certification of Inspection and Test Personnel* HNF-PRO-343, *Selection of Radiological Control Technicians* HNF-PRO-378, *Radiation Protection First-Line Supervisor Qualifications* HNF-PRO-386, *Radiological Control Technicians Qualifications & Training* HNF-PRO-364, *Selection of Senior Radiological Control Technician Lead Assignments*	WMH-200, Section 1.1, Procedure Control WMH-200, Section 1.2, Assessment Program WMH-200, Section 1.3, "Corrective Action Management WMH-200, Section 5.1, Training Plan
Training and Qualification Records	HNF-PRO-263, *Qualification and Certification of Inspection and Test Personnel* HNF-PRO-348, *Fire Protection Records* HNF-PRO-459, *Environmental Training* HNF-PRO-538, *Criticality Safety Training*	WMH-200, Section 5.1, Training Plan

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
Section 3, Quality Improvement		
Deficiency Identification	HNF-PRO-052, *Corrective Action Management* HNF-PRO-060, *Reporting Occurrences and Processing Operations Information* HNF-PRO-298, *Nonconforming Item Reporting and Contro* HNF-PRO-315, *Completed Decision Making Packages* HNF-PRO-316, *Radiation Protection Interpretive Authority* HNF-PRO-319, *Radiation Protection Self-Assessments* HNF-PRO-352, *Fire Protection System Discrepancies* HNF-PRO-388, *Radiological Problem Reports* HNF-PRO-435, *Required Radiological Surveillances* HNF-PRO-453, *Environmental Notification and Reporting* HNF-PRO-653, *Deficiency Tracking System*	WMH-200, Section 2.6, Abnormal Event Investigation, Notification, and Occurrence Reporting WMH-200, Section 1.3, Corrective Action Management
Corrective Action Management	HNF-PRO-052, *Corrective Action Management* HNF-PRO-067, *Managing Lessons Learned* HNF-PRO-319, *Radiation Protection Self-Assessments* HNF-PRO-345, *Fire Protection Corrective Actions* HNF-PRO-388, *Radiological Problem Reports* HNF-PRO-435, *Required Radiological Surveillance*	WMH-200, Section 1.3, Corrective Action Management WMH-200, Section 1.5, Price Anderson Amendments Act Review and Reporting Process
Nonconformance Control	HNF-PRO-058, *Critique Process* HNF-PRO-298, *Nonconforming Item Reporting and Control* HNF-PRO-388, *Radiological Problem Report* HNF-PRO-549, *Criticality Safety Nonconformance Response*	WMH-200, Section 3.4, Radiological Problem Report
Performance Data Analysis	HNF-PRO-052, *Corrective Action Management* HNF-PRO-435, *Required Radiological Surveillances* HNF-PRO-2000, *Construction Program Execution Phase*	WMH-200, Section 1.9, Trending Program
Control of Suspect/Counterfeit Items	HNF-PRO-301, *Control of Suspect/Counterfeit Items*	WMH-200, Section 2.6, Abnormal Event Investigation, Notification, and Occurrence Reporting
Section 4, Documents and Records		
Documents	HNF-PRO-210, *Records Management Program Standards* HNF-PRO-211, *Public Information Repository and Administrative Record Files* HNF-PRO-224, *Document Control Program Standard* HNF-PRO-229, *Technical Procedure Standard* HNF-PRO-231, *Correspondence and Commitment Control* HNF-PRO-232, *Project Files Management* HNF-PRO-233, *Review & Approval of Documents* HNF-PRO-244, *Engineering Data Transmittal Requirements* HNF-PRO-405, *Protecting and Controlling Classified*	WMH-200, Section 1.1, Procedure Control WMH-200, Section 1.4, Records Management Program WMH-200, Section 1.14, Review of Project Hanford Procedures WMH-200, Section 2.16, Technical Procedures WMH-200, Section 3.1, Maintenance

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
	Matter HNF-PRO-440, *Engineering Document Change Control Requirements* HNF-PRO-589, *Processing Project Hanford Procedures* HNF-PRO-1819, *PHMC Engineering Requirements*	Work Management WMH-360, Section 1.1, Technical Procedures Processing and Style Guide
Records	HNF-PRO-210, *Records Management Program Standards* HNF-PRO-147, *Administrative Retirement of Property* HNF-PRO-222, *Quality Assurance Records Standards* HNF-PRO-232, *Project Management Files* HNF-PRO-348, *Fire Protection Records* HNF-PRO-405, *Potting and Controlling Classified Matter* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-2000, *Construction Program Execution Phase*	WMH-200, Section 1.4, Records Management Program
Section 5, Work Processes		
Work Process Documents	HNF-PRO-062, *Identifying and Resolving Unreviewed Safety Questions* HNF-PRO-069, *Maintenance Management* HNF-PRO-210, *Records Management Program Standards* HNF-PRO-229, *Technical Procedure Standard* HNF-PRO-323, *External Dosimetry Quality Assurance* HNF-PRO-351, *Fire Protection System Testing/Inspecting and Maintenance Frequencies* HNF-PRO-379, *External Dosimetry Program* HNF-PRO-380, *Internal Dosimetry Program* HNF-PRO-382, *Area Dosimetry Program* HNF-PRO-394, *Physical Protection of Property and Facilities* HNF-PRO-589, *Processing Project Hanford Procedures* HNF-PRO-2000, *Construction Program Execution Phase*	WMH-200, Section 2.10, Independent Verification WMH-200, Section 2.11, Log Keeping WMH-200, Section 2.12, Turnover Practices WMH-200, Section 2.15, Timely Orders WMH-200, Section 2.17, Operator Aid Postings WMH-200, Section 3.1, Maintenance Work Management, (is applicable to all facilities except 300 LEF which uses an alternate process identified in the matrix of QAPP Attachment 5, Appendix A.) WMH-200, Section 3.3, Radiological High Risk Review WMH-200, Section 3.5, Subcontractor Project and Construction Work WMH-200, Section 3.8, Enhanced Radiological Work Planning WMH-200, Section 4.3, Unreviewed Safety Questions
Special Processes	HNF-PRO-229, *Technical Procedure Standard*	WMH-360, Section 1.1, Technical Procedures Processing and Style Guide
Identification and Control of Items	HNF-PRO-072, *Plant Instrumentation and Equipment Functional Status Identification* HNF-PRO-081, *Hazardous Energy Control Program* HNF-PRO-101, *Signs, Tags, and Barriers* HNF-PRO-102, *Safety Color Coding* HNF-PRO-133, *Tagging, Marking, and Recording Property* HNF-PRO-135, *Receiving, Inspection, Storage, Issuance & Return of Contractor Procured ASME Code Material*	WMH-200, Section 2.8, Control of Equipment and System Status WMH-200, Section 2.9, Lockouts and Tagouts WMH-200, Section 2.18, Equipment and Piping Labeling

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
	HNF-PRO-140, *Controlling Convenience Storage Inventory Systems* HNF-PRO-297, *Inspection, Test, and Operating Status* HNF-PRO-335, *Use and Control of Purchasing Card (P-Card)* HNF-PRO-542, *Fissionable Material Labeling* HNF-PRO-617, *Labeling Requirements for Nuclear Material Containers* HNF-PRO-1819, *PHMC Engineering Requirements*	WMH-200, Section 3.12, Chain of Custody for Environmental Samples WMH-200, Section 3.17, Radiological Hold Points
Handling, Shipping, and Storing	HNF-PRO-087, *Storing, Using and Handling Compressed Gasses* HNF-PRO-096, *Material Handling and Storage* HNF-PRO-126, *Shipping and Returning Materials using the Parts and Tools Return (PTR) Form* HNF-PRO-129, Controlling Spare Parts and Spare Equipment Inventory HNF-PRO-130, *Requesting General Supplies Inventory and Just-in-Time Inventory Materials* HNF-PRO-131, *Receiving Radioactive Material Shipments from Private and Commercial Carriers* HNF-PRO-132, *Shipping Material Offsite* HNF-PRO-135, *Receiving, Inspection, Storage, Issuance & Return of Contractor Procured ASME Code Material* HNF-PRO-136, *Management and Control of Sensitive Property* HNF-PRO-138, *Controlling Precious Metals* HNF-PRO-139, *Control of Potable Alcohol, Syringes, & Hypodermic Needles* HNF-PRO-140, *Controlling Convenience Storage Inventory Systems* HNF-PRO-142, *Moving/Transferring Property Within the Contractor* HNF-PRO-143, *Offsite Property Loans* HNF-PRO-146, *Transfer of Property to Other Hanford Contractors* HNF-PRO-150, *Management of Government-Owned Property in the Possession of Subcontractors and Vendors* HNF-PRO-358, *Flammable/Combustible Liquids* HNF-PRO-368, *Laboratories* HNF-PRO-370, *Hazardous Material Storage* HNF-PRO-374, *Physical Inventories of Materials, Facilities, Equipment and Facility Walkthroughs* HNF-PRO-375, *Operation of Storage Facilities* HNF-PRO-376, *Control of High Risk Personal Property* HNF-PRO-442, *Development Control Requirements* HNF-PRO-447, *Procurement of Safety Class Items and Management of Spares* HNF-PRO-543, *Fissionable Material Storage* HNF-PRO-545, *Fissionable Material Packaging and Transportation* HNF-PRO-579, *Carcinogen Control* HNF-PRO-1819, *PHMC Engineering Requirements*	WMH-200, Section 3.6, Hoisting and Rigging Program WMH-200, Section 4.1, Hazard Communication and Carcinogen Control Program

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
Process Monitoring or Data Collection Instruments	HNF-PRO-072, *Plant Instrumentation and Equipment Functional Status Identification* HNF-PRO-324, *Spectral Studies* HNF-PRO-436, *Radiation, Protection Instrument Program* HNF-PRO-632, *GM Portable Survey Instrument* HNF-PRO-633, *Portable Alpha Meter (PAM)* HNF-PRO-634, *NRC AN/PDR-70 Snoopy* HNF-PRO-637, *XETEX Telescan* HNF-PRO-638, *William B. Johnson Extender*	WMH-200, Section 3.18, Calibration Management
Control of Computer Software	HNF-PRO-309, *Computer Software Quality Assurance Requirements* HNF-PRO-311, *Functional Security Requirements/Application Development*	
Section 6, Design		
Design Input	HNF-PRO-089, *Electrical Installation Safety* HNF-PRO-309, *Computer Software Quality Assurance Requirements* HNF-PRO-311, *Functional Security Requirements/Application Development* HNF-PRO-349, *Fire Protection Design Criteria* HNF-PRO-440, *Engineering Document Change Control Requirements* HNF-PRO-704, *Hazard and Accident Analysis Process* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-1999, *Construction Program Conceptual Phase* HNF-PRO-2000, *Construction Program Execution Phase*	WH-200, Section 4.3, Unreviewed Safety Questions
Design Process	HNF-PRO-244, *Engineering Data Transmittal Requirements* HNF-PRO-309, *Computer Software Quality Assurance Requirements* HNF-PRO-440, *Engineering Document Change Control Requirements* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-1999, *Construction Program Conceptual Phase* HNF-PRO-2000, *Construction Program Execution Phase* HNF-2954, *Configuration Management Program Document*	
Design Verification	HNF-PRO-309, *Computer Software Quality Assurance Requirements* HNF-PRO-349, *Fire Protection Design Criteria* HNF-PRO-440, *Engineering Document Change Control Requirements* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-1999, *Construction Program Conceptual Phase* HNF-PRO-2000, *Construction Program Execution Phase*	

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
Design Changes	HNF-PRO-309, *Computer Software Quality Assurance Requirements* HNF-PRO-440, *Engineering Document Change Control Requirements* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-1999, *Construction Program Conceptual Phase* HNF-PRO-2000, *Construction Program Execution Phase* HNF-2954, *Configuration Management Program Document*	
Design Documentation and Records	HNF-PRO-232, *Project Files Management* HNF-PRO-244, *Engineering Data Transmittal Requirements* HNF-PRO-309, *Computer Software Quality Assurance Requirements* HNF-PRO-440, *Engineering Document Change Control Requirements* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-1999, *Construction Program Conceptual Phase* HNF-PRO-2000, *Construction Program Execution Phase* HNF-2954, *Configuration Management Program Document*	WMH-200, Section 7.1, As-Built Drawings
Computer Software	HNF-PRO-309, *Computer Software Quality Assurance Requirements* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-1999, *Construction Program Conceptual Phase* HNF-PRO-2000, *Construction Program Execution Phase*	
Section 7, Procurement		
Procurement Planning	HNF-PRO-123, *Material Request/Purchase Requisition/ Contract Requisition Process* HNF-PRO-129, *Controlling Spare Parts and Spare Equipment Inventory* HNF-PRO-150, *Management of Government-Owned Property in the Possession of Subcontractors and Vendors* HNF-PRO-261, *Quality Assurance Program Plans* HNF-PRO-268, *Control of Purchased Items and Services* HNF-PRO-310, *Computer Security Within Procurement Cycle* HNF-PRO-335, *Use and Control of Purchasing Card (P-Card)* HNF-PRO-501, *Security Compliance for Procurement Request Originators* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-1998, *Construction Program Pre-Conceptual Activity* HNF-PRO-1999, *Construction Program Conceptual Phase* HNF-PRO-2000, *Construction Program Execution Phase*	

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Content of Procurement Documents	HNF-PRO-120, *Respiratory Protection Program* HNF-PRO-123, *Material Request/Purchase Requisition/Contract Requisition* HNF-PRO-129, *Controlling Spare Parts and Spare Equipment Inventory* HNF-PRO-150, *Management of Government-Owned Property in the Possession of Subcontractors and Vendors* HNF-PRO-186, *Preparing a Statement of Work for Services* HNF-PRO-268, *Control of Purchased Items and Services* HNF-PRO-301, *Control of Suspect/Counterfeit Items* HNF-PRO-310, *Computer Security Within Procurement Cycle* HNF-PRO-501, *Security Compliance for Procurement Requisition Originators* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-1842, *External Work Orders to Other Hanford Contractors* HNF-PRO-1998, *Construction Program Pre-Conceptual Activity* HNF-PRO-1999, *Construction Program Conceptual Phase* HNF-PRO-2000, *Construction Program Execution Phase*	
Supplier Evaluation and Selection	HNF-PRO-268, *Control of Purchased Items and Services* HNF-PRO-335, *Use and Control of Purchasing Card (P-Card)* HNF-PRO-3144, *Supplier Quality Assurance Program Evaluation*	
Control of Supplier Nonconformance	HNF-PRO-268, *Control of Purchased Items and Services* HNF-PRO-2000, *Construction Program Execution Phase*	
Acceptance of Items and Services	HNF-PRO-261, *Quality Assurance Program Plans* HNF-PRO-268, *Control of Purchased Items and Services* HNF-PRO-283, *Control of Inspections* HNF-PRO-286, *Test Control* HNF-PRO-297, *Inspection, Test, and Operating Status* HNF-PRO-335, *Use and Control of Purchasing Card (P-Card)* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-2000, *Construction Program Execution Phase*	
Commercial Grade Items	HNF-PRO-268, *Control of Purchased Items and Services* HNF-PRO-1819, *PHMC Engineering Requirements*	
Control of Supplier-Generated Documents	HNF-PRO-123, *Material Request/Purchase Requisition/Contract Requisition Process* HNF-PRO-232, *Project Files Management* HNF-PRO-268, *Control of Purchased Items and Services* HNF-PRO-1819, *PHMC Engineering Requirements*	

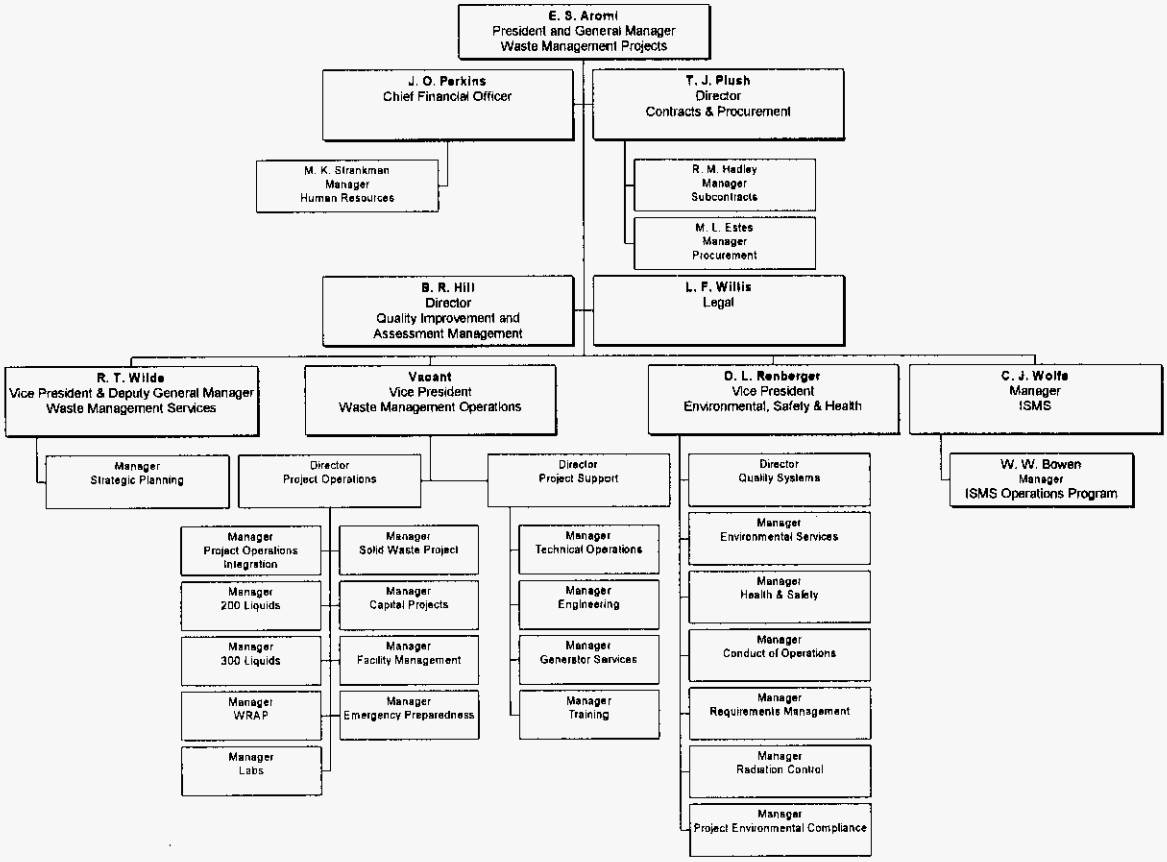
ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
Control of Suspect/Counterfeit Items	HNF-PRO-060, *Reporting Occurrences and Processing Operations Information* HNF-PRO-268, *Control of Purchased Items & Services* HNF-PRO-301, *Control of Suspect/Counterfeit Items*	
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning	HNF-PRO-261, *Quality Assurance Program Plans* HNF-PRO-283, *Control of Inspections* HNF-PRO-286, *Test Control* HNF-PRO-1607, *Visual Weld Inspection* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-2000, *Construction Program Execution Phasee*	
Inspection and Acceptance Testing Process	HNF-PRO-263, *Qualification and Certification of Inspection and Test Personnel* HNF-PRO-283, *Control of Inspections* HNF-PRO-286, *Test Control* HNF-PRO-1607, *Visual Weld Inspection* HNF-PRO-1819, *PHMC Engineering Requirements* HNF-PRO-2000, *Construction Program Execution Phase*	WMH-200, Section 3.1, "Maintenance Work Management"
Inspection and Acceptance Testing Results	HNF-PRO-283, *Control of Inspections* HNF-PRO-286, *Test Control* HNF-PRO-1607, *Visual Weld Inspection* HNF-PRO-1819, *PHMC Engineering Requirements*	
Inspection and Acceptance Testing Status	HNF-PRO-283, *Control of Inspections* HNF-PRO-286, *Test Control* HNF-PRO-297, *Inspection, Test, and Operating Status* HNF-PRO-1607, *Visual Weld Inspection* HNF-PRO-1819, *PHMC Engineering Requirements*	
Calibration of Measuring and Test Equipment	HNF-PRO-490, *Control of Measuring and Test Equipment*	
Section 9, Management Assessment		
Management Assessments	HNF-PRO-076, *Safety Inspections* HNF-PRO-209, *Performing Management Implementation Reviews* HNF-PRO-246, *Management Assessment* HNF-PRO-319, *Radiation Protection Self-Assessments* HNF-PRO-435, *Required Radiological Surveillances* HNF-PRO-548, *Criticality Inspections and Assessments*	WMH-200, Section 1.2, Assessment Program
	HNF-PRO-052, *Corrective Action Management* HNF-PRO-209, *Performing Management Implementation*	WMH-200, Section 1.3, Corrective

ATTACHMENT 1: BASIC REQUIREMENTS QUALITY ASSURANCE PLAN INDEX

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
Corrective Action	*Reviews* HNF-PRO-319, *Radiation Protection Self-Assessments* HNF-PRO-435, *Required Radiological Surveillances* HNF-PRO-548, *Criticality Inspections and Assessments*	Action Management

ATTACHMENT 2: ORGANIZATION CHART



ATTACHMENT 3: WMH FACILITY MANAGEMENT

1.0 SCOPE

This attachment applies to quality-affecting activities performed by Facility Management/Landlord at all WMH facilities and administrative buildings.

Facility Management/Landlord is responsible for the maintenance of WMH facilities and administrative buildings, including the standardization of planning, scheduling, and material procurement activities for the performance of preventive and corrective maintenance.

In addition to the documents identified in Attachment 1, Appendix A of this attachment provides a matrix of additional documents applicable to the control of quality for Facility Management/Landlord activities.

2.0 REQUIREMENTS

2.1 Management

2.1.1 Program

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

Facility Management/Landlord uses a graded approach to assure that work is performed using work documents that meet procedural requirements and WMH standards in accordance with HNF-PRO-069, *Maintenance Management*, and WMH-200, *Waste Management Hanford Procedures,* Section 3.1, "Maintenance Work Management."

2.1.2 Personnel Training and Qualification

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

2.1.3 Corrective Action and Quality Improvement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

2.1.4 Documents and Records

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

2.2 Performance

2.2.1 Work Processes

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

Corrective and preventive maintenance and modifications of equipment, systems, and components are performed, controlled, and documented using the Job Control System (JCS) as described in HNF-PRO-069, *Maintenance Management*, and WMH-200, *Waste Management Hanford Procedures,* Section 3.1, "Maintenance Work Management."

2.2.2 Design

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

Building Administration functions for the Landlord building activities include design authority.

2.2.3 Procurement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

2.2.4 Inspection and Acceptance Testing

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

2.3 Assessment

2.3.1 Management Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

2.3.2 Independent Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Facility Management activities.

Attachment 3: Appendix A

WMH Facility Management QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Section 1, Program		
Quality Assurance Program Plans		
Project Hanford QA Requirements Flowdown		
Quality Planning		
Organization, Responsibilities, and Interfaces		
Readiness Review		
Stop Work Authority		
Graded Application of Project Hanford QA Program		
Resolution of Professional Disagreements		
Developing and Maintaining S/RIDS		
Section 2, Personnel Training And Qualification		
Project Hanford Training and Qualification Program		
Training and Indoctrination		
Qualification and Certification		
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification		
Corrective Action Management		
Nonconformance Control		
Performance Data Analysis		
Control of Suspect/Counterfeit Items		
Section 4, Documents and Records		
Documents		
Records		

Attachment 3: Appendix A

WMH Facility Management QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Section 5, Work Processes		
Work Process Documents		
Special Processes		
Identification and Control of Items		WMH-341, Section 1.2, Equipment Status Labeling
Handling, Shipping, and Storing		
Process Monitoring or Data Collection Instruments		WMH-200, Section 3.18, Calibration Management
Control of Computer Software		
Section 6, Design		
Design Input		
Design Process		
Design Verification		
Design Changes		
Design Documentation and Records		
Computer Software		
Section 7, Procurement		
Procurement Planning		
Content of Procurement Documents		
Supplier Evaluation and Selection		
Control of Supplier Nonconformance		
Acceptance of Items and Services		
Commercial Grade Items		
Control of Supplier-Generated Documents		
Control of Suspect/Counterfeit Items		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		

Attachment 3: Appendix A		
WMH Facility Management QAPD Implementation Matrix		
Project Hanford QAPD Part 2	**Implementing Procedures**	
	PHMC-Wide Procedures	**Contractor Procedures**
Inspection and Acceptance Testing Results		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Section 9, Management Assessment		
Management Assessments		
Corrective Action		

ATTACHMENT 4: WMH SOLID WASTE

1.0 SCOPE

This attachment applies to quality-affecting activities performed by Solid Waste Project (SWP) at the facilities identified in Section 1.1.

Appendix A of this attachment identifies how the environmental quality program elements are implemented for SWP.

1.1 Solid Waste Project

- Central Waste Complex (CWC)
- Burial Grounds (BG)
- Radioactive Mixed Waste Land Disposal Facilities and Trenches
- T Plant Complex
- 616 Plant Complex
- Waste Receiving and Processing (WRAP)

NOTE: The Nonradioactive Dangerous Waste Storage Facility (616 Facility) is non-nuclear and nonradioactive and is operated based on best management practices.

2.0 REQUIREMENTS

SWP and WRAP activities requiring 10 CFR 830.120 compliance include design, procurement, fabrication, handling, shipping, receiving, installing, testing, operating, maintaining, repairing, modifying, and storing of structures, systems, or components. Additional activities specific to waste operations include the following:

- methods used to identify and segregate nonradioactive dangerous materials from low-level waste (LLW),

- characterization methods used to determine radioactive content of waste (e.g., assay, material balance, process knowledge),

- characterization methods used to determine the physical and chemical properties of the waste,

- waste handling and packaging activities from waste generation through shipment, treatment, storage, and/or disposal.

2.1 Management

2.1.1 Program

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

As applicable, groups within SWP select their specific implementing procedures for each task by considering the following:

1. operational safety and radiological considerations,
2. complexity of the product or service,
3. consequences of failure to meet program objectives,
4. importance of the defined task.

2.1.2 Personnel Training and Qualification

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

2.1.3 Corrective Action and Quality Improvement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

The Deficiency Evaluation Group meets as required to determine:

1. Risk Rank Values

2. Root Cause Analysis methodology

3. Lessons Learned Program determination

2.1.4 Documents and Records

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

2.2 Performance

2.2.1 Work Processes

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

2.2.2 Design

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

2.2.3 Procurement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

2.2.4 Inspection and Acceptance Testing

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

2.3 Assessment

2.3.1 Management Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

2.3.2 Independent Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to Solid Waste Project activities.

Attachment 4: Appendix A

Solid Waste Project and WRAP QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents	
	WRAP	**Solid Waste Project**
QA Objectives for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness	To be in the Hanford Site Transuranic Waste Quality Assurance Project Plan (draft). Also expected to be in DOE/RL-91-16 (working draft), *Hanford Facility Dangerous Waste Permit Application Waste Receiving and Processing* (to be submitted to Ecology CY 1998).	Specified in the Part B Permit
Sampling Procedures	WRP1-OP-0710, "Glovebox Waste Sampling" WRP1-OP-1705, "Facility Waste Sampling" WRP1-OP-1205, "Grab Air Samples"	WHC-SD-WS-WP-313, "Verification Program Manual for Solid Waste Disposal Facilities" (for verifying incoming waste) DO-080-001 DO-080-005 DO-080-007 Project-specific SAPs are developed for newly generated waste.
Analytical Procedures	WRP1-OP-0707, "Operation and Set Point Check of the Orion pH Meter" WRP1-OP-0730, "Packet Assay Monitoring Operation WRP1-OP-0706, "Packet NDE Operation WRP1-OP-0904, "Operating and Emergency Procedure for the Philips 450 kV X-Ray Machine" WRP1-OP-0905, "Imaging Passive/Active Neutron Assay Operation" WRP1-OP-0906, "Gamma Energy Assay Operation" WRP1-OP-0907 "Assay Waste Boxes in WRAP-1" WRP1-OP-0908, "Operation of the Drum NDE System" WRP1-OP-0909, "Operation of the Box NDE System" WRP1-OP-0910 "Operaton of Drum NDE System Operator Interface Unit" Laboratory analytical procedures are maintained in a Laboratory database. Analytical procedures for specific work scope are identified through the Laboratory Project Coordinator when an approved SOW is received by the Laboratory.	Laboratory analytical procedures are maintained in a Laboratory database; analytical procedures for specific work scope are identified through the Laboratory Project Coordinator when an approved SOW is received by the Laboratory.

Attachment 4: Appendix A

Solid Waste Project and WRAP QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents	
	WRAP	**Solid Waste Project**
Preventive maintenance procedures and schedules for equipment that impact data quality	Labs HNF-SD-CP-QAPP-016, *222-S Laboratory Quality Assurance Plan* HNF-SD-CP-QAPP-017, *WSCF Quality Assurance Plan*	Labs HNF-SD-CP-QAPP-016, *222-S Laboratory Quality Assurance Plan* HNF-SD-CP-QAPP-017, *WSCF Quality Assurance Plan*
Specific procedures to be used to routinely assess data precision, accuracy, completeness, comparability, and representativeness of specific measurement parameters involved	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Corrective action procedures for resolving events when data fall outside acceptable limits	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
QA reports to management on the performance and Effectiveness of measurement systems used to assess data quality	Labs Laboratory QA/QC Status Report (prepared by Laboratory Quality Systems)	Labs Laboratory QA/QC Status Report (prepared by Laboratory Quality Systems)
Data reporting requirements	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Data Validation and verification methods	Labs HNF-SD-CP-QAPP-016	Labs HNF-SD-CP-QAPP-016
Requirements for calibration and performance evaluation samples for analytical methods used	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017 HNF-PRO-490, "Control of Measuring & Test Equipment and Nondata Test Equipment" HNF-PRO-490, "Control of Measuring & Test Equipment and Nondata Test Equipment"	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017 HNF-PRO-490, "Control of Measuring & Test Equipment and Nondata Test Equipment"
Requirements for data (and database) security, archival, and retention	Labs HNF-PRO-592, "Management Control Process" HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	Labs HNF-PRO-592, "Management Control Process" HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Requirements for field and laboratory QA/QC activities	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017 Field DOE/RL-96-68, HASQARD	Labs (the following references for QA/QC applications only) HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017 Field DOE/RL-96-68, HASQARD
Requirements and qualifications for sampling and analysis personnel	WMH-200, Section 1.5, "Training Plan" Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	WMH-200, Section 1.5, "Training Plan" Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017

Attachment 4: Appendix A

Solid Waste Project and WRAP QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents	
	WRAP	**Solid Waste Project**
Requirements for sample handling, packaging, shipping, and chain of custody	WRP1-OP-0710, "Glovebox Waste Sampling" WMH-200, Section 3.12, "Chain of Custody for Samples of Environmental Media and Wastes"	WMH-200, Section 3.12, "Chain of Custody for Samples of Environmental Media and Water" DO-080-001 DO-080-005 DO-080-007 SW-080-003 DO-100-035 SW-080-005 SW-080-006 SW-080-010 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Requirements for sample types, number, quantities, and sampling location	WRP1-OP-0710, "Glovebox Waste Sampling"	Addressed in plant-specific procedures and project-specific SAPs
Selection of field sampling or test methodology, Including specific sampling or field analytical instrumentation requirements and other analytical testing requirements	WRP1-OP-0710, "Glovebox Waste Sampling"	WHC-SD-WM-WP-313
Key personnel	WRAP WMH 350, Section 1.8, "Staffing Plan" WML L. P. Markel, 222-S Laboratory QA Officer H. K. Meznarich, WSCF Laboratory QA Officer K. J. Greenough, Inorganic Chemistry W. W. Baird, Analytical Chemistry S. L. Fitzgerald, Radiological Chemistry R. Akita, Hot Cells D. B. Hardy, Operations Support	Solid Waste Project B. M. Barnes, ECO W. S. Ayers, Manager, Project Operations WML L. P. Markel, 222-S Laboratory QA Officer H. K. Meznarich, WSCF Laboratory QA Officer K. J. Greenough, Inorganic Chemistry W. W. Baird, Analytical Chemistry S. L. Fitzgerald, Radiological Chemistry R. Akita, Hot Cells D. B. Hardy, Operations Support

ATTACHMENT 5: WMH LIQUID WASTE

1.0 SCOPE

This attachment applies to the 300 Area Liquid Effluent Facilities (LEF), both the 310 Facility and the 340 Facility, and the following 200 Area Liquid Waste Processing Facilities (LWPF):

- 242-A Evaporator
- Treated Effluent Disposal Facility (TEDF)
- Liquid Effluent Retention Facility (LERF)
- UP-1 Groundwater Pipeline
- Effluent Treatment Facility (ETF)

Exceptions may occur when work is performed for a customer under the customer's quality program or when contracted personnel or organizations work in accordance with their approved quality program.

The guidance of QAMS 004/80, *Interim guidelines and Specifications for Preparing Quality Assurance Program Plans,* and QAMS 005/80, *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, for sample collection, packaging, transportation, storage, chain-of-custody, analysis methodology, disposal, and reporting are met with WHC-SD-LEF-QAPP-002, "200 Area Treated Effluent Facility Quality Assurance Project Plan," and WHC-SD-WM-QAPP-009, "242-A Evaporator Quality Assurance Project Plan."

Appendix A of this attachment provides a matrix of documents applicable to the control of quality at the 200 and 300 Areas.

Appendix B of this attachment identifies how the environmental quality program elements are implemented at the WMH Liquid Waste projects.

2.0 REQUIREMENTS

2.1 Management

2.1.1 Program

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

2.1.2 Personnel Training and Qualification

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

2.1.3 Corrective Action and Quality Improvement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

As needed, the Plant Review Committee convenes to review recent submittals of adverse conditions, including Unreviewed Safety Questions (USQ) safety evaluations, and to determine the extent of corrective action, using a graded approach. Adverse conditions are tracked to completion using the Deficiency Tracking System (DTS).

2.1.4 Documents and Records

The Basic Requirements found in Section 3.0 of the QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

Environmental record keeping and reporting are mandatory in demonstrating regulatory compliance. Accessibility to environmental compliance documentation is required to accommodate regulatory reviews. To accomplish this requirement, HNF-PRO-453, *Environmental Notification and Reporting* specifies that regulatory files shall be established.

2.2 Performance

2.2.1 Work Processes

The Basic Requirements

The Work Management Process for LWPF is implemented through the work control process as defined in HNF-PRO-069, *Maintenance Management Fundamentals* and WMH-200, *Waste Management Hanford Procedures,* Section 3.1, "Maintenance Work found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.Management." Facility Management drives the overall work management process and its interfaces with other processes.

The work process for the 300 Area Liquid Effluent Facilities (LEF) utilizes HNF-IP-1000, "300 Area Liquid Effluent Facilities Administration," Section 4, "Work Control," and the "300 Area LEF Work Control Users Guide."

Samples taken as part of the NESHAP air-monitoring program include the 242-A Evaporator stack. The specifics for the sampling are contained in HNF-0528-3, *Quality Assurance Project Plan for Radionuclide Airborne Emissions Monitoring.*

2.2.2 Design

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

The requirements for design input, verification, and change control are in HNF-PRO-440, *Engineering Document Change Control Requirements*, and HNF-PRO-1819, *PHMC Engineering Requirements*.

2.2.3 Procurement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

When procuring items or services, general environmental impacts of the equipment on the facilities should be considered and the guidance of QAMS 004/80 shall apply.

The requirements for procurement of Safety Class and Safety Significant and Commercial Grade Items (CGIs) identified in HNF-PRO-1819, *PHMC Engineering Requirements*, shall be identified in an approved design output document. An alternate commercial grade item may be used provided that the cognizant design authority verifies it will perform the intended function and meet design requirements applicable to both the replaced item and its application.

2.2.4 Inspection and Acceptance Testing

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

2.3 Assessment

2.3.1 Management Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

2.3.2 Independent Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WMH Liquid Waste activities.

Attachment 5: Appendix A

Liquid Waste QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Section 1, Program		
Quality Assurance Program Plans		
Project Hanford QA Requirements Flowdown		
Quality Planning		300 Area LEF WMH-320, Section 3.9, Requirements for Use of the Radioactive Liquid Waste System WMH-320, Section 3.10, 340 Facility Criticality Safety Program WMH-320, Section 4.7, Planning, Scheduling, and Coordination of Maintenance WMH-320, Section 4.16, Maintenance History WMH-320, Section 4.17, Analysis of Maintenance Problems WMH-320, Section 4.19, Additional Maintenance Management Requirements
Organization, Responsibilities, and Interfaces		LWPF HNF-SD-LEF-QAPP-002, "Liquid Waste Processing Facilities Quality Assurance Project Plan," Section 2.0 300 Area LEF WMH-320, Section 1.7, Staffing Plan WMH-320, Section 2.1, Operations Organization and Administration WMH-320, Section 4.2, Maintenance Organization and Administration WMH-320, Section 4.15, Management Involvement
Readiness Review		
Stop Work Authority		
Graded Application of Project Hanford QA Program		

Attachment 5: Appendix A

Liquid Waste QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
Resolution of Professional Disagreements		
Developing and Maintaining S/RIDS		
Section 2, Personnel Training and Qualification		
Project Hanford Training and Qualification Program		
Training and Indoctrination		300 Area LEF HSRCM-1, "Hanford Site Radiological Control Manual" WMH-320, Section 4.3, Training and Qualification of Maintenance Personnel WMH-320, Section 6.1, Training Program Plan LWPF HNF-SD-LEF-QAPP-002, "Liquid Waste Processing Facilities Quality Assurance Project Plan," Section 4.2
Qualification and Certification		
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification		
Corrective Action Management		
Nonconformance Control		LWPF HNF-SD-LEF-QAPP-002, "Liquid Waste Processing Facilities Quality Assurance Project Plan," Sections 3.0, 3.1, 3.2, 3.3, 3.4, and 3.5
Performance Data Analysis		
Control of Suspect/Counterfeit Items		

Attachment 5: Appendix A

Liquid Waste QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Section 4, Documents and Records		
Documents		LWPF WMH-331, Section 1.1, Operation Procedure Distribution 300 Area LEF WMH-320, Section 3.1, Technical Procedure Control Process WMH-320, Section 4.6, Maintenance Procedures
Records		
Section 5, Work Processes		
Work Process Documents		LWPF WMH-331, Section 3.1, Process Memos WMH-331, Section 3.2, Process Control Plans 300 Area LEF 300 Area LEF Work Control Users Guide NPDES Permit No. WA-002591-7 WMH-320, Section 4, "Work Control" Section 5, "Radiological Control" Subsection 1.11, "Radiological Protection Program"
Special Processes		
Identification and Control of Items		LWPF WMH-331, Section 2.2, Lock and Tag WMH-331, Section 2.4, Equipment Deficiency Identification and Tracking WMH-331, Section 3.6, LWPF Radionuclide Inventory Management WMH-331, Section 3.7, LERF Fissile Material Inventory WMH-331, Section 3.8, ETF Fissile Material Inventory WMH-331, Section 4.1, Hazardous Chemical Inventory and Reporting WMH-331, Section 6.1, Solid Waste Container Issuance and Tracking

Attachment 5: Appendix A		
Liquid Waste QAPD Implementation Matrix		
Project Hanford QAPD Part 2	**Implementing Procedures**	
	PHMC-Wide Procedures	**Contractor Procedures**
		300 Area LEF WMH-320, Section 4.13, Maintenance Tools and Equipment Control
Handling,, Shipping, and Storing		300 Area LEF HNF-IP-1000, Subsection 4.11, "Material Receipt Inspection Handling, Storage, Retrieval, and Issuance"
Process Monitoring or Data Collection Instruments		
Control of Computer Software		
Section 6, Design		
Design Input		WMH-331, Section 3.3, Unreviewed Safety Questions WMH-331, Section 3.5, Plant Review Committee WMH-331, Section 3.12, Authorization Basis Review
Design Process		
Design Verification		
Design Documentation and Records		
Design Changes		300 Area LEF WMH-320, Section 4.18, Modification Work
Computer Software		200 Area LWPF WHC-SD-534-CSCM-001, "242-A Process Control Computer Software Configuration Management Plan" WHC-SD-LEF-CSCM-001, "Computer Software Configuration Management Plan for 200 East/West Liquid Effluent Facilities"

Attachment 5: Appendix A

Liquid Waste QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Section 7, Procurement		
Procurement Planning		300 Area LEF WMH-320, Section 4.10, Procurement of Parts, Material, and Services
Content of Procurement Documents		
Supplier Evaluation and Selection		
Control of Supplier Nonconformance		
Acceptance of Items and Services		
Commercial Grade Items		
Control of Supplier-Generated Documents		
Control of Suspect/Counterfeit Items		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		300 Area LEF WMH-320, Section 4.14, Facility Condition Inspection
Inspection and Acceptance Testing Process		
Inspection and Acceptance Testing Results		300 Area LEF WMH-320, Section 4.9, Post Maintenance Testing
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		300 Area LEF WMH-320, Section 4.12, Control and Calibration of Measuring and Test Equipment
Section 9, Management Assessment		

Attachment 5: Appendix A		
Liquid Waste QAPD Implementation Matrix		
Project Hanford QAPD Part 2	**Implementing Procedures**	
	PHMC-Wide Procedures	**Contractor Procedures**
Management Assessments		
Corrective Action		

Attachment 5: Appendix B

Liquid Waste QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents	
	Liquid Waste Processing Facilities (LWPF)	**300 Area Liquid Effluent Facilities**
QA Objectives for measurement data, in terms of precision, accuracy, comparability and representativeness	HNF-SD-LEF-QAPP-002, "200 Area Liquid Effluent Facilities Quality Assurance Project Plan"	310 Facility HNF-SD-L045H-PLN-004, "300 Area TEDF NPDES Permit Compliance Monitoring Plan" WMH-320, Section 3.3, "Waste Acceptance Criteria for the 300 Area Process Sewer and TEDF" WMH-320, Section 3.4, "300 Area Process Sewer and Retention Process Sewer Liquid Waste Certification Plan" 340 Facility HNF-EP-0857-1, "SOW for Analytical Services Provided to WHC by PNNL Analytical Chemistry Laboratory" HNF-EP-0469-2, "Facility Effluent Monitoring Plan for the 340 Waste Handling Facility" WMH-320 Section 3.5, "Solid/Liquid Waste Radioactive Inventory"
Sampling Procedures	HNF-SD-LEF-QAPP-002 TO-670-010 POP-65J-002	310 Facility HNF-SD-L045H-PLN-004 310-OP-024, "Perform Protocol Sampling" 340 Facility HNF-EP-0469-2
Analytical Procedures	HNF-SD-LEF-QAPP-002	310 Facility HNF-SD-L045H-PLN-004 RFSH-SOW-93-0003, "Statement of Work, Environmental and Waste Characterization Analytical Services" 340 Facility HNF-EP-0469-2
Preventive maintenance procedures and schedules for equipment that impact data quality	Labs HNF-SD-CP-QAPP-016, "222-S Laboratory Quality Assurance Plan" HNF-SD-CP-QAPP-017, "WSCF Quality Assurance Plan"	310 Facility HNF-SD-L045H-PLN-004 310-18-005, "Calibrate Rosemount pH Transmitter Model 1181 pH with Installed Compatible pH Probe" 310-18-013, "Rosemount Model 444 Temperature Transmitter" 340 Facility LEF-18-001, "Chart Recorder Maintenance 340-05-002, "HEPA Filter Leak Test" 340-05-003, "Hoods, Air flow, HEPA Filter Flow, and Differential Pressure Test — 340 Building"

Attachment 5: Appendix B

Liquid Waste QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents	
	Liquid Waste Processing Facilities (LWPF)	**300 Area Liquid Effluent Facilities**
		Laboratories HNF-SD-CP-QAPP-016, "222-S Laboratory Quality Assurance Plan" HNF-SD-CP-QAPP-017, "WSCF Quality Assurance Plan"
Specific procedures to be used to routinely assess data precision, accuracy, comparability, and representativeness of specific measurement parameters involved	HNF-SD-LEF-QAPP-002 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	310 Facility RFSH-SOW-93-0003 340 Facility HNF-EP-0469-2 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Corrective action procedures for resolving events when data falls outside acceptable limits	Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	310 Facility WMH-200, Section 1.3, "Corrective Action Management" 340 Facility HNF-EP-0469-2 WMH-200, Section 1.3 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
QA reports to management on the performance and Effectiveness of measurement systems used to assess data quality	HNF-SD-LEF-QAPP-002 Labs Laboratory QA/QC Status Report (prepared by Laboratory Quality Services)	310 Facility RFSH-SOW-93-0003 340 Facility HNF-EP-0469-2 Labs Laboratory QA/QC Status Report (prepared by Laboratory Quality Services)
Data reporting requirements	HNF-SD-LEF-QAPP-002 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	310 Facility RFSH-SOW-93-0003 340 Facility HNF-EP-0469-2 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Data validation and verification methods	HNF-SD-LEF-QAPP-002 Labs HNF-SD-CP-QAPP-016	310 Facility HNF-SD-L045H-PLN-004 RFSH-SOW-93-0003 340 Facility HNF-EP-0469-2 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Requirements for calibration and performance evaluation samples for analytical methods used	Labs HNF-PRO-490, "Control of Measuring & Test Equipment and Nondata Test Equipment" HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	310 Facility RFSH-SOW-93-0003 HNF-IP-1000, Subsection 4.12, "Control and Calibration of Measuring and Test Equipment" 340 Facility HNF-EP-0469-2 WMH-320, Section 4.12, "Control

Attachment 5: Appendix B

Liquid Waste QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents	
	Liquid Waste Processing Facilities (LWPF)	**300 Area Liquid Effluent Facilities**
		and Calibration of Measuring and Test Equipment" Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017 HNF-PRO-490, "Control of Measuring & Test Equipment and Nondata Test Equipment"
Requirements for data (and data base) security, archival and retention	HNF-PRO-592, "Management Control Process" HNF-SD-LEF-QAPP-002 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	310 Facility HNF-SD-L045H-PLN-004 340 Facility HNF-EP-0469-2
Requirements for field and laboratory QA/QC activities	HNF-SD-LEF-QAPP-002 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	310 Facility HNF-SD-L045H-PLN-004 RFSH-SOW-93-0003 310-OP-024 340 Facility HNF-EP-0469-2 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Requirements and qualifications for sampling and Analysis personnel	HNF-SD-LEF-QAPP-002 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	310 & 340 Facilities MH-200, Section 1.5, "Training Plan" Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Sample handling, packaging, shipping, and custody Requirements	WMH-200, Section 3.12, "Chain-of Custody for Samples of Environmental Media and Wastes" HNF-CM-7-5 HNF-SD-LEF-QAPP-002 Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017	310 Facility HNF-SD-L045H-PLN-004 310-OP-024 WMH-200, Section 3.12, "Chain-of-Custody for Samples of Environmental Media and Wastes" 340 Facility HNF-EP-0469-2 WMH-200, Section 3.12, "Chain-of-Custody for Environmental Samples" Labs HNF-SD-CP-QAPP-016 HNF-SD-CP-QAPP-017
Sample types, number, and quantities, and sampling location requirements	HNF-SD-LEF-QAPP-002	310 Facility HNF-SD-L045H-PLN-004 310-OP-024 340 Facility HNF-EP-0469-2
Selection of field sampling or testing methodology, including specific sampling or field analytical	HNF-SD-LEF-QAPP-002	310 Facility HNF-SD-L045H-PLN-004 340 Facility

Attachment 5: Appendix B

Liquid Waste QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents	
	Liquid Waste Processing Facilities (LWPF)	**300 Area Liquid Effluent Facilities**
instrumentation requirements and other analytical testing requirements		HNF-EP-0469-2
Key personnel	LWPF R. W. Szelmeczka ECO D. K. Smith Ops Manager WML L. P. Markel, 222-S Laboratory QA Officer H. K. Meznarich, WSCF Laboratory QA Officer K. J. Greenough, Inorganic Chemistry W. W. Baird, Analytical Chemistry S. L. Fitzgerald, Radiological Chemistry R. Akita, Hot Cells D. B. Hardy, Operation Support	310 & 340 Facilities WMH-320, Section 1.7, "Staffing Plan" WMH-320, Subsection 1.3, "Access Control" WML L. P. Markel, 222-S Laboratory QA Officer K. J. Greenough, Inorganic Chemistry W. W. Baird, Analytical Chemistry S. L. Fitzgerald, Radiological Chemistry R. Akita, Hot Cells D. B. Hardy, Facility Planning H. K. Meznarich, WSCF Laboratory QA Officer

ATTACHMENT 6: WASTE MANAGEMENT LABORATORY

1.0 SCOPE

This attachment applies to quality-affecting activities by the Waste Management Labortory (WML) which is comprised of the 222-S Laboratory (222-S) and the Waste Sampling and Characterization Facility (WSCF) support organizations.

Appendix A of this attachment provides a matrix of additional documents applicable to control of quality for WML.

2.0 PROCEDURE

2.1 Management

2.1.1 Program

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

Waste Management Laboratory reports to the Director, Project Operations.

Waste Management Laboratory conducts Plan-of-the-Day and Plan-of-the-Week meetings, which provides management the capabilities for planning daily activities within the facilities. These meetings provide a vehicle for efficient resource allocation.

A graded approach is used in all quality-affecting activities at WML. This graded approach is based on HNF-SD-CP-ISB-002, "222-S Laboratory Interim Safety Basis;" WHC-SD-WM-ASA-001, "Waste Sampling and Characterization Facility Complex Safety Analysis;" the corrective action management process; and the job control system.

Neither 222-S nor WSCF has systems, structures, or components that meet the designation criteria for Safety Class or Safety Significant. The basis then for quality-affecting activities at both facilities is applicable laws, codes, standards, regulatory, and customer requirements.

Conduct of Operations is implemented at WML is in accordance with procedures in WMH-200, Section 2.0.

The 222-S Laboratory Plant Review Committee (PRC) assists in making decisions concerning identification of USQs and other matters relating to the safe operation of the 222-S Laboratory. The PRC has the authority to resolve issues concerning identifying USQs and other safety matters relating to the 222-S Laboratory. It also interprets the intent of any limits contained in the facility authorization basis documents. The PRC responsibilities and organizational structure are described in WMH-310, Section 1.1, "Laboratory Facility Plant Review Committee."

2.1.2 Personnel Training and Qualification

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

Hazardous Materials Control (HMC) shall maintain certified shippers in accordance with HNF-PRO-166, *Transportation Safety Training Requirements.*

2.1.3 Corrective Action & Quality Improvement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

Lessons Learned Evaluations (LLE) for HAS are performed and distributed by Operations Support in accordance with HNF-PRO-067, *Managing Lessons Learned.*

2.1.4 Documents and Records

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

The system for controlling records is developed and managed by the Business Management (Records Program) group. Business Management acts as the central focal point for records generated at WML. Laboratory organizations are required to identify records that document performance of work and to assure completed records are transferred to Business Management. Business Management scans all records and processes the hard copies using the Records Inventory and Disposition Schedule (RIDS). Business Management and each laboratory organization, based on National Archives and Records Administration (NARA) approved schedules and regulatory requirements, determine an appropriate retention schedule, record retrieval, and frequency for transmitting the records to Business Management for indexing and eventual disposition. Records shall be identified and assigned retention schedules on the responsible organization's RIDS.

Hazardous Materials Control maintains records pertaining to shipping, packaging, storing, and inspecting of waste and waste containers. These records include but are not limited to Radioactive Shipment Record (RSR), Uniform Hazardous Waste Manifest, Low-Level Waste Storage Disposal records, 90-day Storage, Treatment Storage Disposal Checklist, QA inspection records for shipping containers, etc.

2.2 Performance

2.2.1 Work Processes

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

Corrective and preventive maintenance and modification of WML equipment, systems, and components are performed, controlled, and documented using WMH-200, Section 3.1, "Maintenance Work Management." JCS work packages are generated by Work Control Center (WCC) personnel with assistance of the work package preparer.

The Laboratory Information Management System (LIMS), also known as LABCORE, is developed and maintained by Operations Support in accordance with WHC-SD-WM-CM-002, "Configuration Management Plan for the LABCORE Program."

2.2.2 Design

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

Design services are provided to WML Engineering staff by Fluor Daniel Northwest. Requests for services are initiated, documented, and tracked using the Design Services Request form.

The Plant Review Committee meets quarterly, or as required, to review design basis changes that may affect the facility safety basis. Quality Assurance has a representative on the committee.

2.2.3 Procurement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

Those making procurement decisions at WML must consult WMH-100, *Waste Management Hanford Policies*, Section 2.1.3, "Make or Buy Policy for Hanford Analytical Services," and Section 2.1.4, "Analytical Services Evaluation Procedure."

Waste Management Laboratory involvement in the supplier selection process includes technical and Quality Assurance review of proposals, including Letters of Instruction, Statements of Work, and documented reviews of supplier management and quality programs to specified requirements.

WML evaluated suppliers of laboratory services suppliers in accordance with HNF-PRO-3144, *Supplier Quality Assurance Program Evaluation.*

2.2.4 Inspection and Acceptance Testing

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

2.3 Assessment

2.3.1 Management Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

2.3.2 Technical System Assessments

Technical systems assessments measure the performance or effectiveness of the technical system and its elements with respect to documented specifications and objectives. Technical system assessments consist of a review of labortory operations, specific procedures, and related documentation

2.3.3 Performance Audits

Performance audits (performance evaluations) are generally considered blind or double-blind tests introduced into a process to provide an independent evaluation tool of the quality of the analytical process. Performance evaluations are compared with other participating laboratories.

2.3.4 Data Quality Assessments/Reviews

Data quality assessments (reviews) are independent evaluations of the data reported to a client. They are used to assess the degree of compliance to client data quality requirements.

2.3.5 Independent Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this Section in Attachment 1 apply to WML activities.

The Integrated Contractor Audit Team (ICAT) performs annual independent assessments of several laboratories, including WML, based on requirements from the *Hanford Analytical Services Quality Assurance Requirements Document*. The results are documented and presented to the responsible laboratory management. Adverse conditions are processed through the HAS Corrective Action Management System and placed into the Deficiency Tracking System database.

Attachment 6: Appendix A

Waste Management Laboratory QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Section 1, Program		
Quality Assurance Program Plans		WMH-310, Section 8.6, Laboratory Quality Assurance Plans
Project Hanford QA Requirements Flowdown		
Quality Planning		
Organization, Responsibilities, and Interfaces		
Readiness Review		
Stop Work Authority		
Graded Application of Project Hanford QA Program		
Resolution of Professional Disagreements		
Developing and Maintaining S/RIDS		
Section 2, Personnel Training and Qualification		
Project Hanford Training and Qualification Program	HNF-PRO-166, *Transportation Safety Training Requirements*	
Training and Indoctrination		
Qualification and Certification		WMH-310, Section 5.1, On-the-Job Training and Personnel Qualifications
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification		WMH-310, Section 8.1, Quality Assurance Letters of Observation
Corrective Action Management		WMH-310, Section 8.10, Special Analytical Studies Corrective Action and Quality Assurance Letters offObservation
Nonconformance Control		
Performance Data Analysis		
Control of Suspect/Counterfeit Items		
Section 4, Documents and Records		
Documents		WMH-310, Section 1.8, Laboratory Procedures

Attachment 6: Appendix A

Waste Management Laboratory QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
		WMH-310, Section 1.11, Writing and Reviewing Procedures WMH-310, Section 8.11, QA Review and Approval of 222-S Laboratory Procedures
Records		WMH-310, Section 1.3, Engineering Applications Records Management WMH-310, Section 1.10, Laboratory Records System WMH-310, Section 2.8, Field Assessment Services Team Data Reporting, Verification, and Review WMH-310, Section 8.2, Analytical Report Review WMH-310, Section 9.3, Laboratory Data Review at the Waste Sampling and Characterization Facility
Section 5, Work Processes		
Work Process Documents		WMH-310, Section 2.1, Implementation of Conduct of Operations Principles at the 222-S Laboratory WMH-310, Section 3.2, WSCF/222-S Laboratories Maintenance Notice of Discrepancy WMH-310, Section 3.6, Work Management Guidance for Preventive Maintenance and Calibrations WMH-310, Section 8.4, Data Corrections
Special Processes		
Identification and Control of Items		WMH-310, Section 1.7, Identification Numbering of Calibration Standards and Analysis Run Sequence Files for Vapor Program WMH-310, Section 2.7, Project and Sample Identification for Special Analytical Support WMH-310, Section 3.1, 222-S Lockout/Tagout Guidance WMH-310, Section 4.7, Delivery and Control of Standards and Reagents in 222-S Laboratory Complex WMH-310, Section 4.12, Labeling Practices WMH-310, Section 4.13, Laboratory Chemical Inventory and Inventory Control WMH-310, Section 4.16, Control of Potable Alcohol, Syringes, and Hypodermic Needles in the Laboratory

Attachment 6: Appendix A

Waste Management Laboratory QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Handling, Shipping, and Storing		
Process Monitoring or Data Collection Instruments		
Control of Computer Software		WHC-SD-WM-CM-002, Configuration Management Plan for the LABCORE Program
Section 6, Design		
Design Input		WMH-310, Section 4.2, Unreviewed Safety Questions WMH-310, Section 1.1, Laboratory Facility Plant Review Committee
Design Process		
Design Verification		
Design Changes		
Design Documentation and Records		WMH-310, Section 8.8, Laboratory Computer Configuration Control
Computer Software		WMH-310, Section 8.7, Laboratory Quality Affecting Software
Section 7, Procurement		
Procurement Planning		WMH-100, Policy 2.1.3, Make or Buy Policy for Hanford Analytical Services WMH-100, Policy 2.1.4, Analytical Services Evaluation Procedure
Content of Procurement Documents		
Supplier Evaluation and Selection		
Control of Supplier Nonconformance		
Acceptance of Items and Services		
Commercial Grade Items		
Control of Supplier-Generated Documents		
Control of Suspect/Counterfeit Items		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		

Attachment 6: Appendix A		
Waste Management Laboratory QAPD Implementation Matrix		
Project Hanford QAPD Part 2	**Implementing Procedures**	
	PHMC-Wide Procedures	**Contractor Procedures**
Inspection and Acceptance Testing Results		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Section 9, Management Assessment		
Management Assessments		
Corrective Action		

ATTACHMENT 7: WMH GENERATOR SERVICES

1.0 SCOPE

This attachment applies to all Generator Services engineering, operating, support, and subcontractor personnel involved in radioactive and dangerous waste management.

Generator Services performs the following general functions for WMH generating and Treatment, Storage and Disposal (TSD) units and PHMC Major Subcontractor waste generators:

1. Manage and perform all activities associated with the waste acceptance program (except receipt inspection) for WMH operated TSD units. Develop and issue waste acceptance criteria that encompass each WMH TSD unit's safety, regulatory, and design envelope.

2. Through interface with Technical Operations (Tech Ops), develop and implement a system to ensure that accurate and complete information is provided to the TSD unit for management of the waste.

3. Determine the acceptability of wastes that the customer plans to send to the TSD unit.

4. Interface with Tech Ops for non-routine wastes or wastes that require additional coordination, reviews, or actions.

5. Input data into Solid Waste Engineering Analysis (SWEA) and SWITS data systems for those customers without access.

6. Develop and implement a compliant verification program.

7. Prepare and submit Bills of Lading for acceptable shipments of waste to the operations organization for scheduling.

8. Assist in the coordination of container movements as required to ensure that actions required for acceptance are completed (i.e., verification).

9. Provide sampling and analysis support to TSD units and generator organizations.

10. Serve as the Contracting Officer's Technical Representative for offsite treatment contracts.

11. Execute all coordination/documentation required for offsite shipment of waste to contracted TSD units and coordinate the Waste Management Federal Services Northwest (WMNW) Operations transportation support for all waste shipments.

12. Manage offsite waste projects and coordinate field support for waste shipments.

13. Provide waste acceptance support to offsite customers by assisting them in all waste acceptance issues.

14. Manage and treat, as needed, waste at the facility of generation including dangerous, TSCA regulated, low-level and TRU radioactive, mixed waste and non-regulated wastes.

15. Evaluates products prior to use.

16. Plan and forecast waste management activities.

17. Perform waste characterization, waste designation and classification, SAA inspections and verification, waste packaging, and waste shipment to TSD facilities coordinated and scheduled though Tech Ops.

18. Perform less-than-90-day-pad operations and requisite inspections.

19. Provide personnel to serve as the onsite representatives through which available WMH services are obtained.

20. Provide waste management and support services on a project specific basis for waste management and environmental compliance activities.

21. Waste container acquisition support.

22. Provide waste management support to generators' field operations.

23. Provide technical support and training for SWITS and SWEA user groups.

24. Develop reports for data gathering and evaluation needs.

25. Maintain the integrity of the databases, and interfaces with other computer systems (e.g., SWEA, Data management Systems, Waste Identification Data System).

26. Perform quality assurance validation of record information as recorded in the SWITS and SWEA databases.

27. Distribute manifests and other regulatory document to generators shipping to the Hanford Site.

28. Administer the SWITS change control board, and disposition software change requests.

2.0 REQUIREMENTS

As described in Section 2.2.8 of this QAPP and Section 1.0 of the attachment, Generator Services performs a variety of significant quality affecting activities. Because of this variety, the following perspective is provided to aid in the understanding of the complexity of the

Generator Services work scope. Generator Services quality affecting activities can be divided into the two general categories:

- Nuclear Quality (requires compliance with 10 CFR 830.120).
- Environmental Quality (requires compliance with 40 CFR, WAC 173-303, and facility specific permits and waste analysis plan (WAP) compliance).

The following are Generator Services activities that fit into the category of nuclear quality activities:

Acceptance of Radioactive Contaminated Waste

The acceptance and/or determination of acceptability of radioactively contaminated waste into a satellite accumulation, 90-day temporary storage area, TSD unit, or other radioactively controlled area.

Packaging of Radioactively Contaminated Waste

Includes the selection, purchase, and radioactive marking/labeling of waste containers and packagings (i.e., void fillers and absorbents) used for packaging of radioactively contaminated waste and the placement, segregation, and inventorying of radioactively contaminated waste in the package.

Characterization/Categorization of Radioactively Contaminated Waste

Consists of the determination of radioactive, physical, and chemical content of waste using sampling or indirect methods. This also includes calculation/models used to categorized the radioactively contaminated waste (i.e., Category 1, 3, or > 3, LLW, TRU, RMW and Class), and development, use and confirmation of process knowledge.

Management of Radioactive Containers

The tracking, control, closure, and segregation of containers which hold radioactively contaminated waste and the development of instructions intended to ensure the waste will be acceptable upon completion of the packaging process including Waste Specification Records (WSRds). In addition, the radiological posting and inspection of these containers are nuclear quality affecting.

Issuance of Nuclear Facility Waste Acceptance Criteria

Includes the development, review, and approval of HNF-EP-0063, and HNF-3172. In addition, this function applies to the issuance of waste acceptance criteria for the acceptance of waste into a satellite accumulation area, 90-day temporary storage area, TSD unit, or other radioactive control area for waste that did not originate from the facility.

Records Management

The development, issuance, tracking, storage, control, and disposition of records associated with those processes previously identified above. The types of records include container specific information (i.e., inventory, radiological calculations, acceptable knowledge), databases/software used to track information specific to the facility safety basis requirements, and waste acceptance records (i.e., checklists, profiles, waste receipt reports) excluding verification records.

The following are Generator Services quality affecting activities that fit into the category of environmental quality activities:

Acceptance of Non-Radioactively Contaminated Waste

Includes the acceptance and/or determination of acceptability of non-radioactively contaminated waste into a satellite accumulation area, 90-day temporary storage area, TSD unit, or other waste area. In addition, this function includes verification of the waste by physically and chemically screening a portion of the containers within a given waste stream and the adjustment of the verification frequency based upon the number and severity of issues identified (Performance Evaluation System) for those wastes accepted into a WMH operated TSD unit.

Packaging of Non-Radioactively Contaminated Waste

The selection, purchase, and hazard marking/labeling of non-radioactive waste containers and packagings (i.e., void fillers and absorbents) used for the packaging of no-radioactively contaminated waste and the placement, segregation, and inventorying of non-radioactively contaminated waste in the package.

Characterization/Designation of Non-Radioactively Contaminated Waste

The characterization of the waste matrix and includes the determination of the physical and chemical content of waste using sampling or indirect methods. This also includes the designation and development, use, and confirmation of process knowledge.

Management of Non-Radioactive Containers

Includes the tracking, control, closure, and segregation of containers that hold non-radioactively contaminated waste. In addition, the inspection of all containers for the purpose of complying with WAC 173-303 is an environmental quality affecting activity, not a nuclear quality activity.

Records Management
The development, issuance, tracking, storage, control, and disposition of records associated with environmental compliance. The types of records include container specific information (e.g., checklists, profiles, waste receipt reports, shipping papers,

certificates of disposition, and land disposal restriction notifications, verification records, etc.)

Contract Management

Includes the bidding and management of contracts with TSD facilities for the off-site disposition of waste. This includes the inspection of off-site facilities for the purpose of establishing their relative regulatory compliance status.

Although the waste acceptance process uses many terms used in procedures associated with basic quality assurance requirements, these terms have special meaning with the waste acceptance system that differ from the standard quality assurance definition. These are driven by environmental regulations, RCRA Permits, and WAPs and in an attempt to alleviate confusion concerning these terms are defined in associated Generator Services procedures within the WMH-370 series of WMH procedures.

2.1 Management

2.1.1 Program

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section in Attachment 1 apply to Generator Services activities. The manner in which Generator Services interfaces with the PHMC is generally described in HNF-PRO-455, *Solid Waste Management.*

2.1.2 Personnel Training and Qualification

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section in Attachment 1 apply to generator Services activities.

Generator Services personnel who perform satellite accumulation area, 90-day accumulation area inspections, and TSD unit inspections, as well as verification specialists are not considered inspection and test personnel and are not required to meet the requirements of HNF-PRO-263.

2.1.3 Corrective Action and Quality Improvement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section in Attachment 1 apply to Generator Services activities.

Generator Services manages and administers the Performance Evaluation System (PES). The PES is a requirement originating from the Waste Analysis Plans (WAP) associated with WMH operated TSD units. PES is intended to track and trend the performance of generators offering their waste for acceptance. The PES results are used to adjust the generator's physical screening frequency based upon the number and severity of any waste acceptance conformance issues identified during the waste confirmation/acceptance process.

Conformance issues identified in association with functions performed by Generator Services are entered into the WMH Corrective Action Management System. For a complete description of PES refer to WMH-370, Section 1.11, "Performance Evaluation System."

2.1.4 Documents and Records

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section in Attachment 1 apply to Generator Services.

Waste documentation records associated with process are identified in each applicable Generator Services procedure and on the Generator Services Records Inventory Disposition Schedule (RIDS). WMH-370, Section 2.23, "Records Management," describes the process for control, storage and disposition of Generator Services Technical Services records.

2.2 Performance

2.2.1 Work Processes

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section in Attachment 1 apply to Generator Services activities.

The following quality affecting activities performed by Generator Services require additional controls.

1.2.1.1 Waste Acceptance Process

Generator Services manages the waste confirmation process for wastes that are to be accepted into WMH operated TSD units. This process is described in WMH-200, Section 6.1, "Waste Acceptance Program" and consists of the following activities:

1. **Waste Acceptance Criteria Development and Issuance (HNF-EP-0063 & HNF-3172)** is described in WMH-370, Section 1.3, "Maintaining and Revising the Waste Acceptance Criteria Manual." The waste acceptance criteria describes the various TSD unit requirements and limits as described in various basis documents.

2. **Waste Specification Record (WSRd) Development and Issuance** is described in WMH-370, Section 1.4, "Waste Specification Record Approval Process." The WSRd describes groups of waste, which will be managed similarly and ensures that waste is segregated and packaged in a manner, which allows waste to be efficiently and effectively dispositioned.

3. **Waste Steam Approval** is described in WMH-370, Section 1.6, "Waste Stream Approval Process." The waste stream approval process ensures that a generator has adequate knowledge to ensure a waste will meet the acceptance criteria upon packaging or the generator has an appropriated characterization methodology to ensure compliance with

the acceptance criteria. In addition, the generator is provided any stream specific requirements and assured that the waste will be acceptable upon generation.

4. **Waste Shipment/Container Acceptance** is described in WMH-370, Section 1.7, "Radioactive Waste Acceptance Review." The acceptance review ensure that the waste being offered for acceptance complies with the waste acceptance criteria, applicable WSRd, and has been characterized in accordance with and is in agreement with the approved waste profile.

5. **Waste Transfers** are described in WMH-370, Section 1.8, "Treatment, Storage, and Disposal Transfer Documentation Process." The waste transfer documentation process ensures that issues identified during waste processing are adequately resolved and documented to provide for the appropriate management of all waste containers and that the waste container meets the facility's waste acceptance criteria prior to transfer.

6. **Verification Program** is described in WMH-370, Section 1.10, "Verification Program." The verification program is used to confirm the information provided by the generator using qualitative testing in order to meet the requirements of TSD unit WAPs and DOE Order 5820.2A, *Radioactive Waste Management.*

7. **PES Program** is described in WMH-370, Section 1.11, "Performance Evaluation System." The PES tracks and trends conformance issues associated with waste acceptance in order to meet the requirements of TSD unit WAPs and DOE Order 5820.2A.

8. **WRAP Hazardous Constituent Review** is in accordance with the WRAP Facility's safety basis, a non-radiological hazardous constituent review must be performed prior to the acceptance of any waste that has had a dangerous waste code applied. This review is conducted in accordance with WMH-370, Section 2.4, "Non-Radiological Hazardous Constituent Review."

In addition, Generator Services may accept/receive waste from other facilities onto a Generator Services operated 90-Day accumulation area or radioactive management area. Currently, Generator Services only performs this activity at the 2401-W area located adjacent to the Central Waste Complex. The receipt process is described in WMH-370, Section 2.22, "2401-W Waste Receipt Criteria."

The review and acceptance of waste onto WMH operated radioactive waste management areas and 90-Day pads is governed by WMH-370, Section 2.18, "Receipt Inspection at 90-Day Pads, Non-Regulated, and Low Level Waste Storage Areas."

1.2.1.2 Waste Packaging Process

Generator Services provides instruction to operating organizations on the appropriate packaging of waste containers. This instruction is provided in the form of operating procedure reviews and/or authoring operating procedures for waste packaging. Appropriate

packaging and containers are chosen based on the requirements found in HNF-EP-0063, HNF-3172, 49 CFR and/or the appropriate Safety Evaluation for Packaging (SEP) or Safety Analysis Report for Packaging (SARP).

1.2.1.3 Waste Management

Generator Services manages several waste accumulation/storage areas for radioactive, non-regulated, and/or dangerous waste. The acceptance of waste at these locations was discussed in 2.2.1.1 of this Appendix. The management of 90-Day Accumulation Areas is described in WMH-370, Section 2.19, "90-Day Accumulation Area."

1.2.1.4 Waste Designation

Waste Designation is performed in accordance with HNF-PRO-455, *Solid Waste*, and WMH-370, Section 2.12, "Waste Designation."

1.2.1.5 Off-Site Waste Shipment

Generator Services coordinates and manages the shipment of waste to off-site disposition facilities. This activity is described in WMH-370, Section 1.9, "Off-Site Shipment."

1.2.1.6 Data Management

Generator Services manages some of its quality affecting data in databases. The procedure for inputting into the SWEA system is described in WMH-370, Section 7.1, "Solid Waste Engineering Analysis Database," and the requirements for inputting to SWITS is defined in WMH-370, Section 5.1, "SWITS Data Entry for Radioactive Waste."

2.2.2 Design

The Basic Requirements in Section 3.0 of this QAPP and the procedures identified in association with this section in Attachment 1 apply to Generator Services activities.

Procedures used for maintaining SWITS are contained in WHC-SD-WM-SWD-009, SWITS *Software Design Description*, and WHC-SD-WM-SWD-007, *SWITS Configuration Management Plan.* Guidelines for the SWITS Change Control Board are contained in HNF-IP-1259, *Solid Waste Information and Tracking System Change Board Charter.*

2.2.3 Procurement

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section in Attachment 1 apply to Generator Services.

Generator Services also performs the Buyer Technical Representative function for off-site TSD contracts. Generator Services evaluates and approves contractors and subcontractors based upon their regulatory compliance status. These evaluations are performed in

accordance with WMH-370, Section 2.14, "Evaluations of Off-Site Treatment, Storage, Disposal, and Recycling Facilities."

2.2.4 Inspection and Acceptance Testing

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section apply to Generator Services.

2.3 Assessment

2.3.1 Management Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section apply to Generator Services.

2.3.2 Independent Assessment

The Basic Requirements found in Section 3.0 of this QAPP and the procedures identified in association with this section apply to Generator Services.

Attachment 7: Appendix A

Generator Services QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Section 1, Program		
Quality Assurance Program Plans		
Project Hanford QA Requirements Flowdown		
Quality Planning		
Organization, Responsibilities, and Interfaces		WMH-370, Section 1.1, "Staffing Plan"
Readiness Review		
Stop Work Authority		
Graded Application of Project Hanford QA Program		
Resolution of Professional Disagreements		
Developing and Maintaining S/RIDS		
Section 2, Personnel Training and Qualification		
Project Hanford Training and Qualification Program		
Training and Indoctrination		
Qualification and Certification		
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification		WMH-370, Section 1.11, "Performance Evaluation System"
Corrective Action Management		
Nonconformance Control		
Performance Data Analysis		
Control of Suspect/Counterfeit Items		
Section 4, Documents and Records		
Documents		WMH-370, Section 2.23, "Records Management"
Records		

Attachment 7: Appendix A

Generator Services QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures**
Section 5, Work Processes		
Work Process Documents	HNF-3172 *Hanford Site Liquid Waste Acceptance Criteria* HNF-EP-0063, *Hanford Site Waste Acceptance Criteria* HNF-PRO-455, *Solid Waste* HNF-PRO-156, *Non-radioactive Hazardous Materials/Hazardous Waste (HM/HW)*	WMH-370, Section 1.3, "Maintaining and Revising the Waste Acceptance Criteria Manual" WMH-370, Section 1.4, "Waste Specification Record Approval Process" WMH-370, Section 1.6, "Waste Stream Approval Process" WMH-370, Section 1.7, "Radioactive Waste Acceptance Review" WMH-370, Section 1.8, "Treatment, Storage, and Disposal Transfer Documentation Process" WMH-370, Section 1.9, "Off-Site Shipment" WMH-370, Section 1.10, "Verification Program" WMH-370, Section 1.11, "Performance Evaluation System" WMH-370, Section 2.12, "Waste Designation" WMH-370, Section 2.18, "Receipt Inspection at 90-Day Pads, Non-Regulated, and Low Level Storage Areas" WMH-370, Section 2.19, "90-Day Accumulation Area" WMH-370, Section 2.22, "2401-W Waste Receipt Criteria" WMH-370, Section 5.1, "SWITS Data Entry for Radioactive Waste" WMH-370, Section 7.1, "Solid Waste Engineering Analysis Database"
Special Processes		
Identification and Control of Items		
Handling, Shipping, and Storing		
Process Monitoring or Data Collection Instruments		
Control of Computer Software		
Section 6, Design		
Design Input		
Design Process		
Design Verification		
Design Changes		

Attachment 7: Appendix A

Generator Services QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures
Design Documentation and Records		
Computer Software		WHC-SD-WM-SWD-007, "Solid Waste Information and Tracking System Software Configuration Management Plan" WHC-SD-WM-SWD-009, "Solid Waste Information and Tracking System – SWITS - Software Design Descriptions (SDDs)" HNF-IP-1259, "Solid Waste Information and Tracking System Change Control Board Charter"
Section 7, Procurement		
Procurement Planning		
Content of Procurement Documents		
Supplier Evaluation and Selection		WMH-370, Section 2.14, "Evaluations of Off-Site Treatment, Storage, Disposal, and Recycling Facilities"
Control of Supplier Nonconformance		
Acceptance of Items and Services		
Commercial Grade Items		
Control of Supplier-Generated Documents		
Control of Suspect/Counterfeit Items		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		
Inspection and Acceptance Testing Results		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Section 9, Management Assessment		
Management Assessments		
Corrective Action		

ATTACHMENT 8: HANFORD TRU WASTE PROGRAM

1.0 SCOPE

This attachment is applicable to the Hanford TRU Waste Program for characterization, certification and shipping TRU waste to the Waste Isolation Pilot Plant (WIPP) located west of Carlsbad, New Mexico. This attachment implements the requirements of HNF-MP-599, *Project Hanford Quality Assurance Program Description*, Part 2, Section 1, Paragraph 3.3 for the WIPP QA Program.

2.0 PURPOSE

This attachment describes the WIPP background and identifies the QA Program requirements that apply to the Hanford TRU Waste Program.

3.0 REQUIREMENTS

HNF-MP-599 is implemented through Hanford procedures (HNF-PROs). Additional requirements imposed by the TRU Waste Program are described in HNF-2600, *Hanford Site Transuranic Waste Certification Plan*, Chapter 5, "Quality Assurance Plan" and HNF-2599, *TRU Waste Characterization QAPjP*. The WMH-400 Series TRU procedures directly implement these requirements.

The WIPP federal lands, where WIPP is constructed, were transferred from the Department of the Interior to the Department of Energy (DOE) via the WIPP Land Withdrawal ACT (Public Law 102-579). The Land Withdrawal Act and these other federal regulations establish directly and by reference regulatory driven disposal standards which must be met for WIPP.

- 10 CFR Part 71, Subpart H, *Packaging and Transportation of Radioactive Material, Quality Assurance*
- 10 CFR 830, *Nuclear Safety Management*
- 40 CFR Part 194, *Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance With 40 CFR Part 191 Disposal Regulations*
- 40 CFR 261, *Identification and Listing of Hazardous Waste*
- ASME NQA-1-1989 (incorporated by reference in 40 CFR 194), *Quality Assurance Requirements for Nuclear Facilities*
- ASME NQA-2a-1990 addenda, Part 2.7 (incorporated by reference in 40 CFR 194), *Quality Assurance Requirements of Computer Software for Nuclear Facility Applications*

- ASME NQA-3-1989, excluding Section 2.1(b)(c) and Section 17.1 (incorporated by reference in 40 CFR 194, *Quality Assurance Program Requirements for the Collection of Scientific and Technical Information for Site Characterization of High-Level Nuclear Waste Repositories*

- NUREG-1297 (1988) (incorporated by reference in 40 CFR 194), *Peer Review for High-Level Nuclear Waste Repositories*

To dispose of waste at WIPP, the Department of Energy (DOE) has developed and implemented a program controlled by the DOE Carlsbad Area Office (CAO). The DOE CAO passes the WIPP requirements forward to WIPP program participants such as Hanford. These requirements include regulation driven QA requirements in the CAO *Quality Assurance Program Document* (QAPD) and the CAO *Quality Assurance program Plan* (QAPP). Additionally, the CAO relies on the Nuclear Regulatory Commission (NRC) Regulatory Guide 7.10, *Establishing Quality Assurance Programs for Packaging Used in the Transportation of Radioactive Material* for transportation QA. These three documents specify the QA requirements the Hanford Site must meet to ship TRU waste to WIPP.

The Hanford TRU Waste Program meets the CAO QA requirements through the following Hanford documents, which are responsive to the CAO QAPD, CAO QAPP and Regulatory Guide 7.10:

- HNF-2600, *Hanford Site Transuranic Waste Certification Plan* (Certification Plan)
- HNF-2599, *Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan* (QAPjP)
- *Hanford Transuranic Waste Packaging Quality Assurance Plan* (Packaging QA Plan)

The TRU Waste Project will comply with the TRU Project documentation and implementing procedures when involved with items and/or services that affect the quality of characterization, certification, or transportation of the TRU wastes that are to be shipped to the WIPP. Other Hanford Site directives that do not specifically impact characterization, certification, or transportation (such as site safety manuals, environmental compliance, human resources, etc.) will be adhered to as written by all organizations and facilities participating in the TRU Waste Project.

Attachment 8: Appendix A

Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	Contractor Procedures For TRU Project
Section 1, Program		
Quality Assurance Program Plans	HNF-PRO-261, ***Quality Assurance Program Plans***	HNF-2600, Hanford Site Transuranic Waste Certification Plan , Chapter 5, Quality Assurance Plan HNF-2819, Hanford Transuranic Waste Packaging Quality Assurance Plan
Project Hanford QA Requirements Flowdown		HNF-2599, Transuranic Waste Characterization QAPjP HNF-2600, Hanford Site Transuranic Waste Certification Plan HNF-2819, Hanford Transuranic Waste Packaging Quality Assurance Plan
Quality Planning		
Organization, Responsibilities, and Interfaces		HNF-2600, Hanford Site Transuranic Waste Certification Plan (Section 2.1) HNF-2599, Transuranic Waste Characterization QAPjP (Section 1.1)
Readiness Review		
Stop Work Authority		HNF-2600, Hanford Site Transuranic Waste Certification Plan (paragraph 5.3) WMH-400, Section 2.1.1, TRU Process Control
Graded Application of Project Hanford QA Program	HNF-PRO-259, *Graded Quality Assurance* (for PHMC processes)	WMH-400, Section 1.1.2, Graded Approach
Resolution of Professional Disagreements		
Developing and Maintaining S/RIDS	HNF-PRO-265, *Developing and Maintaining S/RIDS*	
Section 2, Personnel Training and Qualification		

Attachment 8: Appendix A

Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Project Hanford Training and Qualification Program	HNF-PRO-153, *Nuclear Process Operator Training Program* HNF-PRO-155, *Operations Management Fundamentals Training Program* HNF-PRO-176, *Preparing Qualification Programs at Nuclear Facilities* HNF-PRO-177, *Preparing Certification Programs at Nuclear Facilities* HNF-PRO-263, *Qualification and Certification of Inspection and Test Personnel* HNF-PRO-329, *Radiological Training* HNF-PRO-378, *Radiation Protection First-Line Supervisor Qualifications* HNF-PRO-386, *Radiological Control Technicians Qualifications & Training* HNF-PRO-459, *Environmental Training* HNF-PRO-538, *Criticality Safety Training*	WMH-400, Section 1.2.1, TRU Training & Qualification Plan WMH-400, Section 1.2.2, Qualification and Certification of Inspection & Test Personnel WMH-400, Section 1.2.3, Certification of Audit Personnel WMH-400, Section 1.2.4, TRU Training & Qualification Program
Training and Indoctrination	HNF-PRO-057, *Hanford General Employee Training* HNF-PRO-111, *Occupational Medical Qualification and Monitoring* HNF-PRO-378, *Radiation Protection First-Line Supervisor Qualifications* HNF-PRO-386, *Radiological Control Technicians Qualifications & Training* HNF-PRO-459, *Environmental Training* HNF-PRO-538, *Criticality Safety Training*	WMH-400, Section 1.2.1, TRU Training & Qualification Plan WMH-400, Section 1.2.2, TRU Qualification and Certification of Inspection & Test Personnel WMH-400, Section 1.2.4, TRU Training and Qualification Program

Attachment 8: Appendix A

Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Qualification and Certification	HNF-PRO-111, *Occupational Medical Qualification and Monitoring* HNF-PRO-263, *Qualification and Certification of Inspection and Test Personnel* HNF-PRO-343, *Selection of Radiological Control Technicians* HNF-PRO-378, *Radiation Protection First-Line Supervisor Qualifications* HNF-PRO-386, *Radiological Control Technicians Qualifications & Training* HNF-PRO-364, *Selection of Senior Radiological Control Technician Lead Assignments*	WMH-400, Section 1.2.1, TRU Training & Qualification Plan WMH-400, Section 1.2.2, Qualification and Certification of Inspection and Test Personnel WMH-400, Section 1.2.3, Certification of Audit Personnel WMH-400, Section 1.2.4, TRU Training and Qualification Program
Training and Qualification Records	HNF-PRO-222, *Quality Assurance Records Standards* HNF-PRO-538, *Criticality Safety Training*	WMH-400, Section 1.2.1, TRU Training & Qualification Plan WMH-400, Section 1.2.2, Qualification and Certification of Inspection and Test Personnel WMH-400, Section 1.2.3, Certification of Audit Personnel WMH-400, Section 1.2.4, TRU Training and Qualification Program WMH-400, Section 1.5.1, TRU Records Management
Section 3, Quality Improvement		
Deficiency Identification	HNF-PRO-315, *Radiation Protection* HNF-PRO-316, *Radiation Protection Interpretive Authority* HNF-PRO-319, *Radiation Protection Self-Assessments* HNF-PRO-388, *Radiological Problem Reports* HNF-PRO-435, *Required Radiological Surveillance* HNF-PRO-453, *Environmental Notification and Reporting* HNF-PRO-653, *Deficiency Tracking System*	WMH-400, Section 1.3.1, TRU Corrective Action Management WMH 400, Section 1.3.2, TRU Nonconforming Item Reporting and Control WMH-400, Section 1.3.3, TRU Corrective Action Reporting and Control

Attachment 8: Appendix A

Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Corrective Action Management	HNF-PRO-067, *Lessons Learned* HNF-PRO-319, *Radiation Protection Self-Assessments* HNF-PRO-388, *Radiological Problem Reports* HNF-PRO-435, *Required Radiological Surveillance*	WMH-400, Section 1.3.1, TRU Corrective Action Management WMH-400, Section 1.3.2, TRU Nonconforming Item Reporting and Control WMH-400, Section 1.3.3, TRU Corrective Action Reporting and Control
Nonconformance Control	HNF-PRO-388, *Radiological Problem Reports* HNF-PRO-549, *Criticality Safety Nonconformance Response*	WMH-400, Section 1.3.1, TRU Corrective Action Management WMH-400, Section 1.3.2, TRU Nonconforming Item Reporting and Control
Performance Data Analysis	HNF-PRO-435, *Required Radiological Surveillances*	WMH-400, Section 1.3.1, TRU Corrective Action Management
Control of Suspect/Counterfeit Items	HNF-PRO-301, *Control of Suspect/Counterfeit Items*	WMH-400, Section 1.3.2, TRU Nonconforming Item Reporting and Control WMH-400, Section 2.4.3, TRU Inspection, Test and Operating Status
Section 4, Documents And Records		
Documents	HNF-PRO-226, *Classified Document Control* HNF-PRO-230, *Controlling Field, Laboratory, and Facility Notebooks/Logbooks* HNF-PRO-405, *Protecting and Controlling Classified Matter*	WMH-400, Section 1.4.1, TRU Document Control WMH-400, Section 2.1.2, TRU Operating Procedure Preparation and Approval WMH-400, Section 2.1.3, TRU Administrative Procedure Preparation and Approval
Records	HNF-PRO-147, *Administrative Retirement of Property* HNF-PRO-222, *Quality Assurance Records Standards* HNF-PRO-226, *Classified Document Control* HNF-PRO-348, *Fire Protection Records* HNF-PRO-405, *Protecting and Controlling Classified Matter*	WMH-400, Section 1.5.1, TRU Records Management

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Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Section 5, Work Processes		
Work Process Documents	HNF-PRO-062, *Identifying and Resolving Unreviewed Safety Questions* HNF-PRO-069, *Maintenance Management* HNF-PRO-323, *External Dosimetry Quality Assurance* HNF-PRO-351, *Fire Protection System Testing/Inspecting and Maintenance Frequencies* HNF-PRO-379, *External Dosimetry Program* HNF-PRO-380, *Internal Dosimetry Program* HNF-PRO-382, *Area Dosimetry Program* HNF-PRO-394, *Physical Protection of Property and Facilities*	WMH-400, Section 2.1.1, TRU Process Control
Special Processes		WMH-350, Section 2.2, Calculation of Assay Results LA-523-138, Soxhlet Extraction Of Solid Samples for Semi-volatile and/or Pesticide And/or PCB Analysis LA-523-410, Determination of Volatile Organic Compounds in TRU Waste Container Headspace LA-523-426, Determination of Permanent Gases in Waste Container Headspace LO-080-404, Headspace Gas Sampling of TRU Waste Containers LO-080-407, Cleaning Procedure For SUMMA Canisters WRP1-0P-0710, TRU Waste Certification – Glovebox Waste Sampling WRP1-OP-0725, TRU Waste Certification – TRU Sorting Glovebox Operation WRP1-OP-0905, TRU Waste Certification – Imaging Passive/Active Neutron Assay WRP1-OP-0906, TRU Waste Certification – Gamma Energy Assay Operations WRP1-OP-0907, TRU Waste Certification – Assay Waste Boxes at WRAP-1 WRP1-OP-0908, TRU Waste Certification – Operation of the Drum NDE System WRP1-OP-0909, TRU Waste Certification – Operation of the Box NDE System WRP1-OP-0524, Helium Leak Detector Operation DO-080-009, Obtain Headspace Gas Samples of TRU Waste Container

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Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Identification and Control Of Items	HNF-PRO-081, *Hazardous Energy Control Program* HNF-PRO-101, *Signs, Tags, And Barriers* HNF-PRO-102, *Safety Color Coding* HNF-PRO-133, *Tagging Marking, and Recording Property* HNF-PRO-140, *Disposition of Excess and Surplus Property* HNF-PRO-335, *Use and Control Of Purchasing Card (P-Card)* HNF-PRO-542, *Criticality Material Labeling* HNF-PRO-617, *Labeling Requirements for Nuclear Material Containers*	WMH-400, Section 2.4.3, TRU Inspection, Test and Operating Status
Handling, Shipping, and Storing	HNF-PRO-136, *Management and Control of Sensitive Property* HNF-PRO-138, *Controlling Precious Metals* HNF-PRO-139, *Control of Potable Alcohol, Syringes, &Hypodermic Needles* HNF-PRO-140, *Disposition of Excess and Surplus Property* HNF-PRO-142, *Moving/Transferring Property Within the Contractor* HNF-PRO-143, *Offsite Property Loans* HNF-PRO-146, *Transfer of Property to Other Hanford Contractors* HNF-PRO-150, *Management of Government-Owned Property in the Possession of Subcontractors and Vendors* HNF-PRO-358, *Flammable/Combustible Liquids* HNF-PRO-368, *Laboratories* HNF-PRO-370, *Hazardous Material Storage* HNF-PRO-374, *Physical Inventories of Materials, Facilities, Equipment and Facility Walkthroughs* HNF-PRO-375, *Operation of Storage Facilities* HNF-PRO-376, *Control of High Risk Personal Property* HNF-PRO-543, *Fissionable Material Storage* HNF-PRO-545, *Fissionable Material Packaging and Transportation* HNF-PRO-579, *Carcinogen Control*	WMH-400, Section 2.1.4, TRU Handling & Storage
Process Monitoring or Data Collection Instruments	HNF-PRO-436, *Radiation, Protection Instrument Program* HNF-PRO-632, *GM Portable Survey Instrument* HNF-PRO-633, *Portable Alpha Meter (PAM)* HNF-PRO-634, *NRC AN/PDR-70 Snoopy* HNF-PRO-637, *XETEX Telscan* HNF-PRO-638, *William B. Johnson Extender*	WMH-400, Section 2.4.4, TRU Control of Measuring, Test, and Data Collection Equipment

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Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Control of Computer Software	HNF-PRO-309, *Computer Software Quality Assurance Requirements* HNF-PRO-311, *Functional Security Requirements/Application Development*	WMH-400, Section 6.1.1, TRU Software QA
Section 6, Design		
Design Input	HNF-PRO-311, *Functional Security Requirements/Application Development* HNF-PRO-704, *Hazard and Accident Analysis Process*	WMH-400, Section 6.1.1, TRU Software QA WMH-400, Section 2.2.1, TRU Design Control
Design Process		WMH-400, Section 2.2.1, TRU Design Control WMH-400, Section 6.1.1, TRU Software QA
Design Verification		WMH-400, Section 2.21, TRU Design Control WMH-400, Section 6.1.1, TRU Software QA
Design Changes		WMH-400, Section 2.2.1, TRU Design Control WMH-400, Section 6.1.1, TRU Software QA
Design Documentation And Records		WMH-400, Section 1.5.1, TRU Records Management WMH-400, Section 2.2.1, TRU Design Control WMH-400, Section 6.1.1, TRU Software QA
Computer Software	HNF-PRO-309, *Computer Software Quality Assurance Requirements*	WMH-400, Section 6.1.1, TRU Software QA
Section 7, Procurement		
Procurement Planning	HNF-PRO-150, *Management of Government-Owned Property in the Possession of Subcontractors and Vendors* HNF-PRO-310, *Computer Security Within Procurement Cycle* HNF-PRO-335, *Use and Control Of Purchasing Card (P-Card)* HNF-PRO-501, *Security Compliance for Procurement Request Originators*	WMH-400, Section 2.3.1, TRU Procurement Planning WMH-400, Section 2.3.2, TRU Procurement Document Control WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services

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Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Content of Procurement Documents	HNF-PRO-120, *Respiratory Protection Program* HNF-PRO-150, *Management of Government-Owned Property in the Possession of Subcontractors and Vendors* HNF-PRO-310, *Computer Security Within Procurement* HNF-PRO-501, *Security Compliance for Procurement Requisition Originators* HNF-PRO-1842, *External Work Orders to Other Hanford Contractors*	WMH-400, Section 2.3.1, TRU Procurement Planning WMH-400, Section 2.3.2, TRU Procurement Document Control WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services
Supplier Evaluation and Selection	HNF-PRO-268, *Control of Purchased Items and Services* HNF-PRO-335, *Use and Control Of Purchasing Card (P-Card)* HNF-PRO-3144, *Supplier Evaluation*	WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services
Control of Supplier Nonconformance		WMH-400, Section 1.3.3, TRU Surveillance Program WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services
Acceptance of Items and Services	HNF-PRO-335, *Use and Control Of Purchasing Card (P-Card)*	WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services WMH-400, Section 2.4.1, TRU Inspection Control WMH-400, Section 2.4.2, TRU Test Control WMH-400, Section 2.4.3, TRU Inspection, Test, and Operating Status
Commercial Grade Items	HNF-PRO-1819, *PHMC Engineering Requirements*	WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services
Control of Supplier-Generated Documents		WMH-400, Section 2.3.2, TRU Procurement Document Control WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services

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Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Control of Suspect/Counterfeit Items	HNF-PRO-301, *Control of Suspect/Counterfeit Items*	WMH-400, Section 2.3.2, TRU Procurement Document Control WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services WMH-400, Section 2.4.3, TRU Inspection, Test and Operating Status
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance		WMH-400, Section 2.4.1, TRU Inspection Control
Testing Planning	HNF-PRO-1607, *Visual Weld Inspection*	WMH-400, Section 2.4.2, TRU Test Control
Inspection and Acceptance Testing Process	HNF-PRO-1607, *Visual Weld Inspection*	WMH-400, Section 1.2.2, Qualification & Certification Of Inspection & Test Personnel WMH-400, Section 2.4.1, TRU Inspection Control WMH-400, Section 2.4.2, TRU Test Control WMH-400, Section 2.4.3, TRU Inspection, Test and Operating Status
Inspection and Acceptance Testing Results	HNF-PRO-1607, *Visual Weld Inspection*	WMH-400, Section 2.4.1, TRU Inspection Control WMH-400, Section 2.4.2, TRU Test Control WMH-400, Section 2.4.3, TRU Inspection, Test and Operating Status
Inspection and Acceptance Testing Status	HNF-PRO-1607, *Visual Weld Inspection*	WMH-400, Section 2.4.1, TRU Inspection Control WMH-400, Section 2.4.2, TRU Test Control WMH-400, Section 2.4.3, TRU Inspection, Test and Operating Status
Calibration of Measuring And Test Equipment	HNF-PRO-490, *Control of Measuring and Test Equipm*	WMH-400, Section 2.4.4, TRU Control of Measuring, Test, and Data Collection Equipment
Section 9, Management Assessment		

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Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	**Contractor Procedures For TRU Project**
Management Assessments	HNF-PRO-076, *Safety Inspections* HNF-PRO-319, *Radiation Protection Self-Assessments* HNF-PRO-435, *Required Radiological Surveillances* HNF-PRO-548, *Criticality Inspections and Assessments*	WMH-400, Section 3.1.1, TRU Management Assessment WMH-400, Section 3.1.2, QA Reports to Management
Corrective Action	HNF-PRO-319, *Radiation Protection Self-Assessments* HNF-PRO-435, *Required Radiological Surveillances* HNF-PRO-548, *Criticality Inspections and Assessments*	WMH-400, Section 1.3.1, TRU Corrective Action Management WMH-400, Section 1.3.2, TRU Nonconforming Item Reporting and Control WMH-400, Section 1.3.3, TRU Surveillance Program
Section 10, Independent Assessment		
		WMH-400, Section 3.2.1, TRU Independent Assessment WMH-400, Section 3.1.2, Quality Assurance Reports to Management WMH-400, Section 3.2.2, TRU Surveillance Program

ATTACHMENT 9: WMH SUSPECT/COUNTERFEIT ITEMS PLAN

This plan is designed to provide an appropriate level of confidence that the WMH facilities will be monitored to protect against the receipt and/or use of suspect/counterfeit items (S/CI). Use of the plan will identify S/CI if and when they are received or prior to installation and provides for the reporting and disposition of those items.

This plan has been developed in response to requirements of HNF-PRO-301, *Control of Suspect/Counterfeit Items.*

APPLICABILITY

This Plan is applicable to Suspect/Counterfeit Items as follows:

An item that potentially or actually fails to meet National Consensus Standards or is a copy or modification of an item that does meet such standards without the authority or right to do so. Items include but are not limited to:

1. Suspect Fasteners:

   - Grade 5, 8 and 8.2 Hex head bolts with headmarks matching those identified on the Headmark list in HNF-PRO-301.

   - ASTM A325 bolts which exhibit the "KS" headmark as identified on the Headmark list in HNF-PRO-301.

   - ASTM A193, Grade B stainless steel bolts, which exhibit dual headmarking.

2. Suspect Electrical Components:

   - Molded case and metal clad circuit breakers, transformers, fuses, resistors, switchgear, and relays as identified in HNF-PRO-301, Appendix C.

3. Suspect Piping Components:

   - Flanges, valves, valve replacement products, couplings, plugs, spacers, and nozzles as identified in HNF-PRO-301.

4. Other items of hardware recognized to be vulnerable to counterfeiting as directed by management.

GRADED APPROACH

Graded approach is a principal which dictates that preparation and planning will be commensurate with the degree of complexity and/or inherent risk in the work to be undertaken. The depth of monitoring and the ultimate disposition of suspect parts should be balanced against the degree of risk (cost, schedule impact and liability) if the item failed to compared to the cost of close surveillance or replacement necessary to revent recurrence.

CONTROL REQUIREMENTS

WMH Quality Systems personnel shall periodically assess samples of shop stock inventories for S/CI described in HNF-PRO-301. Additionally, these assessments shall focus on spares that have the most frequent turnaround and are located in various storage locations.

WMH Quality Systems personnel shall perform S/CI inspection of essential spare equipment prior to plant installation and/or use.

Each Facility/Project shall have a designated S/CI point of contact (POC).

S/CI items shall not be installed during facility modification, upgrades or maintenance activity.

Systems, structures, and components that are buried or below grade, or systems, subsystems, and components that are not readily visible without disassembly, will not be excavated or disassembled for the sole purpose of looking for S/CI. S/CI examination will be performed when or if items are made accessible for other purposes such as maintenance or modification.

It is the responsibility of Material Coordinators, Engineering, and Maintenance personnel to be aware of S/CI requirements during performance of work and to identify S/CI when observed.

PROCUREMENT REQUIREMENTS

The procurement documents (master catalog IDs, Material Requests, and Requisitions) for items or services that could be vulnerable to S/CI issues shall be reviewed by Quality Systems to assure that appropriate QA clauses have been included to prevent S/CI from arriving on the Hanford Site.

The QA clauses that focus on S/CI are:

B70 - Supplier Furnished Items
B73 - Control of Graded Fasteners
B76 - Procurement of Potentially Suspect or Counterfeit Items

TRAINING REQUIREMENTS

Personnel responsible for evaluating the presence of S/CI shall have received appropriate training such that they are knowledgeable of the types of S/CI and can detect them if present.

PERSONNEL*	QTRC MODULE 1 AWARENESS 170720	QTRC MODULE 4 S/CI FASTENERS IN CRANES 170735	QTRC MODULE 5 OVERIVEW 170740
QA PersonneL	X	X	X
Material Coordinators	X		X
Analyst (who orders material/ equipment)	X		X
Maintenance (Craft)	X	X	
Engineers	X	X	X
Technical	X		

*Cognizant personnel only

Managers of personnel requiring training shall, as a minimum, attend Module 1, Awareness training.

REPORTING

Items meeting the definition of S/CI, as defined in HNF-PRO-301 shall be identified to the Quality Systems representative and documented on nonconformance reports in accordance with HNF-PRO-298, *Nonconforming Item Reporting and Control.* Additionally, discoveries of S/CI shall be reported as required by HNF-PRO-301 and WMH-200, Section 2.6, "Abnormal Event Investigation, Notification, and Occurrence Reporting." Detection of S/CI in the facility shall be immediately communicated verbally to the facility manager. The discovery of S/CI typically triggers the initiation of an Off Normal occurrence report under Group 7B, Value Basis Reporting/Defective Item, Material or Service.

Suspect/Counterfeit Items may be determined acceptable "as-is" and left in place, or replaced, based on an engineering evaluation as part of a nonconformance report (NCR) disposition. Items left in place must be identified/marked for future reference. The method of identification/marking shall be described in the NCR disposition.

Engineering dispositions shall be based on a graded approach to provide reasonable assurance that all S/CI safety issues are addressed and resolved in accordance with significance, complexity, application, and ALARA criteria.

Organizations responsible for facilities or equipment that could potentially contain S/CI shall perform a minimum of one assessment of S/CI Plan implementation annually.

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