S**ENGINEERING CHANGE NOTICE**

H

Page 1 of 21. ECN **664202**Proj.
ECN N/A

2. ECN Category (mark one)		3. Originator's Name, Organization, MSIN, and Telephone No.		4. USQ Required?	5. Date
Supplemental ☐ Direct Revision ☒ Change ECN ☐ Temporary ☐ Standby ☐ Supersedure ☐ Cancel/Void ☐		M. J. Horhota, QA, T3-02, 372-0029		☐ Yes ☒ No	December 18, 2000
		6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator	
		Waste Management Project Quality Assurance Program Plan	N/A	N/A	
		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 <u>3 dmp 12/21/00</u>	N/A	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	N/A	
		Design Authority/Cog. Engineer Signature & Date		Design Authority/Cog. Engineer Signature & Date	
13a. Description of Change					
Updates the Waste Management Project (WMP) Quality Assurance Program Plan (QAPP) to reflect organizational changes resulting from the split of WMP and Analytical Services, and the transition to a project/function group structure. Integrates the ISMS principles into the Quality Assurance Program. Upgrades the environmental requirements to better reflect the information contained within QAMS 004/80. Updates referenced procedures and documents to reflect changes and cancellations made since the last revision of the QAPP was issued.					
This is a total rewrite of the document, therefore, no revision bars are included.					
13b. Design Baseline Document? ☐ Yes ☒ No					
14a. Justification (mark one)		14b. Justification Details			
Criteria Change ☐ Design Improvement ☐ Environmental ☐ Facility Deactivation ☐ As-Found ☒ Facilitate Const. ☐ Const. Error/Omission ☐ Design Error/Omission ☐		Describes improvements and refinements made to the WMP Quality Assurance Program to better implement FH QA policy and requirements.			
15. Distribution (include name, MSIN, and no. of copies)					
M. J. Horhota T3-02 1 B. V. Burrow T3-02 1 E. S. Aromi H6-10 1 T. B. Veneziano B1-13 1 Central Files B1-07 1 (H)					
RELEASE STAMP 					

ENGINEERING CHANGE NOTICE

Page 2 of 2

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

664202

16. Design Verification Required

☐ Yes

☒ No

17. Cost Impact

ENGINEERING

Additional ☐ \$ N/A

Savings ☐ \$ N/A

CONSTRUCTION

Additional ☐ \$ N/A

Savings ☐ \$ 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	☐	N/A	☒
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

Cog. Eng. M. J. Horhota 12/18/00

Cog. Mgr. B. V. Burrow 12/18/00

QA B. V. Burrow 12/18/00

Safety N/A

Environ. N/A

Other

E. S. Aromi 12/18/00

T. B. Veneziano 12/19/00

Design Agent

PE

QA

Safety

Design

Environ.

Other

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

Waste Management Project Quality Assurance Program Plan

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

Fluor Hanford
P.O. Box 1000
Richland, Washington

Waste Management Project Quality Assurance Program Plan

Document Type: PMP

Division: WM

M. J. Horhota

Fluor Hanford

Date Published

December 2000

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

Fluor Hanford

P.O. Box 1000

Richland, Washington

Release Approval

12/21/00
Date

Release Stamp

HNF-SD-WM-QAPP-036
Revision 4

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Project Hanford Management Contract

Waste Management Project
Quality Assurance Program Plan

HNF-SD-WM-QAPP-036
Revision 4

Waste Management Project

Quality Assurance Program Plan

HNF-SD-WM-QAPP-036
Revision 4

B. V. Burrow, Program Manager
Performance Assurance
Waste Management Project

12/18/00
Date

E. S. Aromi, Vice President
Waste Management Project

12/18/00
Date

T. B. Veneziano, Acting Sr. Director
FH Performance Assurance

12/19/00
Date

Waste Management Project

Quality Assurance Policy

The Waste Management Project (WMP) is committed to excellence in our work and to delivering quality products and services to our customers, protecting our employees and the public and to being good stewards of the environment. 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 WMP maintains an environment that fosters continuous improvement in our processes, performance, safety and quality. The achievement of quality will require the total commitment of all WMP 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, to work safely and for complying with the policies, procedures and instructions applicable to their activities.

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.

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1.0 SCOPE

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

The WMP 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. WMP operations include the Low-Level Burial Grounds, Mixed Waste Disposal Trenches, Central Waste Complex (a mixed-waste storage complex), 616 Building (a non-radioactive dangerous waste storage facility), T Plant, Waste Receiving and Processing Facility, 200 Area Effluent Treatment Facility, 200 Area Treated Effluent Disposal Facility, the Liquid Effluent Retention Facility, the 242-A Evaporator, Waste Encapsulation Storage Facility and the Hanford TRU Waste Program.

This QAPP provides the requirements and implementing controls for the WMP 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). For a description of the activities that fall under the scope of 10 CFR 830.120 refer to Section 2.2 of the Foreword in the Fluor Hanford (FH) QAPD (HNF-MP-599);
- DOE O 414.1A, *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 Attachments 3 through 8.

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 Approach*. 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 414.1A 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 hazard 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. 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 WMP are:

1. Central Waste Complex (CWC)

- HNF-SD-WM-ISB-007, latest revision, "CWC Interim Safety Basis"
- HNF-SD-WM-TSR-005, latest revision, "Central Waste Complex Interim Operational Safety Requirements"
- HNF-SD-WM-SEL-009, latest revision, "Safety Equipment List"

2. Low Level Burial Grounds

- HNF-SD-WM-ISB-002, latest revision, "Solid Waste Burial Grounds Interim Safety Basis"
- HNF-SD-WM-SEL-012, latest revision, "Low Level Burial Grounds Safety Equipment List"

- HNF-SD-WM-SAR-058, latest revision, "Final Safety Analysis for Contact-Handled Transuranic Waste Drum In situ Inspection and Vented Drum Retrieval"
- HNF-SD-WM-SARR-028, latest revision, "Solid Waste Burial Grounds Interim Safety Analysis"
- HNF-SD-WM-TSR-001, latest revision, "Solid Waste Burial Grounds Interim Operational Safety Requirements"
- Letter, K. A. Klein to R. D. Hanson, "Justification for Continued Operations (JCO) (Assay and Shipment of Transuranic [TRU] Waste Containers in 218-W-4C Trench 29)," 00-ABD-053, dated July 20, 2000
- Letter, R. D. Hanson to K. A. Klein, "Justification for Continued Operation (Assay and Shipment of TRU Waste Containers in 218-W-4C Trench 29)," FH-0003822, dated July 19, 2000

3. T Plant

- HNF-SD-WM-ISB-006, latest revision, "Interim Safety Basis for Solid Waste Facilities" (T Plant)
- HNF-SD-WM-ISB-006, latest revision, "Appendix E Safety Equipment List"
- HNF-SD-WM-TSR-003, latest revision, "T Plant Interim Operational Safety Requirements"
- HNF-2896, latest revision, "Safety Assessment for Project W-259"

4. Waste Receiving and Processing Facility (WRAP)

- HNF-SD-W026-SAR-002, latest revision, "WRAP Final Safety Analysis Report"
- HNF-SD-WM-TSR-007, latest revision, "WRAP Technical Safety Requirements"
- HNF-SD-W026-SAR-002, latest revision, "Safety Evaluation Report (SER) for the Annual Updates to the Waste Receiving and Processing Facility Final Safety Analysis Report"
- HNF-SD-WM-TSR-007, latest revision, "Technical Safety Requirements"
- HNF-2594, latest revision, CSER-98-002 "Criticality Analysis for the Storage of Special Nuclear Material Sources and Standards in the WRAP Facility"

- DOE Review and Approval of WRAP CSER-98-002, Letter No. DOE-00-ABD-027, K. A. Klein to R. D. Hanson

5. 242-A Evaporator

- HNF-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"

6. Waste Encapsulation Storage Facility (WESF)

- HNF-SD-WM-BIO-002, latest revision, "Waste Encapsulation Storage Facility Basis for Interim Operation"
- HNF-SD-WM-IOSR-001, latest revision, "Waste Encapsulation Storage Facility Interim Operational Safety Requirements"
- HNF-SD-WM-SEL-008, latest revision, "Waste Encapsulation Storage Facility 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 that involve generating, acquiring or using environmental data is based on the intended use of the data, the analytical protocol selected, and on parameters of accuracy, precision, comparability, completeness, and representativeness. These are part of the Quality Assurance Objectives defined in a project's implementation plans, procedures, and documents.

Items, services and processes having no engineered safety function per HNF-PRO-704 are classified as General Service (GS). Typically, WMP environmental activities would

be categorized under this GS safety classification. The graded approach for GS items and activities consist of:

1. Using the administrative processes established in the Project Hanford (PH) procedures (HNF-PROs) and WMP-specific procedures (see Attachments 1A, 1B, 3 through 9) to manage, perform, and assess the work being performed (e.g., document control, work control, records and data management, corrective action management, waste characterization, data review and validation, sample control, 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, sample custody controls, analytical QC checks, reviews, and approvals, etc.) to mitigate the risk associated with an item failure or performing a task. If additional controls are necessary, drawings, specifications, plans 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.

The WMP equates project risk to the risk of failures of facility structures, systems and components (SSC) and the consequences their failure has to the health and safety of the public worker and/or impact to the environment. These factors are considered as part of the hazards and accident analysis process and when the safety classification of the SSC is determined. On a case-by-case basis, WMP management has the option of applying additional controls to any item or service to provide confidence that the SSC will perform satisfactory in service.

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 WMP 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 ORGANIZATIONAL RESPONSIBILITIES AND AUTHORITY

2.1 Organizational Structure

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

The WMP organizational structure, with its lines of communication and authorities, is presented in Attachment 2. QA personnel report to levels of WMP management that allow them sufficient organizational freedom and authority to perform their duties and are 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 WMP employees. WMP's roles and responsibilities under the Project Hanford Integrated Environmental, Safety and Health Management System are defined in WMP-100, *Waste Management Project Policies*, Section 4.6, "WMP Integrated Safety Management Roles, Responsibilities and Functions."

2.2.1 Vice President, Waste Management Project

The Vice President, WMP is responsible for:

- Providing executive direction establishing Quality Assurance Policy and for the scope and implementation of the WMP QA Program, including approval of the project QAPP.
- Developing and maintaining a project organization that effectively implements the QA Program.
- Providing leadership to the organization to achieve quality.
- Assigning WMP work scope responsibility to the facility, project and functional support organizations within WMP.
- Managing WMP work scope to ensure performance is in compliance with Federal, State and local laws and regulations, and with contractual and other requirements.
- Ensuring resources are available to provide adequate quality controls for the work being performed.
- Participating in Senior FH feedback councils such as the Price-Anderson Amendments Act (PAAA) Senior Executive Steering Council and the President's Quality Council.

- Monitoring performance against baseline, ensures regulatory compliance and increases effectiveness.
- Ensuring that management supports the FH and WMP quality programs.

2.2.2 WMP Projects Management Team

The WMP Projects Management Team is lead by the WMP Vice President and is composed of the following:

Waste Receiving and Processing Facility, Project Manager
Solid Waste Storage and Disposal, Project Manager
Solid Waste Treatment, Project Manager
200 Area Liquid Waste Processing Facilities, Project Manager
Waste Encapsulation and Storage Facility, Project Manager
Environmental Services, Project Manager
Waste Services, Project Manager
Transuranic Waste Projects, Project Manager

The WMP Projects Management Team is responsible for the following:

- Cultivating quality principles and integrating them into daily tasks.
- Providing direction and oversight of personnel to meet goals in accordance with applicable nuclear safety and environmental QA requirements.
- Planning and ensuring appropriate QA resources are available to support facility and project activities.
- Ensuring activities are planned and needed resources are provided to meet the stated goals or objectives.
- Ensuring the authorization envelope is maintained current.
- Ensuring all facility/project activities are conducted within applicable technical, safety, environmental and quality requirements.
- Conveying stop work authority to facility/project personnel.
- Conducting periodic assessments to determine compliance status and to implement actions to improve the performance of work.

- Ensuring personnel are trained commensurate with responsibilities and are trained prior to work.
- Monitoring trends to identify early warning indicators and adverse trends.
- Following up on problems/issues and adverse trends affecting facility/project activities to accomplish continuous improvement or identify opportunities for improvement.
- Ensuring the Corrective Action Management program is implemented.
- Performing periodic management reviews of facility/project activities against organizational goals and commitments for continuous improvement.

2.2.3 Performance Assurance Program Manager

The Performance Assurance Program Manager is responsible for:

- Defining, documenting and communicating FH and WMP QA policy, objectives, performance measures, and management expectations to QA personnel.
- Establishing and communicating the WMP QAPP, corrective action management, record management, and management assessment program policy.
- Interfaces with FH function groups to develop policy for QA, record management, corrective action management, management assessment, PAAA, and occurrence reporting programs.
- Establishing and communicating WMP PAAA program policy.
- Resolving quality related policy issues ensuring that the solutions are cost effective and can be implemented within the project.
- Developing and maintaining the WMP quality assurance program in compliance with Federal requirements and applicable DOE Orders.
- Providing communications and assistance on requirements to enable development of implementing documentation for systems that comply with applicable requirements.
- Representing WMP on Center of Expertise (COE), councils and other management boards.

- Administering the QA, record management, corrective action management, management assessment, PAAA, and occurrence reporting programs in accordance with the provisions of FH policies, plans and procedures.
- Performing PAAA evaluations for the WMP to identify noncompliance.
- Coordinating assessment activities by maintaining and statusing the WMP assessment schedule.
- Planning, administering, and participating in periodic performance reviews.
- Facilitating continuous improvement.
- Performing QA review of WMP programmatic and functional group documents to ensure appropriate controls are in place to meet QA requirements.
- Monitoring the corrective action process and the action tracking system.
- Analyzing performance data and reporting trends to senior management, and providing timely corrective actions for adverse trends.
- Ensuring senior management awareness of QA status through timely reports.
- Conducting periodic assessments and implementing actions to improve the performance of work.
- Performing periodic reviews of QA activities and functions against organizational goals, commitments, budgets and schedule, and directing actions for continuous improvement.
- Performing periodic reviews of the WMP QA Program to ensure its effectiveness.

2.2.4 Environmental Program Manager

The Environmental Program Manager is responsible for:

- Establishing and interpreting WMP environmental policy.
- Resolving environmental policy issues, ensuring that the solutions are cost effective and can be implemented within the project.
- Interfacing with the FH functional groups, other FH projects and other contractors to resolve environmental issues.

- Developing management systems, plans, procedures, and reports for compliance with environmental requirements as required at the Project-level.
- Reviewing proposed and promulgated Federal, State, and local rules and regulations, contract modifications, and other sources of requirements and determine their impact on WMP environmental activities.
- Identifying and interpreting environmental regulatory requirements and assisting the projects in implementation.
- Administering the environmental function in accordance with the provisions of FH policies, plans and procedures, and applicable environmental codes, standards, regulations, orders and other requirements.
- Serving as the WMP interface with RL and project Environmental Compliance Officers (ECO) on environmental matters including regulator interactions, enforcement activities, environmental deliverables, and resolution of issues.
- Assisting with the flow-down and implementation of environmental requirements into the projects.
- Provide mechanisms for continuous improvement through evaluation of performance and implementation of best management practices.
- Ensuring senior management awareness of environmental status through timely reviews and reports.
- Analyzing performance data, reporting trends, and providing timely corrective actions for adverse trends.
- Conducting periodic assessments and implementing actions to improve the performance of work. Performing periodic management reviews of environmental activities and functions against organizational goals, commitments, and directing actions for continuous improvement.

2.2.5 Maintenance Manager (reports to Project Support Director)

The Maintenance Manager is responsible for:

- Defining expectations and goals of the WMP Maintenance Program.
- Assisting facility line management in developing documents and project plans including resolution of deficiencies.

- Developing and maintaining the WMP Maintenance Implementation Plan.
- Developing and maintaining policies, procedures and guidance relating to WMP's conduct of maintenance.
- Developing and maintaining the WMP Preventive Maintenance Program and the WMP maintenance performance indicators.
- Ensuring WMP maintenance procedures incorporate appropriate quality verification points to ensure item will perform satisfactorily in service.
- Ensuring technical procedures and other work-related documents are prepared and used to provide appropriate work direction and to ensure work is performed safely, efficiently and in compliance with requirements.
- Representing WMP as the chairperson on the Maintenance Management Board to identify and interpret codes, standards, regulations, DOE Orders, and other requirements applicable to FH and WMP.
- Ensuring the planning, preparation, and scheduling for preventative maintenance work is performed.
- Ensuring programs for control and calibration of M&TE are consistent with QA requirements.
- Providing administration of the Job Control System database including access control, program development, and standardization.
- Ensuring excellence in maintenance through the implementation of conduct of maintenance.
- Ensuring personnel are trained commensurate with responsibilities and are properly trained prior to work.
- Conducting periodic assessments and implementing actions to improve performance of work.
- Following up on accidents, environmental and quality noncompliances, and adverse trends affecting maintenance activities to identify opportunities for improvement.

2.2.6 Engineering Manager (reports to Project Support Director)

The Engineering Manager (Chief Engineer) is responsible for:

- Establishing engineering policy for the WMP.
- Establishing requirements for qualification in the practice of engineering.
- Implementing a project-level engineering and design control system that meets the requirements of this QAPP.
- Ensuring engineered systems provide an appropriate level of control for safe and environmental compliant operations.
- Developing and maintaining policies, procedures and guidance relating to the WMP Engineering Program.
- Representing WMP on the PH Engineering Leadership Team for developing PH engineering procedures, identifying and interpreting codes, standards, regulations, DOE Orders and other requirements applicable to FH and WMP.
- Appointing design authorities.
- Acting as custodian of the authorization basis for WMP, including safety analysis reports (SARs), Auditable Safety Analysis (ASA), and hazard characterizations.

2.2.7 Training Program Manager (reports to Project Support Director)

The Training Program Manager is responsible for:

- Ensuring facility training programs satisfy State, Federal, FH and WMP training policies and procedures.
- Establishing training program requirements to ensure WMP staff receives training appropriate for their job and maintains their competence commensurate with their responsibilities.
- Assigning matrix personnel to WMP facilities, projects and services to ensure training needs are adequately addressed and to ensure WMP personnel are qualified to perform their assigned duties.
- Providing training scheduling and training records management for WMP.

2.2.8 Contracts and Procurement Lead (reports to Administration/Business Director)

The Contracts and Procurement Lead is responsible for:

- Ensuring WMP procurement activities comply with applicable Federal, QA and contractual requirements.
- Providing contract administration services for the procurement of all WMP material, equipment and services.
- Serving as the point of contact for all WMP acquisition issues.
- Representing WMP in the development of FH contracting or acquisition procedures and policy.
- Assisting the WMP organizations with the incorporation of technical and QA requirements into the project's procurement documents.
- Interfacing with WMP suppliers to ensure procurement requirements are properly communicated and passed down to the vendor.

2.2.9 Facility/Project Quality Assurance Engineers

The Facility/Project Quality Assurance Engineers assigned to the individual Facility/Project Managers are responsible for:

- Providing support and direction to facility/project personnel on QA issues.
- Performing periodic assessments and monitoring performance of work to identify deficiencies and noncompliances and to promote continuous improvement.
- Providing interpretations of QA requirements within their assigned facilities/projects.
- Planning inspections of quality-related items within their facilities/projects to ensure conformance to specified requirements.
- Reviewing and approving facility documents and procurements to ensure appropriate controls are in place to meet QA requirements.
- Reviewing nonconformance reports and other corrective action documents to ensure proposed corrective actions are effective and correct the identified deficiencies.
- Supporting facility/project assessment programs and corrective action process (e.g. participate in the DEG process).

2.2.10 Employees

All employees are accountable to comply with this program. Procedure compliance is mandatory. If a procedure cannot be implemented as written, employees are to stop the activity and get the procedure corrected before continuing work. 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.

Additional roles and responsibilities for specific functions or activities are identified in individual PH, WMP, and facility/project plans, charters, procedures or work instructions governing the function or activity in question.

3.0 SPECIFIC REQUIREMENTS

Fluor Hanford (FH) issued quality assurance requirements to WMP 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 WMP QAPP, applicable PH-wide procedures, and WMP implementing procedures. For detailed company-wide implementation references see Attachment 1A, Basic Requirements QAPD Implementation Matrix. Attachments 3 through 9 identify additional implementation references specific to facilities and activities.

WMP ensures environmental, safety, health and quality requirements are integrated into its work activities through the Project Hanford Integrated Environmental, Safety and Health Management System (ISMS). The PH procedures and WMP-specific procedures that implement each of the seven core functions can be found in Appendix D of HNF-MP-003, *Integrated Environmental, Safety and Health Management System Description*. Attachments 3 through 9 identify additional ISMS implementation references that are unique to WMP facilities or specific activities.

Due to the diversity and complexity of PH activities, emergence of new procedures or cancellations are common. Consequently, the procedures listed in Attachments 1A, 1B and 3 through 9 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.

WMP imposes applicable QA requirements on subtier contractors by:

- Passing QA requirements to Project Hanford organizations through Project Hanford work-agreement documents.

- Passing QA requirements to subtier contractors on the Evaluated Supplier List (ESL) through procurement documents, in accordance with this document.
- Requiring subtier contractors not on the ESL to develop a QAPP or work to the WMP QAPP.

3.1 Management

3.1.1 Program

1. Quality Assurance Program Plans

This QAPP, including its attachments, documents the application of the QAPD to WMP'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 Solid Waste Storage and Disposal, Solid Waste Treatment, 200 Area Liquid Waste Processing Facilities, Waste Encapsulation and Storage Facility, Waste Services, and Waste Receiving and Processing Facility respectfully, contain further information specific to their activities.

The Hanford TRU Waste program is responsive to the DOE Carlsbad Area Office TRU Waste Program Quality Assurance requirements and implements those requirements through the WMP-400 *Waste Isolation Pilot Plant Procedures* listed in Attachment 9 of this QAPP.

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

- HNF-SD-WM-QAPP-009, latest revision, "242-A Evaporator Quality Assurance Project Plan"
- HNF-SD-LEF-QAPP-002, "Liquid Waste Processing Facilities Quality Assurance Project Plan"
- HNF-EP-0528-3, *NESHAP Quality Assurance Project Plan for Radioactive Air Emissions Data*
- HNF-2599, *Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan*
- HNF-2600, *Hanford Site Transuranic Waste Certification Plan*, Section 5, "Quality Assurance Plan"

2. Quality Planning

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

3. Quality Assurance Program Interfaces

Internal interfaces between projects, functional groups and service providers are defined in PH and WMP procedures and work agreement documents. Responsibilities and authorities connected with external interfaces are documented in contract and procurement documents.

4. Environmental Quality Assurance

The WMP 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," WAC 173-218, "Underground Injection Control Program," WAC 173-303, "Dangerous Waste Regulations," WAC 173-400 "General Regulation for Air Pollution Sources, WAC 173-401 "Operating Permit Regulation," WAC 173-460 "Controls for New Sources of Toxic Air Pollutants," WAC 246-247 "Radiation Protection - Air Emissions," National Emissions Standards for Hazardous Air Pollutants (NESHAP), and the National Environmental Policy Act (NEPA).

QAMS applies to all WMP environmental activities that deal with the collection, evaluation, and use of data associated with environmental investigation, monitoring, 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.

Note, the following WMP facilities operate within interim status (WAC 173-303-400): T Plant Complex, WRAP, Central Waste Complex, WESF, and Low Level Burial Grounds. Four of WMP's facilities, 200 Area Effluent Treatment Facility, Liquid Effluent Retention Facility, 242-A Evaporator, and 616 Non-radioactive Dangerous Waste Storage Facility (NRDWSF), are being operated as final status TSD units under the HF RCRA permit (WA7890008967). The 616 NRDWSF is currently undergoing RCRA closure and will be removed from the HF RCRA permit once approval is obtained from Ecology.

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

- Project organization and responsibilities associated with data collection, review and assessment,
- 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, including facility services, 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 collection and reporting requirements,
- data reduction, review and validation 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,

- requirements for system and performance audits to monitor data quality.

Attachment 1B describes the means by which these environmental quality program elements are implemented within the WMP. Additional facility or project QAPPs or QAPjPs will be prepared to cover specific environmental activities not addressed in this document, or for when QA requirements may differ from QAMS. For a listing of other facility and project-specific QAPPs and QAPjPs that have been prepared within WMP see Subsection 3.1.1 Item 1. Laboratories that provide analytical support to WMP environmental activities are required to have documented QA programs that address these requirements to the extent the graded approach or the scope of their work dictates.

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 control information), 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 non-radioactive and radioactive. Samples taken under the NESHAP air-monitoring program are within the scope of HNF-EP-0528-3, *Quality Assurance Project Plan for Radioactive Air Emissions Data*, and hence, lie outside the authority of QAMS 004 and 005.

5. Stop Work Authority

All WMP employees are accountable to stop activities when conditions jeopardizing safety or quality are recognized. The Program Manager, WMP Performance Assurance may order a suspension of activities, if conditions affecting quality have not been addressed by cognizant management. Any suspension of subcontractor activities will be issued through the WMP Contracts and Procurement organization.

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

The WMP Performance Assurance (PA) organization defines the QA program and has independent authority to assess the systematic implementation of requirements specified for WMP activities. It also has direct access to management at a level necessary for effecting appropriate action. PA 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 Facility/Project Quality Assurance Engineers interface with the Program Manager, WMP Performance Assurance for assistance and technical advice on QA programmatic matters and implementation issues associated with the WMP QA Program.

The WMP organization structure and assignment of responsibility is 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 for supervising or performing the work.

A listing of procedures and other documents that implement the "Program" element of this QAPP is in Attachment 1A, Section 1, "Program." Additional facility-specific and project-specific implementing procedures and other documents are listed in Attachments 3 through 9.

10 CFR 830.120 (c) (1) (i) Program

DOE O 414.1A, Contractor Requirements Document B(1)(a) Criterion 1 - Program

QAMS 004/80, 4.0 Quality Assurance Management

QAMS 004/80, 7.1 Quality Assurance Project Plans

3.1.2 Personnel Training and Qualification

Employees are trained and qualified in accordance with WMP-200, *Waste Management Project 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. Continuing training is provided to personnel to maintain their job proficiency. Specific training program descriptions for WMP personnel can be found in WMP-390 Training Procedures, Sections 1.1 through 1.56 series of procedures.

Training records are maintained and updated in accordance with WMP-200, *Waste Management Project Procedures*, Section 5.1, "Training Plan," to ensure personnel receive initial training, 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 performing TSD unit inspections and verification are not considered inspectors within the scope of HNF-PRO-263. Personnel performing nondestructive examinations (NDE) shall be trained and certified in accordance with written procedure based on ASNT-SNT-TC-1A or other standards applicable to the work performed. The specific standards used shall be identified in implementing documents for qualification and certification. FH Performance Assurance is responsible for training and certifying WMP Inspection personnel. The FH QA Level III Inspection Coordinator in accordance with HNF-PRO-263 maintains the records of inspector qualifications and certifications.

WMP personnel performing environmental sampling activities and other functions that impact data quality shall satisfy the educational, experience and training requirements identified on their qualification card, developed in accordance with WMP-200, *Waste Management Project Procedures*, Section 5.1, "Training Plan," prior to performing work. This includes sampling personnel, statisticians, QA staff, supervisors and management personnel.

WMP personnel assigned positions at either interim or final status TSD units status under the Hanford Facility RCRA permit (WA7890008967) or 90-day accumulation areas shall also satisfy the training requirements in the Dangerous Waste Training Plan (DWTP) prepared in accordance with HNF-PRO-459. Employees occupying positions listed on the DWTP must complete the training identified in the DWTP within 6 months or within 6 months of assignment to a new position within the facility, whichever is later.

A listing of procedures and other documents implementing the "Personnel Training and Qualification" element of this QAPP is in Attachment 1A, Section 2, "Personnel Training and Qualification." Additional facility-specific and project-specific implementing procedures and other documents are listed in Attachments 3 through 9.

10 CFR 830.120, (c)(1)(ii) Personnel Training and Qualification
DOE O 414.1A, 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 WMP 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 Quality Assurance personnel are authorized to place or remove Hold tags, In-Process tags, and Conditional Accept envelopes. The status of nonconforming items shall be tracked to closure. HNF-PRO-298 defines the method for controlling, documenting, evaluating, and dispositioning nonconforming items and for processing nonconformance reports (NCR).

Environmental samples are considered to be nonconforming when the quality or integrity of the sample can no longer be assured and the nonconformance reporting process will be used to document the nonconforming condition, unless another problem reporting mechanism is defined in project plans or procedures. Some examples of sample nonconformances are: Chain-of-custody is missing or broken, sampling instructions not followed, sample traceability is lost or sample identification numbers were duplicated.

Any suspect/counterfeit items (S/CI) detected will be controlled in accordance with HNF-PRO-301, *Control of Suspect/Counterfeit Items* and Attachment 10 of this QAPP.

2. Corrective Action

WMP shall promptly identify and correct deficiencies in accordance with WMP-200, *Waste Management Project 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 WMP-200, *Waste Management Project Procedures*, Section 1.9, "Trending Program."

Performance data are analyzed and evaluated, 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 WMP-200, *Waste Management Project 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 WMP management practices, within the chain of command.

6. Data Quality Issues

When WMP identifies environmental data that has failed to comply with the project's Data Quality Objectives or QA Objectives, an investigation is initiated to evaluate the potential impact on the quality of the data and its intended end use. Commensurate with the significance of the problem, the problem will be documented through the data validation, occurrence reporting, nonconformance reporting processes or other problem reporting mechanism as defined in the project plans or procedures. If the problem is identified as a deficiency, corrective action will be initiated in accordance with WMP-200, *Waste Management Project Procedures*, Section 1.3, "Corrective Action Management."

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

10 CFR 830.120, (c)(1)(iii) Quality Improvement
DOE O 414.1A, Contractor Requirements Document B(1)(c) Criterion 3 - Quality Improvement
QAMS 004/80, 10.0 Corrective Action

3.1.4 Documents and Records

1. Document Control

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

2. Records

WMP management shall ensure all records under their control that support the WMP mission accurately reflect completed work and demonstrate compliance with applicable requirements. The records shall be evaluated, stored, and preserved in accordance with HNF-PRO-210, *Records Management Program Standards*, and HNF-PRO-222, *Quality Assurance Records Standards*. Documents and records may be written, printed, microfilm, photographs, or electronically stored.

Documentation associated with the RCRA TSD activities shall comply with the HF RCRA permit if the facility is under final status, if under interim status comply with the applicable regulations for documentation. Documentation shall be maintained for each TSD unit in the Hanford Facility Record. The Hanford Facility Record will be maintained until 10 years after post-closure or corrective action is complete and certified for that facility, whichever is later. Refer to HNF-PRO-5127, *Treatment, Storage and/or Disposal Units*, and Attachment 33 (HF Dangerous Waste Permit Application), Chapter 12 for what types of records will be maintained as part of the file. Each TSD unit is responsible for maintaining the documentation associated with TSD Unit-Specific File; WMP Environmental Services maintains the General Information File portion and Site-level records.

Note: To be consistent with the Tri-Party Agreement requirements for record keeping documents that contain information that is either considered or relied on to arrive at a record of decision or a permit must be added to the Administrative Record File. Some of the documents generated by the TSD units may satisfy this requirement and must also be sent to the Administrative Record File, refer to HNF-PRO-211, *Public Information Repository and Administrative Record Files*, for the types of records to be maintained as part of this file.

A listing of procedures and documents implementing the "Documents and Record" element of this QAPP is in Attachment 1A, Section 4, "Documents and Records." Additional facility-specific and project-specific implementing procedures and documents are in Attachments 3 through 9.

10 CFR 830.120, (c)(1)(iv) Documents and Records

DOE O 414.1A, Contractor Requirements Document B(1)(d) Criterion 4 - Documents and Records

QAMS 004/80, 4.4 Document Control

QAMS 004/80, 7.2 Standard Operating Procedures

3.2 Performance

3.2.1 Work Processes

1. Control of Measuring and Test Equipment (M&TE) used for process monitoring or 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, *Calibration Management Program*, and HNF-PRO-072, *Plant Instrumentation and Equipment Functional Status Identification*. PHMC interfaces that apply to this activity include DynCorp who coordinates calibration services for PHMC Team members.

Process monitoring and data collection equipment is controlled in accordance with WMP-200, *Waste Management Project Procedures*, Section 3.18, "Instrument Calibration." WMP-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.

Maintenance of WMP facility equipment is conducted using work documents in accordance with HNF-PRO-069, *Maintenance Management*, and WMP-200, *Waste Management Project Procedures*, Section 3.1, "Work Management." The level of detail contained within these instructions and the administrative controls associated with the work are defined by the graded approach. Unless specifically called out in project work documents, WMP facilities generally do not have facility equipment that might impact environmental data quality. [Calibration and maintenance of radioactive air emissions equipment are subject to the requirements in the NESHAPS QA Project Plan HNF-EP-0528-3 and are not being addressed here.] However, for those WMP facilities with such equipment (e.g., sample storage refrigerators) QAPjPs or procedures will identify the maintenance and monitoring activities along with the frequencies they will be performed.

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 is 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.

To lend credibility to environmental data generated from field sampling activities, it must be demonstrated that the samples have reached the laboratory without alteration and the sample has been in the possession of only authorized personnel allowed to handle or store it. Samples collected for environmental compliance reasons (e.g., waste designation) will follow the chain of custody protocol identified in WMP-200, *Waste Management Project Procedures*, Section 3.12, "Chain of Custody for Environmental Media and Waste Samples."

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. Environmental Data Generation

To assure the generation of reliable data, all aspects of the environmental data collection process must be controlled to allow work to be performed in a uniform and repeatable manner. To achieve this WMP performs tasks associated with data collection, data reduction, review, validation and reporting in accordance with approved work plans, procedures, or other forms of work instructions.

Analytical data reports generated by laboratories will be prepared in accordance with an approved Statement of Work, Contract, SAPs, Letter of Instructions, or other PH procurement/work agreement documents used to acquire analytical services.

6. Environmental Data Management

Environmental data will be managed to ensure the integrity and quality of the data is preserved. Data processing activities will be controlled to ensure that the

introduction of errors are minimized while environmental data is being collected, transferred, stored, analyzed and reviewed. WMP data processing work instructions will include some or all of the following controls to avoid errors during data handling and manipulation:

- Perform periodic checks/reviews to assure data is not lost or incorrectly transcribed when transferred from one format to another.
- Minimize the number of data transfer steps and the number of personnel handling the data.
- Institute access control and accountability measures to protect hardcopy and electronic database files.
- Perform periodic reviews of manual calculations to ensure the results obtained are accurate and correct.
- Control software programs used to perform critical data reduction (e.g. calculations) functions in accordance with HNF-PRO-309, *Computer Software Quality Assurance Requirements*

7. Environmental Data Validation/Assessment

The WMP will review environmental data for project usability. This review will ensure that the data satisfies the project's specified DQOs or other data quality requirements. Full (CLP type) data validation is generally not required for routine waste characterization activities. The frequency and level of validation/assessment will be described in the project's QAPjP or other work documents. As a minimum, the following problem areas must be resolved:

- Deviations from sampling strategy/procedures as identified in the sampling plan,
- Missed holding times,
- Improper or inadequate sample preservation, sample containers, or other sample handling problems,
- Chain of Custody or other sample integrity problems,
- Laboratory QC sample result problems (e.g., QC sample results outside method specific tolerances).

Problems in any of these areas may result in data being rejected or used as qualified data if the problems do not impact the data usage as defined by the DQOs or other

QA objectives. The results of this review, along with the resolution of the problems, will be documented in accordance with the project's corrective action or data review/validation/assessment processes.

8. Quality-Affecting Software

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

A listing of procedures and documents implementing the "Work Processes" element of this QAPP is in Attachment 1A, Section 5, "Work Processes." Additional facility-specific and project-specific implementing procedures and documents are in Attachments 3 through 9.

10 CFR 830.120, (c)(2)(I) Work Processes

DOE O 414.1A, Contractor Requirements Document B(2)(a) Criterion 5 - Work Processes

QAMS 004/80, 6.0 Facilities, Equipment and Services

QAMS 004/80, 7.0 Data Generation

QAMS 004/80, 8.0 Data Processing

QAMS 004/80, 8.2 Validation

QAMS 004/80, 9.0 Data Quality Assessment

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*, and WMP-200, *Waste Management Project Procedures*, Section 7.2, "Engineering Practices," 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 WMP is not performing the design activities, WMP shall procure the necessary design services, including software development services in accordance with the PH procurement process. Applicable quality-affecting requirements shall be passed down in procurement documents to the vendor performing design or software development. Further, WMP shall review and assess vendor design activities for compliance with procurement requirements.

5. Planning Environmental Data Collection Activities

Prior to planning new characterization activities, process knowledge may be used to evaluate whether additional sampling and analysis is required when the regulations do not require analytical data to support the characterization and it is determined to be adequate for that purpose. For further guidance on process knowledge refer to HNF-EP-0063, *Hanford Site Solid Waste Acceptance Criteria*, Sections 2.3 and 2.4.

The Data Quality Objectives (DQO) process is used by WMP to plan and design a sampling and analysis program to evaluate the physical and chemical properties of a waste stream. EPA's DQO process described in EPA/600/R-96/055(EPA QA/G-4), *Guidance for the Data Quality Objectives Process*, can be used to satisfy this requirement or alternative methods can be used to establish data quality requirements. The DQOs must be established prior to starting sampling and analysis activities to ensure the proper type, quantity and quality of data is collected to support the data user's needs. The application of the DQO process is designed to be flexible depending upon the data needs and therefore the level of rigor applied to DQO development is defined by the graded approach. Project and facility procedures, plans or other work instructions will define their DQOs or other QA Objectives along with the methods used to establish those requirements.

After completion of the DQOs or other QA Objectives, a Sample and Analysis Plan (SAP), Waste Analysis Plan (WAP) or equivalent will be developed. As a minimum, the sampling documents will include:

- A sampling design that provides for a sufficient number of samples to support the decisions in the DQOs or other QA Objectives and obtains samples that are representative of the waste being characterized. In addition, the analytical methods selected must measure the parameters of concern at the required level of detection, precision and accuracy established in the DQOs or QA Objectives.
- Identification of the sampling methods and equipment to be used and methods to clean the sampling equipment if they are not single use.
- Criteria for selecting sample sites or identification of sampling locations, amounts and frequencies.
- Types of sample containers to be used along with any preservation, holding times and custody requirements that may be applicable.
- Sample identification methods and any special instructions for handling, subdividing or compositing the samples in the field that may be applicable.
- Identification of field QC samples (e.g., field duplicates, trip blanks, field blanks, etc.) to be taken and their frequencies.
- Instructions for taking any required field measurements or other sampling information, and methods for documenting the data collected.

A listing of procedures and documents implementing the "Design" element of this QAPP is in Attachment 1A, Section 6, "Design." Additional facility-specific and project-specific implementing procedures and documents are in Attachments 3 through 9.

10 CFR 830.120, (c)(2)(ii) Design

DOE O 414.1A, Contractor Requirements Document B(2)(b) Criterion 6 - Design

QAMS 004/80, 7.1 Quality Assurance Project Plans - QA Objectives for Measurement Data (in terms of precision, accuracy, completeness, comparability and representativeness)

QAMS 004/80, 7.1 Quality Assurance Project Plans - Sampling Procedures

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 FH PHMC-wide procurement process procedures. QA procurement requirements are specified in HNF-MP-599 and HNF-PRO-268, *Control of Purchased/Acquired Items and Services*.

FH manages the PHMC-wide supplier evaluation program and maintains the Evaluated Suppliers List (ESL). FH also performs source and receipt inspections and manages the PHMC-wide suspect/counterfeit items program.

When requested, the WMP provides expertise and assistance to FH 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.

The WMP procures environmental analytical services from approved off-site laboratories operating under a Quality Assurance Program meeting the requirements identified in Subsection 3.1.1 Item 4. The WMP typically obtains on-site analytical services from the PH Analytical Services Provider. The QA Program for Analytical

Services (AS) is described in HNF-6806, *Analytical Services Quality Assurance Program Plan*. It also lists additional laboratory and project-specific QAPPs and QAPjPs that have been approved for use.

Before delivery of the samples to the analytical laboratory, the unique analytical requirements shall be communicated to the laboratory. These requirements include the following:

- Required analytical method(s) and the parameters to be measured.
- Data quality needs (DQO requirements or as a minimum the precision, accuracy, and detection limits required).
- Types of samples to be analyzed (sample matrix).
- Types of QC samples, frequencies and acceptance criteria.
- Sample handling requirements (e.g., holding, custody and preservation requirements).
- Turnaround time (amount of time from sample receipt to data delivery) in the laboratory.
- Data reporting requirements.

These instructions can be provided to the laboratory through a Statement of Work, Letter of Instructions, Contract, copies of the SAPs or some other PH procurement or work agreement document. The AS Analytical Programs and Client Integration organization, under the Hanford Analytical Services Program, can assist WMP in providing this interface with the laboratories.

The WMP may procure environmental sampling services from off-site suppliers (e.g., Waste Management Technical Services) that are approved for use in accordance with the PH procurement process listed here.

A listing of procedures and documents implementing the "Procurement" element of this QAPP is in Attachment 1A, Section 7, "Procurement." Additional facility-specific and project-specific implementing procedures and documents are in Attachments 3 through 9.

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, Interim Safety Basis, 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.

The WMP 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 listing of procedures and documents implementing the "Inspection and Acceptance Testing" element of this QAPP is in Attachment 1A, Section 8, "Inspection and Acceptance Testing." Additional facility-specific and project-specific implementing procedures and documents are in Attachments 3 through 9.

10 CFR 830.120, (c)(2)(iv) Inspection and Acceptance Testing
DOE O 414.1A, 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 system assessments or technical system assessments. The focus of management system assessments are to evaluate the effectiveness of the management controls that are established to achieve and assure data quality. While technical system assessments are done to evaluate the effectiveness or the performance of the technical system and its elements and focus on compliance to documented requirements, specifications and objectives. Technical system assessments consist of a review of field sample and collection activities, specific procedures, and related documentation. System assessments should be conducted prior to or shortly after new systems are operational and should continue on a regularly scheduled basis during the lifetime of the project or continued operation.

The WMP management assessments will be planned, scheduled, conducted, evaluated, and, where appropriate, trended in accordance with HNF-PRO-246, *Management Assessment*, and WMP-200, *Waste Management Project 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 Program Manager, WMP Performance Assurance, corrective actions will be independently verified and validated by QA personnel in accordance with WMP-200, *Waste Management Project Procedures*, Section 1.2, "Assessment Program."

10 CFR 830.120, (c)(3)(I) Management Assessment
DOE O 414.1A, Contractor Requirements Document B(3)(a) Criterion 9 - Management
QAMS 004/80, 10.0 Corrective Action

3.3.2 Independent Assessment

Independent assessments in compliance with 10 CFR 830.120 (c)(3)(ii) "Independent Assessment," and DOE O 414.1A, *Contractor Requirements Document*, B(3)(b),

"Criterion 10 - Independent Assessment," are the responsibility of FH in accordance with HNF-MP-599, *Project Hanford Quality Assurance Program Description*, Section 10, "Independent Assessment." When requested, the WMP will assist the FH 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 WMP-200, *Waste Management Project Procedures*, Section 1.3, "Corrective Action Management."

Groups such as the U.S. Environmental Protection Agency, State of Washington Department of Ecology, Defense Nuclear Facilities Safety Board, DOE Richland Operations Office, and DOE Headquarters may perform Independent Assessments. The follow up activities for these assessments will be the same as for the assessments performed by FH.

Performance Audit/Performance Evaluation

Performance audits or performance evaluation (PE) studies are independent checks to measure the performance of a laboratory's analytical operations. Individual projects or facilities may elect to perform their own performance audit by introducing check samples (blinds or double blind samples) for analysis by the laboratory to provide an independent evaluation of the adequacy of the measurement system. If initiated, project and facility procedures, plans or other work instructions will define how these audits will be scheduled, performed, documented and when corrective action will be taken and verified.

The WMP may also request contracted laboratories to participate in specific inter-laboratory PE program(s), based on the analysis they are performing. These instructions shall be communicated to the laboratory through a Statement of Work, Contract, copies of the SAPs or some other PH procurement or work agreement document. Specific PE programs that the Analytical Services 222-S and WSCF laboratories participate in are detailed in HNF-SD-CP-QAPP-016, "222-S Laboratory Quality Assurance Plan," and HNF-SD-CP-QAPP-017, "Waste Sampling and Characterization Facility Quality Assurance Plan."

10 CFR 830.120, (c)(3)(ii) Independent Assessment
DOE O 414.1A, Contractor Requirements Document B(3)(b) Criterion 10 - Independent Assessment
QAMS 004/80, 10.0 Corrective Action

4.0 DESIGNATED REVIEWERS

This QAPP shall be reviewed by selected WMP personnel. Approval will be by WMP Performance Assurance Program Manager, WMP Vice President, and FH Performance Assurance Vice President.

5.0 REFERENCES

- 10 CFR 830.120, *Quality Assurance Requirements*
- DOE O 414.1A, *Quality Assurance*
- WA 7890008967, *Hanford Facility RCRA Permit*
- EPA QAMS 004/80, *Interim Guidelines and Specifications for Preparing Quality Assurance Program Plans*
- 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 for Nuclear Facilities*
- HNF-PRO-261, *Quality Assurance Program Plans*
- WMP-100, *Waste Management Project Policies*

6.0 ATTACHMENTS

Attachment 1A: Basic Requirements QAPD Implementation Matrix
Attachment 1B: Basic Requirements QAMS Implementation Matrix
Attachment 2: Organization Chart
Attachment 3: Solid Waste Storage and Disposal
Attachment 4: Solid Waste Treatment
Attachment 5: 200 Area Liquid Waste Processing Facilities
Attachment 6: Waste Encapsulation and Storage Facility
Attachment 7: Waste Services
Attachment 8: Waste Receiving and Processing Facility
Attachment 9: Transuranic (TRU) Projects
Attachment 10: WMP Suspect/Counterfeit Items Plan

Attachment 1A - Basic Requirements QAPD Implementation Matrix

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
Section 1, Program		
Quality Assurance Program Plans	HNF-PRO-261, <i>Quality Assurance Program Plans</i>	
Project Hanford QA Requirements Flowdown	HNF-MP-001, <i>FH Management Plan</i> HNF-MP-003, <i>Integrated Environment, Safety and Health Management Description</i> HNF-PRO-261, <i>Quality Assurance Program Plans</i> HNF-PRO-265, <i>Standards/Requirement Identification Document (S/RID) Process</i>	
Quality Planning	HNF-PRO-261, <i>Quality Assurance Program Plans</i>	
Organization, Responsibilities, and Interfaces	HNF-PRO-192, <i>Buyers Technical Representative Assignment and Duties</i> HNF-PRO-707, <i>PHMC Acquisition Authority</i>	WMP-100, Section 1.0, General Policy Statements WMP-100, Section 4.0, WMP Charter Description WMP-100, Section 4.1, Waste Management Project Charter WMP-100, Section 4.2, WMP Project Charters WMP-100, Section 4.3, WMP Functional Charters WMP-100, Section 4.6, WMP Integrated Safety Management Roles, Responsibilities and Functions
Readiness Review	HNF-PRO-055, <i>Facilities Start-Up Readiness</i>	WMP-200, Section 1.6, Operational Readiness Activities
Stop Work Authority	HNF-PRO-074, <i>Safety Responsibilities</i>	
Graded Application of Project Hanford QA Program	HNF-PRO-261, <i>Quality Assurance Program Plans</i> HNF-PRO-259, <i>Graded Approach</i> HNF-PRO-704, <i>Hazard & Accident Analysis Process</i>	
Resolution of Professional Disagreements		
Developing and Maintaining S/RIDS	HNF-PRO-265, <i>Standard/Requirements Identification Document (S/RID) Process</i>	
Section 2, Personnel Training & Qualification		
Project Hanford Training and Qualification Program	HNF-PRO-168, <i>Employee Training Responsibilities</i> HNF-PRO-169, <i>Assigning Training Requirements</i> HNF-PRO-170, <i>Analyzing Training Requirements</i>	WMP-200, Section 5.1, Training Plan WMP-200, Section 5.3, Training Implementation Matrix WMP-390, Training Series Procedures

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
	HNF-PRO-174, <i>Evaluating Training</i> HNF-PRO-263, <i>Qualification and Certification of Inspection and Test Personnel</i> HNF-PRO-459, <i>Environmental Training</i> HNF-PRO-538, <i>Criticality Safety Training</i> HNF-MP-011, <i>Site-Wide Training and Qualification Plan</i>	
Training and Indoctrination	HNF-PRO-111, <i>Occupational Medical Qualification and Monitoring</i> HNF-PRO-166, <i>Transportation Safety Training Requirements</i> HNF-PRO-179, <i>Obtaining Training Equivalencies, Waivers and Extensions</i> HNF-PRO-263, <i>Qualification and Certification of Inspection and Test Personnel</i> HNF-PRO-347, <i>Employee Fire Protection Training</i> HNF-PRO-459, <i>Environmental Training</i> HNF-PRO-538, <i>Criticality Safety Training</i> HNF-MP-011, <i>Site-Wide Training and Qualification Plan</i>	WMP-200, Section 2.5, Control of On-Shift Training WMP-200, Section 2.14, Required Reading WMP-200, Section 5.1, Training Plan WMP-200, Section 5.2, Drill Program
Qualification and Certification	HNF-PRO-111, <i>Occupational Medical Qualification and Monitoring</i> HNF-PRO-176, <i>Preparing Qualification Programs at Nuclear Facilities</i> HNF-PRO-177, <i>Preparing Certification Programs at Nuclear Facilities</i> HNF-PRO-178, <i>Qualifying Instructional Staff</i> HNF-PRO-263, <i>Qualification and Certification of Inspection and Test Personnel</i> HNF-PRO-343, <i>Selection of Radiological Control Technicians</i> HNF-PRO-364, <i>Selection of Senior Radiological Control Technician Lead Assignments</i>	WMP-200, Section 1.1, Procedure Control Program WMP-200, Section 1.2, Assessment Program WMP-200, Section 1.3, Corrective Action Management WMP-200, Section 5.1, Training Plan
Training and Qualification Records	HNF-PRO-263, <i>Qualification and Certification of Inspection and Test Personnel</i> HNF-PRO-351, <i>Fire Protection System Testing/Inspection and Maintenance</i> HNF-PRO-459, <i>Environmental Training</i> HNF-PRO-538, <i>Criticality Safety Training</i>	WMP-200, Section 5.1, Training Plan
Section 3, Quality Improvement		
Deficiency Identification	HNF-PRO-052, <i>Corrective Action Management</i> HNF-PRO-060, <i>Reporting Occurrences and Processing Operations Information</i> HNF-PRO-298, <i>Nonconforming Item Reporting and Control</i> HNF-PRO-315, <i>Completed Decision Making Packages</i> HNF-PRO-316, <i>Radiation Protection</i>	WMP-200, Section 2.6, Abnormal Event Investigation, Notification, and Occurrence Reporting WMP-200, Section 1.3, Corrective Action Management

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
	<i>Interpretive Authority</i> HNF-PRO-319, <i>Radiation Protection Self-Assessments</i> HNF-PRO-351, <i>Fire Protection System Testing/Inspection and Maintenance</i> HNF-PRO-388, <i>Radiological Problem Reports</i> HNF-PRO-435, <i>Required Radiological Surveillances</i> HNF-PRO-453, <i>Spill and Release Reporting</i> HNF-PRO-653, <i>Deficiency Tracking System</i>	
Corrective Action Management	HNF-PRO-052, <i>Corrective Action Management</i> HNF-PRO-067, <i>Managing Lessons Learned</i> HNF-PRO-319, <i>Radiation Protection Self-Assessments</i> HNF-PRO-388, <i>Radiological Problem Reports</i> HNF-PRO-435, <i>Required Radiological Surveillance</i> HNF-PRO-684, <i>Fire Protection Assessments</i> HNF-PRO-2243, <i>Nuclear Safety Requirements Noncompliances</i>	WMP-200, Section 1.3, Corrective Action Management
Nonconformance Control	HNF-PRO-058, <i>Critique Process</i> HNF-PRO-298, <i>Nonconforming Item Reporting and Control</i> HNF-PRO-388, <i>Radiological Problem Report</i> HNF-PRO-549, <i>Criticality Safety Nonconformance Response</i>	
Performance Data Analysis	HNF-PRO-052, <i>Corrective Action Management</i> HNF-PRO-435, <i>Required Radiological Surveillances</i> HNF-PRO-2000, <i>Project Management for Construction-Execution Phase</i>	WMP-200, Section 1.9, Trending Program
Control of Suspect/Counterfeit Items	HNF-PRO-301, <i>Control of Suspect/Counterfeit Items</i>	WMP-200, Section 2.6, Abnormal Event Investigation, Notification, and Occurrence Reporting
Section 4, Documents and Records		
Documents	HNF-PRO-210, <i>Records Management Program Standards</i> HNF-PRO-211, <i>Public Information Repository and Administrative Record Files</i> HNF-PRO-224, <i>Document Control Program Standard</i> HNF-PRO-229, <i>Technical Procedure Standard</i> HNF-PRO-231, <i>Correspondence and Commitment Control Standards</i> HNF-PRO-232, <i>Project Files Management</i> HNF-PRO-233, <i>Review and Approval of Documents</i>	WMP-100, Section 2.1.1, Management Directives WMP-100, Section 2.3, Policy and Procedure System WMP-200, Section 1.1, Procedure Control WMP-200, Section 1.14, Review of Project Hanford Procedures WMP-200, Section 1.16, Document Review and Approval Designators WMP-200, Section 1.18, Technical Procedure Process WMP-200, Section 2.16, Technical

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
	HNF-PRO-244, <i>Engineering Data Transmittal Requirements</i> HNF-PRO-405, <i>Protecting and Controlling Classified Matter</i> HNF-PRO-440, <i>Engineering Document Change Control Requirements</i> HNF-PRO-589, <i>Processing Project Hanford Procedures</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i>	Procedures WMP-200, Section 3.1, Work Management WMP-360, Section 1.1, Technical Procedures Processing and Style Guide
Records	HNF-PRO-147, <i>Administrative Retirement of Property</i> HNF-PRO-163, <i>Documentation and Record Keeping</i> HNF-PRO-210, <i>Records Management Program Standards</i> HNF-PRO-222, <i>Quality Assurance Records Standards</i> HNF-PRO-232, <i>Project Management Files</i> HNF-PRO-351, <i>Fire Protection System Testing/Inspection and Maintenance</i> HNF-PRO-405, <i>Protecting and Controlling Classified Matter</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-2000, <i>Project Management for Construction-Execution Phase</i>	
Section 5, Work Processes		
Work Process Documents	HNF-PRO-062, <i>Identifying and Resolving Unreviewed Safety Questions</i> HNF-PRO-069, <i>Maintenance Management</i> HNF-PRO-154, <i>Responsibilities and Procedures for all Hazardous Material</i> HNF-PRO-210, <i>Records Management Program Standards</i> HNF-PRO-229, <i>Technical Procedures Standard</i> HNF-PRO-323, <i>External Dosimetry Quality Assurance</i> HNF-PRO-351, <i>Fire Protection System Testing/Inspecting and Maintenance</i> HNF-PRO-379, <i>External Dosimetry Program</i> HNF-PRO-380, <i>Internal Dosimetry Program</i> HNF-PRO-382, <i>Area Dosimetry Program</i> HNF-PRO-394, <i>Physical Protection of Property and Facilities</i> HNF-PRO-589, <i>Processing Project Hanford Procedures</i> HNF-PRO-2000, <i>Project Management for Construction-Execution Phase</i>	WMP-200, Section 2.2, Shift Routines and Operating Practices WMP-200, Section 2.4, Communications WMP-200, Section 2.10, Independent Verification WMP-200, Section 2.11, Log Keeping WMP-200, Section 2.12, Turnover Practices WMP-200, Section 2.13, Operations Aspects of Facility Chemistry and Unique Processes WMP-200, Section 2.15, Timely Orders WMP-200, Section 2.17, Operator Aid Postings WMP-200, Section 3.1, Work management WMP-200, Section 3.3, Radiological High Risk Review WMP-200, Section 3.5, Subcontractor Project and Construction Work WMP-200, Section 3.8, Enhanced Radiological Work Planning, WMP-200, Section 4.3, Unreviewed Safety Questions WMP-200, Section 4.4, Criticality Safety WMP-200, Section 4.6, Fire Protection WMP-200, Section 6.1, Waste Acceptance Program

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
Special Processes	HNF-PRO-229, <i>Technical Procedures Standard</i>	WMP-360, Section 1.1, Technical Procedures Processing and Style Guide
Identification and Control of Items	HNF-PRO-072, <i>Plant Instrumentation and Equipment Functional Status Identification</i> HNF-PRO-081, <i>Hazardous Energy Control Program</i> HNF-PRO-101, <i>Signs, Tags, and Barriers</i> HNF-PRO-102, <i>Safety Color Coding</i> HNF-PRO-133, <i>Tagging, Marking, and Recording Property</i> HNF-PRO-135, <i>Receiving, Inspection, Storage, Issuance & Return of Contractor Procured ASME Code Material</i> HNF-PRO-140, <i>Controlling Convenience Storage Inventory Systems</i> HNF-PRO-297, <i>Inspection, Test and Operating Status</i> HNF-PRO-335, <i>Use and Control of Purchasing Card (P-Card)</i> HNF-PRO-542, <i>Fissionable Material Labeling</i> HNF-PRO-617, <i>Labeling Requirements for Nuclear Material Containers</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-5432, <i>Hold Point Application in Technical Work Documents</i>	WMP-200, Section 2.8, Control of Equipment and System Status WMP-200, Section 2.9, Lockouts and Tagouts WMP-200, Section 2.18, Equipment and Piping Labeling WMP-200, Section 3.12, Chain of Custody for Environmental Media and Waste Samples
Handling, Shipping and Storage	HNF-PRO-087, <i>Storing, Using and Handling Compressed Gasses</i> HNF-PRO-096, <i>Material Handling and Storage</i> HNF-PRO-126, <i>Shipping and Returning Materials using the Parts and Tools Return (PTR) Form</i> HNF-PRO-129, <i>Controlling Spare Parts and Spare Equipment Inventory</i> HNF-PRO-130, <i>Requesting General Supplies Inventory and Just-in-Time Inventory Materials</i> HNF-PRO-131, <i>Receiving Radioactive Material Shipments from Private and Commercial Carriers</i> HNF-PRO-132, <i>Shipping Material Offsite</i> HNF-PRO-135, <i>Receiving, Inspection, Storage, Issuance & Return of Contractor Procured ASME Code Material</i> HNF-PRO-136, <i>Management and Control of Sensitive Property</i> HNF-PRO-138, <i>Controlling Precious Metals</i> HNF-PRO-139, <i>Control of Potable Alcohol, Syringes, & Hypodermic Needles</i> HNF-PRO-140, <i>Controlling Convenience Storage Inventory Systems</i> HNF-PRO-142, <i>Moving/Transferring Property within the Contractor</i> HNF-PRO-143, <i>Offsite Property Loans</i>	WMP-200, Section 3.6, Hoisting and Rigging Program

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
	<p>HNF-PRO-146, <i>Transfer of Property to Other Hanford Contractors</i></p> <p>HNF-PRO-150, <i>Management of Government-Owned Property in the Possession of Subcontractors and Vendors</i></p> <p>HNF-PRO-156, <i>Nonradioactive Hazardous Materials/Hazardous Waste (HM/HW) Shipments</i></p> <p>HNF-PRO-157, <i>Radioactive Material/Waste Shipments</i></p> <p>HNF-PRO-158, <i>Shipping and Receiving in the 1100 Area</i></p> <p>HNF-PRO-360, <i>Fire Protection/Prevention for Construction, General Occupancy and Demolition Activities</i></p> <p>HNF-PRO-374, <i>Physical Inventories of Materials, Facilities, Equipment & Facility Walkthroughs</i></p> <p>HNF-PRO-375, <i>Operation of Storage Facilities</i></p> <p>HNF-PRO-376, <i>Control of High Risk Personal Property</i></p> <p>HNF-PRO-543, <i>Fissionable Material Storage</i></p> <p>HNF-PRO-545, <i>Fissionable Material Packaging and Transportation</i></p> <p>HNF-PRO-579, <i>Carcinogen Control</i></p> <p>HNF-PRO-1819, <i>PHMC Engineering Requirements</i></p> <p>HNF-S-0477, <i>Specification for Procurement and On-Site Storage of Nuclear Grade High Efficiency Particulate Air (HEPA) Filter Sizes and Shapes not Covered by ASME AG-1</i></p> <p>HNF-S-0552, <i>Specification for Procurement and On-Site Storage of Nuclear Grade High Particulate Air (HEPA) Filters</i></p>	
Process Monitoring or Data Collection Instruments	<p>HNF-PRO-072, <i>Plant Instrumentation and Equipment Functional Status Identification</i></p> <p>HNF-PRO-324, <i>Spectral Studies</i></p> <p>HNF-PRO-436, <i>Radiation Protection Instrument Program</i></p> <p>HNF-PRO-490, <i>Calibration Management Program</i></p> <p>HNF-PRO-632, <i>GM Portable Survey Instrument</i></p> <p>HNF-PRO-633, <i>Portable Alpha Meter (PAM)</i></p> <p>HNF-PRO-634, <i>NRC AN/PDR-70 Snoopy</i></p> <p>HNF-PRO-637, <i>XETEX Telescan</i></p> <p>HNF-PRO-638, <i>William B. Johnson Extender</i></p>	WMP-200, Section 3.18, Instrument Calibration
Control of Computer Software	<p>HNF-PRO-309, <i>Computer Software Quality Assurance Requirements</i></p> <p>HNF-PRO-311, <i>Functional Security Requirements/Application Development</i></p>	

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
Section 6, Design		
Design Input	HNF-PRO-089, <i>Electrical Installation Safety</i> HNF-PRO-309, <i>Computer Software Quality Assurance Requirements</i> HNF-PRO-311, <i>Functional Security Requirements/Application Development</i> HNF-PRO-349, <i>Fire Protection Design Criteria</i> HNF-PRO-440, <i>Engineering Document Change Control Requirements</i> HNF-PRO-704, <i>Hazard and Accident Analysis Process</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-1999, <i>Project Management for Construction - Conceptual Phase</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i>	WMP-200, Section 4.3, <i>Unreviewed Safety Questions</i> WMP-200, Section 4.5, <i>Safety Analysis</i> WMP-200, Section 7.2, <i>Engineering Practices</i>
Design Process	HNF-PRO-244, <i>Engineering Data Transmittal Requirements</i> HNF-PRO-309, <i>Computer Software Quality Assurance Requirements</i> HNF-PRO-440, <i>Engineering Document Change Control Requirements</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-1999, <i>Project Management for Construction - Conceptual Phase</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i> HNF-PRO-2954, <i>Configuration Management Program Document</i>	WMP-200, Section 7.2, <i>Engineering Practices</i>
Design Verification	HNF-PRO-309, <i>Computer Software Quality Assurance Requirements</i> HNF-PRO-349, <i>Fire Protection Design Criteria</i> HNF-PRO-440, <i>Engineering Document Change Control Requirements</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-1999, <i>Project Management for Construction - Conceptual Phase</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i>	WMP-200, Section 7.2, <i>Engineering Practices</i>
Design Changes	HNF-PRO-309, <i>Computer Software Quality Assurance Requirements</i> HNF-PRO-440, <i>Engineering Document Change Control Requirements</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-1999, <i>Project Management for Construction - Conceptual Phase</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i> HNF-PRO-2954, <i>Configuration</i>	WMP-200, Section 7.2, <i>Engineering Practices</i>

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
	<i>Management Program Document</i>	
Design Documentation and Records	HNF-PRO-232, <i>Project Files Management</i> HNF-PRO-244, <i>Engineering Data Transmittal Requirements</i> HNF-PRO-309, <i>Computer Software Quality Assurance Requirements</i> HNF-PRO-440, <i>Engineering Document Change Control Requirements</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-1999, <i>Project Management for Construction - Conceptual Phase</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i> HNF-PRO-2954, <i>Configuration Management Program Document</i>	WMP-200, Section 7.1, <i>As-Built Drawings</i> WMP-200, Section 7.2, <i>Engineering Practices</i>
Computer Software	HNF-PRO-309, <i>Computer Software Quality Assurance Requirements</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-1999, <i>Project Management for Construction - Conceptual Phase</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i>	
Section 7, Procurement		
Procurement Planning	HNF-PRO-123, <i>Material Request/Purchase Requisition/Contract Requisition Process</i> HNF-PRO-129, <i>Controlling Spare Parts and Spare Equipment Inventory</i> HNF-PRO-150, <i>Management of Government-Owned Property in the Possession of Subcontractors and Vendors</i> HNF-PRO-261, <i>Quality Assurance Program Plans</i> HNF-PRO-268, <i>Control of Purchased/Acquired Items and Services</i> HNF-PRO-310, <i>Computer Security Within Procurement Cycle</i> HNF-PRO-335, <i>Use and Control of Purchasing Card (P-Card)</i> HNF-PRO-501, <i>Security Compliance for Procurement Request Originators</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-1998, <i>Construction Program Pre-Conceptual Activity</i> HNF-PRO-1999, <i>Project Management for Construction - Conceptual Phase</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i>	
Content of Procurement Documents	HNF-PRO-120, <i>Repository Protection Program</i>	

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
	<p>HNF-PRO-123, <i>Material Request/Purchase Requisition/Contract Requisition Process</i> HNF-PRO-129, <i>Controlling Spare Parts and Spare Equipment Inventory</i> HNF-PRO-150, <i>Management of Government-Owned Property in the Possession of Subcontractors and Vendors</i> HNF-PRO-186, <i>Preparing a Statement of Work for Services</i> HNF-PRO-268, <i>Control of Purchased/Acquired Items and Services</i> HNF-PRO-301, <i>Control of Suspect/Counterfeit Items</i> HNF-PRO-310, <i>Computer Security Within Procurement Cycle</i> HNF-PRO-501, <i>Security Compliance for Procurement Request Originators</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-1842, <i>External Work Orders to Other Hanford Contractors</i> HNF-PRO-1998, <i>Construction Program Pre-Conceptual Activity</i> HNF-PRO-1999, <i>Project Management for Construction - Conceptual Phase</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i></p>	
Supplier Evaluation and Selection	<p>HNF-PRO-268, <i>Control of Purchased/Acquired Items and Services</i> HNF-PRO-335, <i>Use and Control of Purchasing Card (P-Card)</i> HNF-PRO-3144, <i>Supplier Quality Assurance Program Evaluation</i></p>	
Control of Supplier Nonconformance	<p>HNF-PRO-268, <i>Control of Purchased/Acquired Items and Services</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i></p>	
Acceptance of Items and Services	<p>HNF-PRO-261, <i>Quality Assurance Program Plans</i> HNF-PRO-268, <i>Control of Purchased/Acquired Items and Services</i> HNF-PRO-283, <i>Control of Inspections</i> HNF-PRO-286, <i>Test Control</i> HNF-PRO-297, <i>Inspections, Test and Operating Status</i> HNF-PRO-335, <i>Use and Control of Purchasing Card (P-Card)</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i> HNF-S-0477, <i>Specification for Procurement and On-Site Storage of Nuclear Grade High Efficiency Particulate Air (HEPA) Filter Sizes and Shapes not Covered by ASME AG-1</i> HNF-S-0552, <i>Specification for Procurement and On-Site Storage of</i></p>	

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
	<i>Nuclear Grade High Particulate Air (HEPA) Filters</i> <i>WHC-S-0462, Specification for Procurement of Portable Nuclear Grade HEPA Filtered Vacuum Cleaners and Replacement Filters</i> <i>WHC-S-0463, Specification for Procurement of Portable Exhaust Equipment and Replacement Filters</i>	
Commercial Grade Items	HNF-PRO-268, <i>Control of Purchased/Acquired Items and Services</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i>	
Control of Supplier-Generated Documents	HNF-PRO-123, <i>Material Request/Purchase Requisition/Contract Requisition Process</i> HNF-PRO-232, <i>Project Files Management</i> HNF-PRO-268, <i>Control of Purchased/Acquired Items and Services</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i>	
Control of Suspect/Counterfeit Items	HNF-PRO-060, <i>Reporting Occurrences and Processing Operations Information</i> HNF-PRO-268, <i>Control of Purchased/Acquired Items and Services</i> HNF-PRO-301, <i>Control of Suspect/Counterfeit Items</i>	
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning	HNF-PRO-261, <i>Quality Assurance Program Plans</i> HNF-PRO-283, <i>Control of Inspections</i> HNF-PRO-286, <i>Test Control</i> HNF-PRO-1607, <i>Visual Weld Inspection</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i>	
Inspection and Acceptance Testing Process	HNF-PRO-263, <i>Qualification and Certification of Inspection and Test Personnel</i> HNF-PRO-283, <i>Control of Inspections</i> HNF-PRO-286, <i>Test Control</i> HNF-PRO-1607, <i>Visual Weld Inspection</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i> HNF-PRO-2000, <i>Project Management for Construction - Execution Phase</i>	WMP-200, Section 3.1, Work Management
Inspection and Acceptance Testing Results	HNF-PRO-283, <i>Control of Inspections</i> HNF-PRO-286, <i>Test Control</i> HNF-PRO-1607, <i>Visual Weld Inspection</i> HNF-PRO-1819, <i>PHMC Engineering Requirements</i>	
Inspection and Acceptance Testing Status	HNF-PRO-283, <i>Control of Inspections</i> HNF-PRO-286, <i>Test Control</i> HNF-PRO-297, <i>Inspection, Test, and Operating Status</i> HNF-PRO-1607, <i>Visual Weld Inspection</i>	

Attachment 1A: Basic Requirements QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	PHMC-Wide Procedures	WMP Procedures
	HNF-PRO-1819, <i>PHMC Engineering Requirements</i>	
Calibration of Measuring and Test Equipment	HNF-PRO-490, <i>Calibration Management Program</i>	WMP-200, Section 3.18, Instrument Calibration
Section 9, Management Assessment		
Management Assessments	HNF-PRO-076, <i>Safety Inspections</i> HNF-PRO-246, <i>Management Assessment</i> HNF-PRO-319, <i>Radiation Protection Self-Assessments</i> HNF-PRO-435, <i>Required Radiological Surveillances</i> HNF-PRO-548, <i>Criticality Inspections and Assessments</i>	WMP-200, Section 1.2, Assessment Program
Corrective Action	HNF-PRO-052, <i>Corrective Action Management</i> HNF-PRO-319, <i>Radiation Protection Self-Assessments</i> HNF-PRO-435, <i>Required Radiological Surveillances</i> HNF-PRO-548, <i>Criticality Inspections and Assessments</i>	WMP-200, Section 1.3, Corrective Action Management

Attachment 1B - Basic Requirements QAMS Implementation Matrix

Attachment 1B: Basic Requirements QAMS Implementation Matrix		
Environmental Quality Program Elements	Implementing Documents	
	PHMC-Wide Procedures	WMP Procedures
Project organization and responsibilities associated with data collection review and assessment. Key Personnel		
QA Objectives for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness.		WMP-200, Section 6.1, Waste Acceptance Criteria HNF-EP-0063, Hanford Site Solid Waste Acceptance Criteria
Sampling Procedures	HNF-PRO-5127, <i>Treatment, Storage and/or Disposal Units</i> , Section 2.2	
Analytical Procedures	HNF-PRO-5127, <i>Treatment, Storage and/or Disposal Units</i> , Section 2.2	
Preventive maintenance procedures and schedules for equipment, including Facility services that impact data quality.		WMP-200, Section 3.1, Work Management
Specific procedures to be used to routinely assess data precision, accuracy, completeness, comparability, and representativeness of specific measurement parameters involved.		<u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S <i>Laboratory Quality Assurance Plan</i> HNF-SD-CP-QAPP-017, <i>WSCF Quality Assurance Plan</i>
Corrective action procedures for resolving events when data fall outside acceptable limits.		WMP-200, Section 6.1, Waste Acceptance Criteria <u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S <i>Laboratory Quality Assurance Plan</i> HNF-SD-CP-QAPP-017, <i>WSCF Quality Assurance Plan</i>
QA reports to management on the performance and effectiveness of measurement systems used to assess data quality.		<u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S <i>Laboratory Quality Assurance Plan</i> HNF-SD-CP-QAPP-017, <i>WSCF Quality Assurance Plan</i>
Data collection and reporting requirements.		Work Agreement documents (e.g., MOU, LOI, SOW, etc) between Facility/Project and Contracted Lab (Specifies reporting requirements) <u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S <i>Laboratory Quality Assurance Plan</i> (Specifies reporting requirements) HNF-SD-CP-QAPP-017, <i>WSCF Quality Assurance Plan</i> (Specifies reporting requirements)

Attachment 1B: Basic Requirements QAMS Implementation Matrix		
Environmental Quality Program Elements	Implementing Documents	
	PHMC-Wide Procedures	WMP Procedures
Data reduction, review and validation.		<u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S <i>Laboratory Quality Assurance Plan</i> (Specifies data reduction and review requirements.) HNF-SD-CP-QAPP-017, <i>WSCF Quality Assurance Plan</i> (Specifies data reduction and review requirements.)
Requirements for calibration and performance evaluation samples for analytical methods used.	HNF-PRO-490, <i>Calibration Management Program</i>	WMP-200, Section 3.18, Instrument Calibration <u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S <i>Laboratory Quality Assurance Plan</i> HNF-SD-CP-QAPP-017, <i>WSCF Quality Assurance Plan</i>
Requirements for data (and database) security, archival, and retention.	HNF-PRO-210, <i>Records Management Program Standards</i> HNF-PRO-222, <i>Quality Assurance Records Standards</i> HNF-PRO-5127, <i>Treatment, Storage and/or Disposal Units</i> , Section 2.2 HNF-PRO-211, <i>Public Information Repository and Administrative Records Files</i>	
Requirements for field and laboratory QA/QC activities.		Work Agreement documents (e.g., MOU, LOI, SOW, etc) between Facility/Project and Contracted Lab (Specifies Lab QA/QC requirements if different than Lab QAPP) <u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S <i>Laboratory Quality Assurance Plan</i> HNF-SD-CP-QAPP-017, <i>WSCF Quality Assurance Plan</i>
Requirements and qualifications for sampling and analysis personnel and TSD facility personnel.	HNF-PRO-5127, <i>Treatment, Storage and/or Disposal Units</i> , Section 2.2 HNF-PRO-459, <i>Environmental Training</i>	WMP-200, Section 5.1, Training Plan WMP-390, Section 6.2, Developing Qualification Cards
Requirements for sample handling, packaging, shipping, and chain of custody.		WMP-200, Section 3.12, Chain of Custody for Environmental Media and Waste Samples <u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S <i>Laboratory Quality Assurance Plan</i> HNF-SD-CP-QAPP-017, <i>WSCF Quality Assurance Plan</i>

Attachment 1B: Basic Requirements QAMS Implementation Matrix		
Environmental Quality Program Elements	Implementing Documents	
	PHMC-Wide Procedures	WMP Procedures
Requirements for sample types, number, quantities, and sampling location.	HNF-PRO-5127, <i>Treatment, Storage and/or Disposal Units</i> , Section 2.2	Work Agreement documents (e.g., MOU, LOI, SOW, etc) between Facility/Project and Contracted Lab (Specifies Sample Types and Numbers.)
Selection of field sampling or test methodologies, including specific sampling or field analytical instrumentation requirements and other analytical testing requirements.	HNF-PRO-5127, <i>Treatment, Storage and/or Disposal Units</i> , Section 2.2 HNF-PRO-5121, <i>Waste Designation and Land Disposal Requirements</i>	Work Agreement documents (e.g., MOU, LOI, SOW, etc) between Facility/Project and Contracted Lab (Specifies analytical methods.)
Requirements for system and performance audits to monitor data quality.	HNF-PRO-246, <i>Management Assessments</i>	WMP-200, Section 1.2, Assessment Program <u>AS Labs</u> HNF-SD-CP-QAPP-016, 222-S Laboratory Quality Assurance Plan HNF-SD-CP-QAPP-017, WSCF Quality Assurance Plan

Attachment 2 - Organization Chart

Waste Management Project

**Attachment 3 - SWSD
Facility-Specific Implementation
Solid Waste Storage and Disposal**

1. Facility/Project Name

Solid Waste Storage and Disposal (SWSD)

2. Scope

The SWSD project is chartered to provide waste storage, limited treatment, and disposal services for the Waste Management Project (WMP). SWSD performs all necessary facility/project operations and is responsible for work assignment, regulatory compliance, safety, training, radiological control, maintenance, quality assurance, process engineering, configuration control, and subcontractor activities within the following buildings and areas:

- Low-Level Burial Grounds (LLGB) - Used to dispose of low-level radioactive waste. Hazard Category 2 is assigned to operations in all open TRU trenches, burial ground 4C, or the caissons in 4B. Hazard Category 3 for the rest of the burial grounds.
- Mixed Waste Disposal Units (MWDU) [Trenches 31 and 34] - Resource Conservation and Recovery Act (RCRA) compliant Subtitle C trenches for mixed waste storage and disposal. Currently Trench 34 is receiving mixed waste for disposal and Trench 31 is available for storage of mixed waste. At a future date, Trench 31 will be placed in the disposal mode as waste management needs dictate. These trenches can also be used for disposal of radioactive contaminated Toxic Substance Control Act (TSCA) polychlorinated biphenyl (PCB) waste. MWDU is assigned a Hazard Category 3 rating.
- Central Waste Complex (CWC) - Stores and treats RCRA mixed waste, radioactively contaminated PCB waste, TRU waste, TRU mixed waste, and low-level waste (LLW). The CWC also includes RCRA-compliant modules for storage of alkali metal products (not waste) and low-flash-point waste. CWC is assigned a Hazard Category 2 rating, while the German Log Pad in 2420-W is assigned a Hazard Category 3 and Sodium Storage has a less than Hazard Category 3 rating.
- 616 Non-radioactive Dangerous Waste Storage Facility (NRDWSF) - Provided for temporary storage of non-radioactive wastes. The 616 NRDWSF is in the process of RCRA closure and the building will be officially closed when Ecology approves the closure activities. Not a Nuclear Facility.

3. Facility/Project Organization

Refer to the WMP Organizational Charts, WMP-100, *Waste Management Project Policies*, Section 4.2, "WMP Project Charters," and WMP-100, *Waste Management Project Policies*, Section 4.6, "Integrated Safety Management Roles, Responsibilities, and Functions" for SWSD responsibilities. The SWSD Project Manager is assigned responsibility for implementing the QA Program. Major organizational interfaces between SWSD and other Site contractors (such as DynCorp, Fluor Federal Services, Waste Management Technical Services) are no different from other WMP projects or facilities and is defined by the WMP and Project Hanford level documents and procedures.

4. Description of the Facility's Authorization Documentation

Nuclear Safety

Nuclear Safety basis documents for SWSD are:

1. Central Waste Complex (CWC)

- HNF-SD-WM-ISB-007, latest revision, "CWC Interim Safety Basis"
- HNF-SD-WM-TSR-005, latest revision, "Central Waste Complex Interim Operational Safety Requirements"
- HNF-SD-WM-SEL-009, latest revision, "Safety Equipment List"

2. Burial Grounds

- HNF-SD-WM-ISB-002, latest revision, "Solid Waste Burial Grounds Interim Safety Basis"
- HNF-SD-WM-SEL-012, latest revision, "Low Level Burial Grounds Safety Equipment List"
- HNF-SD-WM-SAR-058, latest revision, "Final Safety Analysis for Contact-Handled Transuranic Waste Drum In situ Inspection and Vented Drum Retrieval"
- HNF-SD-WM-SARR-028, latest revision, "Solid Waste Burial Grounds Interim Safety Analysis"
- HNF-SD-WM-TSR-001, latest revision, "Solid Waste Burial Grounds Interim Operational Safety Requirements"
- Letter, K. A. Klein to R. D. Hanson, "Justification for Continued Operations (JCO) (Assay and Shipment of Transuranic [TRU] Waste Containers in 218-W-4C Trench 29)," 00-ABD-053, dated July 20, 2000
- Letter, R. D. Hanson to K. A. Klein, "Justification for Continued Operation (Assay and Shipment of TRU Waste Containers in 218-W-4C Trench 29)," FH-0003822, dated July 19, 2000

Environmental

The CWC and the LLBG are currently under interim status requirements in accordance with WAC 173-303. The CWC has a Part A permit for container treatment and storage and LLBG has a Part A permit for container storage and disposal. The CWC Part A, Revision 4, was approved by the State of Washington, Department of Ecology (Ecology) on February 18, 1997 and the LLBG Part A, Revision 9, was approved by Ecology on March 6, 1997.

The 616 NRDWSF has a final status Part B permit for container storage. The Part B permit was approved by Ecology and included in the Hanford Facility RCRA Permit in September 1994. The unit is currently being clean closed and removed from the Hanford Facility RCRA Permit once Ecology's approval is obtained.

5. Management Systems not Defined by the WMP QAPP

There are no unique QA standards or management processes applicable to SWSD outside of those addressed in the WMP QAPP.

6. Facility's Graded Application of the QA Program Description

SWSD's graded approach is the same as defined in Section 1.0 of the WMP QAPP.

7. Exceptions Taken to WMP QAPP Program Requirements

The SWSD takes no exceptions or has any open waivers against the 10 elements defined in the FH QAPD or the WMP QAPP.

8. SWSD Implementation Matrix

SWSD project-specific procedures that implement the FH QAPD are listed in Table 1 of this attachment. Table 2 lists the SWSD project-specific procedures that implement the environmental sampling and analysis QA requirements (e.g. QAMS).

Note: Users of this document are advised to refer to the FH HNF-PRO, WMP-100, and WMP-200 level procedures identified in Attachments 1A, 1B, and HNF-MP-003 Appendix D, for additional Site and project-related procedures that may affect the work activities identified in the tables below.

Table 1: Solid Waste Storage and Disposal QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Section 1, Program		
Project Hanford QA Requirements Flowdown		
Quality Planning		
Organization, Responsibilities, and Interfaces		
Readiness Review		
Stop Work Authority		
Graded Application of Project Hanford QA Program		
Section 2, Personnel Training and Qualifications		
Training and Indoctrination	WMP-342, Section 4.2, Required Reading	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Qualification and Certification		
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification	WMP-342, Section 1.6, Commitment and Action Tracking	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Corrective Action Management		
Nonconformance Control		
Feedback and Improvement (includes Performance Indicators and Trend Analysis)		
Section 4, Documents and Records		
Documents		
Records	WMP-342, Section 1.2, Records Program	
Section 5, Work Processes		
Work Process Documents	WMP-342, Section 3.3, Radiological Work Planning Review	<ul style="list-style-type: none"> Identify Hazards, Environmental Impacts & ES&H Requirements Analyze Hazards and Environmental Impacts and Implement Controls Provide Feedback and Continuous Improvement
Special Processes		
Identification and Control of Items	WMP-342, Section 1.7, Nuclear Material Control	
Handling, Shipping and Storing		
Control of Process Monitoring or Data Collection Instruments		
Control of Computer Software		

Table 1: Solid Waste Storage and Disposal QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Section 6, Design		
Design Input		
Design Process		
Design Verification		
Design Change Control		
Design Documentation and Records		
Section 7, Procurement		
Procurement Planning		
Content of Procurement Documents		
Supplier Evaluation and Selection		
Supplier Performance Monitoring		
Acceptance of Items and Services		
Commercial Grade Items		
Procurement Document Control, including Supplier-generated Documents		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		
Inspection and Acceptance Testing Records		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Computer Program Testing		
In-Process Inspection		
Section 9, Management Assessment		
Management Assessments	WMP-342, Section 2.2, Construction/Project Safety Oversight	<ul style="list-style-type: none"> • Provide Feedback and Continuous Improvement • Management Review
Corrective Action (resulting from Management Assessments)		

Table 2: Solid Waste Storage and Disposal QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
Project organization and responsibilities associated with data collection, review, and assessment. Key Personnel	All RCRA required sampling and analysis activities are coordinated with Waste Services through a "Fluor Hanford Project Interface Description for Waste Management Services Provided by the WS Program to the Solid Waste Storage and Disposal Project." Key personnel: ECO - D. G. Saueressig, QA - C. A. McNaughton, Facility/Project Manager - R. D. Greenwell
QA Objectives for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness.	HNF-1886, Central Waste Complex Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan HNF-EP-0063, Hanford Site Solid Waste Acceptance Criteria (Specifies general physical/chemical criteria to satisfy state/federal regulations)
Sampling Procedures	SW-080-003, Obtain Samples Using Liquid Collection Systems SW-080-010, Radioactive Mixed Waste and Disposal Facilities Trench Sampling
Analytical Procedures	SW-080-003, Obtain Samples Using Liquid Collection Systems HNF-1886, Central Waste Complex Waste Analysis Plan (specifies analytical methods) HNF-5841, Low-Level Burial Grounds Waste Analysis Plan (specifies analytical methods)
Preventive maintenance procedures and schedules for equipment, including Facility services, that impact data quality.	N/A (No in-plant equipment used to collect environmental data in SWSD facilities)
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 events when data fall outside acceptable limits.	HNF-1886, Central Waste Complex Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan
QA reports to management on the performance and effectiveness of measurement systems used to assess data quality.	
Data collection and reporting requirements.	HNF-1886, Central Waste Complex Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan

Table 2: Solid Waste Storage and Disposal QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
Data reduction, review and validation.	HNF-1886, Central Waste Complex Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan
Requirements for calibration and performance evaluation samples for analytical methods used.	
Requirements for data (and database) security, archival, and retention.	
Requirements for field and laboratory QA/QC activities.	
Requirements and qualifications for sampling and analysis personnel.	
Requirements for sample handling, packaging, shipping, and chain-of-custody.	SW-080-003, Obtain Samples Using Liquid Collection Systems SW-080-010, Radioactive Mixed Waste and Disposal Facilities Trench Sampling
Requirements for sample types, number, quantities, and sampling location.	HNF-1886, Central Waste Complex Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan
Selection of field sampling or test methodologies, including specific sampling or field analytical instrumentation requirements and other analytical testing requirements.	HNF-1886, Central Waste Complex Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan
Requirements for system and performance audits to monitor data quality.	

Attachment 4 - SWT
Facility-Specific Implementation
Solid Waste Treatment

1. Facility/Project Name

Solid Waste Treatment (SWT)

2. Scope

The Solid Waste Treatment project provides waste treatment, storage, head gas sampling, and equipment decontamination services. Solid Waste Treatment performs all necessary facility/project operations and is responsible for regulatory compliance, safety, training, radiological control, maintenance, quality assurance, process engineering, configuration control, and subcontractor activities within the following facilities located in the 200 West Area of the Hanford Site.

- 2706-T Building. Used for equipment and vehicle decontamination and the treatment, sampling, verification, repackaging, and storage of radioactive and mixed waste.
- 221-T Building (including canyon, head-end, and rail tunnel). Used for equipment decontamination and the treatment, sampling, verification, repackaging, and storage of radioactive and mixed waste. The 221-T building is also used to store 72 irradiated fuel blanket assemblies from the PWR Core 2 Shippingport reactor and sludge removal from the K-Basins.
- Other areas within the Solid Waste Treatment project TSD permit boundary are, or can be, used for treatment and storage of radioactive waste and mixed waste.

The T-Plant complex is assigned a Hazard Category of 3 (non-reactor nuclear facility). Hazard Category 3 facilities show the potential of significant consequences only in the local facility area.

3. Facility/Project Organization

Refer to the WMP Organizational Charts, WMP-100, *Waste Management Project Policies*, Section 4.2, "WMP Project Charters," and WMP-100, *Waste Management Project Policies*, Section 4.6, "Integrated Safety Management Roles, Responsibilities, and Functions," for SWT responsibilities. The SWT Project Manager is assigned responsibility for implementing the QA Program and is responsible for the safe and efficient operation of the Solid Waste Treatment project. The Project Manager is responsible for maintaining compliance with various regulatory standards and managing

the Solid Waste Treatment project in order to complete the restoration mission of the Hanford Site.

While the SWT Project Manager retains overall responsibility for achieving and verifying the achievement of quality, authority and responsibility has been delegated to the following functional managers to carry out these responsibilities.

- Environmental Compliance Officer (ECO)/Environmental Scientist - The ECO is responsible for the day-to-day compliance activities of the SWT project. In this role, the ECO will report and prioritize compliance issues to the Project Manager and RL as appropriate. The ECO serves as the Point of Contact (POC) for any environmental inspections, audits, tours, technical assistance visits, etc. In addition, the ECO assists to assure the SWT operates in a manner consistent with applicable environmental regulations.
- Operations Manager - In support of SWT activities, the Operations Manager provides direct line supervision to SWT personnel.
- Radiological Control (RC) Manager - The SWT RC Manager directs the radiological support of the SWT operations. The RC Manager provides a broad range of RC support and services to SWT programs and selected services to RL. The manager monitors, analyzes, and reports RC experiences and performances. Improvement actions are implemented as needed to ensure a safe and healthy work place.
- Project Support/Engineering Manager - The Engineering Manager provides engineering support to all SWT operations. This position maintains technical competency over all aspects of SWT facilities.
- Maintenance Manager - The Maintenance Manager directs activities for work control and maintenance of the operating plant and supports the project. A staff of approximately 21 permanent and matrix personnel reports to the Maintenance Manager.

Major organizational interfaces between SWT and other Site contractors (such as DynCorp, Fluor Federal Services, Waste Management Technical Services) are no different from other WMP projects or facilities and is defined by the WMP and Project Hanford level documents and procedures.

4. Description of the Facility's Authorization Documentation

Nuclear Safety

Nuclear Safety basis documents for the T-Plant complex are:

- HNF-SD-WM-ISB-006, latest revision, "Interim Safety Analysis for Solid Waste Facilities (T-Plant)"
- HNF-SD-WM-ISB-006, latest revision, "Appendix E - Safety Equipment List"
- HNF-SD-WM-TSR-003, latest revision, "T Plant Interim Operational Safety Requirements"
- HNF-2896, latest revision, "Safety Assessment for Project W-259"

Note: No Safety Class or Safety Significant equipment has been identified for the T-Plant facility.

Environmental

The T-Plant complex is currently under interim status requirements in accordance with WAC 173-303. The T-Plant complex has a Part A permit application for tank treatment and storage, container storage, other treatment, and a containment building which was approved by the State of Washington, Department of Ecology on December 23, 1998.

5. Management Systems not Defined by the WMP QAPP

The following activity of SWT is not subject to the environmental requirements (QAMS 004/005) listed in the WMP QAPP.

Sampling and transferring liquid effluents generated by SWT to TEDF are performed by SWT using WMP-340, Section 3.07, "Wastewater System Management and Administration" and plant operating procedure DO-100-035, "Verify and Repackage Waste at Treatment Facility." The samples are taken and analyzed in accordance with HNF-SD-LEF-PLN-002, "200 Area TEDF Effluent Sampling and Analysis Plan." Quality Assurance requirements for that activity is described in HNF-SD-LEF-QAPP-002, "Liquid Waste Processing Facilities Quality Assurance Project Plan." The transfer of liquid effluents between SWT and TEDF is controlled through the work agreement document HNF-SD-W049H-ICD-001, "200 Area Treated Effluent Disposal Facility Interface Control Document."

6. Facility's Graded Application of the QA Program Description

SWT's graded approach is the same as defined in Section 1.0 of the WMP QAPP.

7. Exceptions Taken to WMP QAPP Program Requirements

SWT takes no exceptions or has any open waivers against the 10 elements defined in the FH QAPD or the WMP QAPP.

8. SWT Implementation Matrix

SWT project-specific procedures that implement the FH QAPD are listed in Table 1 of this attachment. Table 2 lists the SWT project-specific procedures that implement the environmental sampling and analysis QA requirements (e.g. QAMS).

Note: Users of this document are advised to refer to the FH HNF-PRO, WMP-100, and WMP-200 level procedures identified in Attachments 1A, 1B, and HNF-MP-003 Appendix D, for additional Site and project-related procedures that may affect the work activities identified in the tables below.

Table 1: Solid Waste Treatment QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Section 1, Program		
Project Hanford QA Requirements Flowdown		
Quality Planning		
Organization, Responsibilities, and Interfaces	WMP-340, Section 3.5, Staffing Plan	
Readiness Review		
Stop Work Authority		
Graded Application of Project Hanford QA Program		
Section 2, Personnel Training and Qualifications		
Training and Indoctrination		
Qualification and Certification		
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification	WMP-340, Section 3.3, Treatment Facility AJHA Implementation	<ul style="list-style-type: none"> Identify Hazards, Environmental Impacts and ES&H Requirements Analyze Hazards and Environmental Impacts and Implement Controls Perform Work within Controls Provide Feedback and Continuous Improvement
Corrective Action Management	WMP-340, Section 3.8, CAM Procedure for Risk Rank Zero Items	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Nonconformance Control		
Feedback and Improvement (includes Performance Indicators and Trend Analysis)		
Section 4, Documents and Records		
Documents	WMP-340, Section 3.4, Operations Procedure Distribution WMP-340, Section 3.6, Control of Operations Data Sheets	<ul style="list-style-type: none"> Perform Work within Controls
Records	WMP-340, Section 2.4, Records Program	
Section 5, Work Processes		
Work Process Documents	WMP-340, Section 1.6, Radiological Work	<ul style="list-style-type: none"> Identify Hazards, Environmental Impacts

Table 1: Solid Waste Treatment QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
	Planning Review	<ul style="list-style-type: none"> and ES&H Requirements Analyze Hazards and Environmental Impacts and Implement Controls Provide Feedback and Continuous Improvement
Special Processes		
Identification and Control of Items	WMP-340, Section 1.8, Treatment Facility Criticality Safety Control	
Handling, Shipping and Storing		
Control of Process Monitoring or Data Collection Instruments		
Control of Computer Software		
Section 6, Design		
Design Input		
Design Process		
Design Verification		
Design Change Control		
Design Documentation and Records		
Section 7, Procurement		
Procurement Planning		
Content of Procurement Documents		
Supplier Evaluation and Selection		
Supplier Performance Monitoring		
Acceptance of Items and Services		
Commercial Grade Items		
Procurement Document Control, including Supplier-generated Documents		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		
Inspection and Acceptance Testing Records		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Computer Program Testing		
In-Process Inspection		
Section 9, Management Assessment		
Management Assessments	WMP-340, Section 1.2, Construction/Project Safety Oversight	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement Management Review
Corrective Action (resulting from Management Assessments)		

Table 2: Solid Waste Treatment QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents
Project organization and responsibilities associated with data collection, review, and assessment. Key Personnel	All RCRA required sampling and analysis activities are coordinated with Waste Services. WMP-340, Section 2.1, Treatment Facility Waste Container Management Key Personnel: ECO - B. M. Barnes QA - D. L. Vance Facility/Project Manager - R. B. Barmettlor
QA Objectives for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness.	HNF-SD-EN-WAP-005, Waste Analysis Plan for T Plant Complex HNF-EP-0063, Hanford Site Solid Waste Acceptance Criteria (Specifies general physical/chemical criteria to satisfy State/Federal regulations)
Sampling Procedures	DO-100-035, Verify and Repackage Waste at Treatment Facility
Analytical Procedures	HNF-SD-EN-WAP-005, Waste Analysis Plan for T Plant Complex (Specifies analytical methods)
Preventive maintenance procedures and schedules for equipment, including Facility services, that impact data quality.	N/A (No in-plant equipment used to collect environmental data in SWT facilities.)
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 events when data fall outside acceptable limits.	HNF-SD-EN-WAP-005, Waste Analysis Plan for T Plant Complex
QA reports to management on the performance and effectiveness of measurement systems used to assess data quality.	
Data collection and reporting requirements.	HNF-SD-EN-WAP-005, Waste Analysis Plan for T Plant Complex
Data reduction, review and validation.	HNF-SD-EN-WAP-005, Waste Analysis Plan for T Plant Complex
Requirements for calibration and performance evaluation samples for analytical methods used.	
Requirements for data (and database) security, archival, and retention.	DO-100-035, Verify and Repackage Waste at Treatment Facility WMP-340, Section 2.1, Treatment Facility Waste Container Management WMP-340, Section 2.4, Records Program
Requirements for field and laboratory QA/QC activities.	
Requirements and qualifications for sampling and analysis personnel.	DO-100-035, Verify and Repackage Waste at Treatment Facility
Requirements for sample handling, packaging, shipping, and chain-of-custody.	DO-100-035, Verify and Repackage Waste at Treatment Facility

Table 2: Solid Waste Treatment QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents
Requirements for sample types, number, quantities, and sampling location.	HNF-SD-EN-WAP-005, Waste Analysis Plan for T Plant Complex
Selection of field sampling or test methodologies, including specific sampling or field analytical instrumentation requirements and other analytical testing requirements.	HNF-SD-EN-WAP-005, Waste Analysis Plan for T Plant Complex
Requirements for system and performance audits to monitor data quality.	

Attachment 5 - LWPF
Facility-Specific Implementation
200 Area Liquid Waste Processing Facility

1. Facility/Project Name

200 Area Liquid Waste Processing Facility (LWPF)

2. Scope

The LWPF project screens/evaluates, treats, stores, and disposes of liquid waste while providing safe, cost effective, and environmentally compliant operations. The LWPF project performs all necessary facility/project operations and is responsible for work assignment, regulatory compliance, safety, training, radiological control, maintenance, quality assurance, process engineering, configuration control, and subcontractor activities within the LWPF.

The LWPF project is comprised of the following:

- 242-A Evaporator - Hazard Category 2, Non-Reactor Nuclear Facility
- Liquid Effluent Retention Facility (LERF) - Radiological Facility
- 200 Area Treated Effluent Disposal Facility (TEDF) - Industrial Facility
- 200 Area Effluent Treatment Facility (ETF) - Radiological Facility

The facilities identified above provide:

- Volume reduction of mixed waste stored in double shell tanks (242-A Evaporator).
- Tanker truck unloading capabilities for low activity and low-level mixed wastewater. (ETF)
- Storage of low activity and low-level mixed wastewater in three 7.8 million-gallon basins. (LERF)
- Treatment and disposal of low activity and low-level mixed RCRA and CERCLA waste water streams. (ETF)
- Disposal of non-regulated treated wastewater from facilities in the 200 East and West Areas. (TEDF)
- Engineering and environmental expertise to solve wastewater challenges.

3. Facility/Project Organization

Refer to the WMP Organizational Charts, WMP-100, *Waste Management Project Policies*, Section 4.2, "WMP Project Charters," and WMP-100, *Waste Management Project Policies*, Section 4.6, "Integrated Safety Management Roles, Responsibilities,

and Functions" for LWPF responsibilities. The LWPF Project Manager is assigned responsibility for implementing the QA Program. Major organizational interfaces between LWPF and other Site contractors (such as DynCorp, Fluor Federal Services, Waste Management Technical Services) are no different from other WMP projects or facilities and is defined by the WMP and Project Hanford level documents and procedures.

4. Description of the Facility's Authorization Documentation

Nuclear Safety

Nuclear Safety basis documents for LWPF are:

242-A Evaporator

- HNF-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"

Safety Analysis documentation is not required for TEDF because it is an industrial facility.

Environmental

The LERF, ETF and 242-A Evaporator are all final status TSD units under the Hanford Facility (HF) RCRA Permit WA7890008967. The 242-A and LERF have a Part B permit for waste storage and treatment. While ETF has a Part B permit for waste treatment. The HF RCRA permit became effective on April 27, 2000.

The ETF and TEDF discharge to the soil column and have received the following discharge permits from the State of Washington, Department of Ecology:

- Permit ST4500 - 200 Area Effluent Treatment Facility
- Permit ST4502 - Treatment Effluent Disposal Facility

5. Management Systems not Defined by the WMP QAPP

Sampling and analysis of the liquid effluents discharged by the ETF and TEDF are controlled in accordance with the following documents.

- HNF-SD-LEF-QAPP-002, latest revision, "200 Area Liquid Effluent Facilities Quality Assurance Project Plan"
- HNF-SD-LEF-PLN-002, latest revision, "200 Area TEDF Effluent Sampling and Analysis Plan"

- DOE/RL-97-03, latest revision, Appendix 3A, *Hanford Facility Dangerous Waste Permit Application, Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility*

Sampling and analysis of the liquid effluents discharged by the 242-A Evaporator are controlled in accordance with the following.

- HNF-SD-WM-QAPP-009, latest revision, "242-A Evaporator Quality Assurance Project Plan"
- HNF-SD-WM-DQO-014, latest revision, "242-A Evaporator Data Quality Objectives"
- HNF-SD-WM-EV-060, latest revision, "242-A Evaporator Waste Analysis Plan"

6. Facility's Graded Application of the QA Program Description

The LWPF graded approach is the same as defined in Section 1.0 of the WMP QAPP.

7. Exceptions Taken to WMP QAPP Program Requirements

The LWPF takes no exceptions or has any open waivers against the 10 elements defined in the FH QAPD or the WMP QAPP.

8. LWPF Implementation Matrix

The LWPF project-specific procedures that implement the FH QAPD are listed in Table 1 of this attachment. Table 2 lists the LWPF project-specific procedures that implement the environmental sampling and analysis QA requirements (e.g. QAMS).

Note: Users of this document are advised to refer to the FH HNF-PRO, WMP-100, and WMP-200 level procedures identified in Attachments 1A, 1B, and HNF-MP-003 Appendix D, for additional Site and project-related procedures that may affect the work activities identified in the tables below.

Table 1: 200 Liquid Waste Processing Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Section 1, Program		
Project Hanford QA Requirements Flowdown		
Quality Planning		
Organization, Responsibilities, and Interfaces		
Readiness Review	WMP-331, Section 3.10, ETF/LERF/GTS Plant Restart	<ul style="list-style-type: none"> • Perform work within Controls
Stop Work Authority		

Table 1: 200 Liquid Waste Processing Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Graded Application of Project Hanford QA Program		
Section 2, Personnel Training and Qualifications		
Training and Indoctrination	WMP-331, Section 5.1, Dangerous Waste Training Plan	<ul style="list-style-type: none"> Perform Work within Controls
Qualification and Certification		
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification		
Corrective Action Management		
Nonconformance Control		
Feedback and Improvement (includes Performance Indicators and Trend Analysis)		
Section 4, Documents and Records		
Documents	WMP-331, Section 1.1, Operations Procedure Distribution WMP-331, Section 6.2, Waste Generating Plan	<ul style="list-style-type: none"> Analyze Hazards and Environmental Impacts and Implement Controls Perform work within Controls
Records		
Section 5, Work Processes		
Work Process Documents	WMP-331, Section 2.1, Component Status Seals WMP-331, Section 2.2, Lock and Tag WMP-331, Section 3.1, Process Memos WMP-331, Section 3.2, Process Control Plans WMP-331, Section 3.5, Plant Review Committee WMP-331, Section 3.13, Operating Specifications Documents	<ul style="list-style-type: none"> Define Scope of Work Analyze Hazards and Environmental Impacts and Implement Controls Perform Work within Controls
Special Processes	WMP-331, Section 3.11, New Waste Stream Acceptance at LERF/ETF	<ul style="list-style-type: none"> Analyze Hazards and Environmental Impacts and Implement Controls Perform Work within Controls
Identification and Control of Items	WMP-331, Section 2.2, Lock and Tag WMP-331, Section 2.3, Operational Safety Requirements Tracking WMP-331, Section 2.4, Equipment Deficiency Identification and Tracking WMP-331, Section 3.6, LWPF Radionuclide Inventory Management WMP-331, Section 3.7, LERF Fissile Material Inventory WMP-331, Section 3.8, ETF Fissile Material Inventory WMP-331, Section 3.9, NOC Compliance for ETF, Load-In Facility and LERF WMP-331, Section 6.1, Solid Waste Container Issuance and Tracking	<ul style="list-style-type: none"> Analyze Hazards and Environmental Impacts and Implement Controls
Handling, Shipping and Storing		
Control of Process Monitoring or Data Collection Instruments		
Control of Computer Software	WHC-SD-LEF-CSCM-001, Computer Software Configuration Management Plan for	

Table 1: 200 Liquid Waste Processing Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
	200 East/West Liquid Effluent Facilities HNF-SD-534-CSCM-001, 242-A Process Control Computer Software Configuration Management Plan	
Section 6, Design		
Design Input	MWP-331, Section 3.12, Authorization Basis Review	<ul style="list-style-type: none"> Analyze Hazards and Environmental Impacts and Implement Controls
Design Process		
Design Verification		
Design Change Control		
Design Documentation and Records		
Section 7, Procurement		
Procurement Planning		
Content of Procurement Documents		
Supplier Evaluation and Selection		
Supplier Performance Monitoring		
Acceptance of Items and Services		
Commercial Grade Items		
Procurement document Control, including Supplier-general Documents		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		
Inspection and Acceptance Testing Records		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Computer Program Testing	WHC-SD-LEF-CSCM-001, Computer Software Configuration Management Plan for 200 East/West Liquid Effluent Facilities HNF-SD-534-CSCM-001, 242-A Process Control Computer Software Configuration Management Plan	
In-Process Inspection		
Section 9, Management Assessment		
Management Assessments		
Corrective Action (resulting from Management Assessments)		

Table 2: 200 Liquid Waste Processing Facility QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
Project organization and responsibilities associated with data collection, review, and assessment. Key Personnel	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan HNF-SD-WM-QAPP-009, 242-A Evaporator Quality Assurance Project Plan Key Personnel: ECO - R. W. Szelmezcza QA - M. J. Warn Engineering - N. J. Sullivan Facility/Project Manager - D. K. Smith
QA Objectives for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan HNF-SD-LEF-PLN-002, 200 Area Treated Effluent Disposal Facility Sampling and Analysis Plan HNF-SD-WM-QAPP-009, 242-A Evaporator Quality Assurance Project Plan HNF-SD-WM-DQO-014, 242-A Evaporator Data Quality Objectives DOE/RL-97-03, Hanford Facility Dangerous Waste Permit Application Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility
Sampling Procedures	ETF POP-65J-002, LWPF Sampling Operation POP-68-002, 200 TEDF Composite and Grab Sampling Procedure TO-630-001, Obtain 242-A Feed and Slurry Samples TO-630-020, Sample Process Condensate from TK-C-100 TO-630-040, Sample, Fill and Drain 242-A Steam Condensate TO-630-060, Sample Cooling Water from 242-A Flush RC-2 Receiver Carboy, Monitoring Pig
Analytical Procedures	HNF-SD-LEF-PLN-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan HNF-SD-WM-QAPP-009, 242-A Evaporator Quality Assurance Project Plan DOE/RL-97-03, Hanford Facility Dangerous Waste Permit Application Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility
Preventive maintenance procedures and schedules for equipment, including Facility services, that impact data quality.	WMP-200, Section 3.1, Work Management
Specific procedures to be used to routinely assess data precision, accuracy, completeness, comparability, and representativeness of specific measurement parameters involved.	WHC-SD-EN-SPP-001, Data Validation Procedures for Chemical Analyses WHC-SD-EN-SPP-002, Data Validation Procedures for Radiochemical Analyses

Table 2: 200 Liquid Waste Processing Facility QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
Corrective action procedures for resolving events when data fall outside acceptable limits.	Memorandum of Understanding between Waste Sampling and Characterization Facility (WSCF), 222-S Laboratory and Liquid Waste Processing Facilities
QA reports to management on the performance and effectiveness of measurement systems used to assess data quality.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan
Data collection and reporting requirements.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan HNF-SD-WM-QAPP-009, 242-A Evaporator Quality Assurance Project Plan
Data reduction, review and validation.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan HNF-SD-WM-QAPP-009, 242-A Evaporator Quality Assurance Project Plan HNF-SD-LEF-PLN-002, 200 Area TEDF Effluent Sampling and Analysis Plan
Requirements for calibration and performance evaluation of samples for analytical methods used.	HNF-SD-LEF-PLN-002, 200 Area TEDF Effluent Sampling and Analysis Plan HNF-SD-WM-DQO-014, 242-A Evaporator Data Quality Objectives
Requirements for data (and database) security, archival, and retention.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan
Requirements for field and laboratory QA/QC activities.	HNF-SD-LEF-PLN-002, 200 Area TEDF Effluent Sampling and Analysis Plan
Requirements and qualifications for sampling and analysis personnel and TSD personnel.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan WMP-331, Section 5.1, Dangerous Waste Training Plan
Requirements for sample handling, packaging, shipping, and chain-of-custody.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan TO-670-010, LERF Sampling POP-65J-002, LWPF Sampling Operation
Requirements for sample types, number, quantities, and sampling location.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan TO-670-010, LERF Sampling POP-65J-002, LWPF Sampling Operation
Selection of field sampling or test methodologies, including specific sampling or field analytical instrumentation requirements and other analytical testing requirements.	HNF-SD-WM-QAPP-009, 242-A Evaporator Quality Assurance Project Plan
Requirements for system and performance audits to monitor data quality.	HNF-SD-LEF-QAPP-002, 200 Area Liquid Effluent Facilities Quality Assurance Project Plan HNF-SD-WM-QAPP-009, 242-A Evaporator Quality Assurance Project Plan

Attachment 6 - WESF
Facility-Specific Implementation
Waste Encapsulation and Storage Facility

1. Facility/Project Name

Waste Encapsulation and Storage Facility (WESF)

2. Scope

The WESF is a Hazard Category 3 Non-Reactor Nuclear Facility. The WESF is chartered to provide safe, compliant, and cost-effective stewardship of Hanford's cesium and strontium capsule inventory and the WESF facility. The WESF performs all necessary facility/project operations and is responsible for work assignment, regulatory compliance, safety, radiological control, maintenance, quality assurance, process engineering, configuration control, training, and subcontractor activities within the WESF. The WESF maintains the current inventory of 1312 Cs, 601 Sr capsules and 23 Type W Overpacks, all stored in underwater pools. In the event of potential capsule problems (e.g. leaks and swellings), the WESF has the capability of removing the capsules from the pool cell storage area to a series of remote handled "hot cells" where inspection, testing, and other capsule handling activities can be conducted. While not normally done, the WESF can also load or unload the capsules into transportation casks for transport to or receipt from other facilities. The capsules are expected to be stored at the WESF until capsule disposition is determined and implemented. (Estimated to begin in 2013.)

3. Facility/Project Organization

Refer to the WMP Organizational Charts, WMP-100, *Waste Management Project Policies*, Section 4.2, "WMP Project Charters," and WMP-100, *Waste Management Project Policies*, Section 4.6, "Integrated Safety Management Roles, Responsibilities, and Functions," for WESF responsibilities. In addition, FSP-WESF-001, MS-02, "WESF Administration," provides organizational roles and responsibilities. The WESF Project Manager is assigned responsibility for implementing the QA Program. Major organizational interfaces between WESF and other Site contractors (such as DynCorp, Fluor Federal Services, Waste Management Technical Services) are no different from other WMP projects or facilities and is defined by the WMP and Project Hanford level documents and procedures.

4. Description of the Facility's Authorization Documentation

Nuclear Safety

WESF Nuclear Safety basis documents are:

- HNF-SD-WM-BIO-002, latest revision, "WESF Basis for Interim Operation"
- HNF-SD-WM-IOSR-001, latest revision, "WESF Interim Operational Safety Requirements"
- HNF-SD-WM-SEL-008, latest revision, "WESF Safety Equipment List"

Environmental

The WESF is currently under interim status requirements in accordance with WAC 173-303. The WESF has a Part A permit as a waste storage facility for the Cs and Sr capsules only. The Part A permit was approved by the State of Washington, Department of Ecology on August 25, 2000. WAC 173-303-630(6) requires areas where containers are stored be inspected for leaking containers and deterioration of containers and the containment system caused by corrosion, deterioration, and other factors. The WESF procedure EO-040-001, "Pool Cell Surveillance," is used to implement the requirements of WAC 173-303-630(6).

5. Management Systems not Defined by the WMP QAPP

The following activities at the WESF are not subject to the environmental requirements (QAMS 004/005) listed in the WMP QAPP.

- Environmental sampling and monitoring of the radioactive effluents from stack 296-B-10 is performed in accordance with HNF-EP-0528-3, "NESHAP Quality Assurance Project Plan for Radioactive Air Emissions Data," and defines the management systems used to collect and analysis that data. The WESF maintains the systems that monitor the effluents (see HNF-EP-0528-3, Appendix C for specific WESF procedures) and samples the effluent stream. Samples are taken by the WESF RADCON organization using procedure RC-C00-005, "Exchange 296-B-10 Record Air Samples." The samples are then transmitted, using a chain-of-custody, to an analytical laboratory for analysis in accordance with the requirements of HNF-EP-0528-3.
- Sampling and transferring liquid effluents generated by WESF to the Treated Effluent Disposal Facility (TEDF) are obtained by WESF using EO-906-011, "WESF Closed Loop Cooling System Chemical Control." Effluents are transferred to the TEDF using EO-160-005, "Transfer Waste Water from Pool Cell 9 or 10." The samples taken at WESF are non-regulatory (not required to show compliance with environmental regulations or permit discharge limitations) in nature and are taken as a best management practice to obtain process knowledge to help TEDF process the waste stream. The regulatory compliance samples are taken and analyzed by TEDF and performed in accordance with HNF-SD-LEF-PLN-002, "200 Area TEDF Effluent Sampling and Analysis Plan." Quality Assurance requirements for that activity is described in WHC-SD-LEF-QAPP-002, "Liquid Waste Processing Facilities Quality

Assurance Program Plan." The transfer of liquid effluents between WESF and TEDF is controlled through the work agreement document HNF-SD-W049H-ICD-001, "200 Area Treated Effluent Disposal Facility Interface Control Document."

- Surveillance activities to inspect the Cs and Sr capsules for leaks and deterioration of the containers. This activity does not require any monitoring or waste characterization activities in which the collection or analysis of environmental samples is necessary.

6. Facility's Graded Application of the QA Program Description

The WESF applies the controls and systems necessary to ensure the quality required by 10 CFR 830.120 using the graded approach described in Section 1.0 of the WMP QAPP. The WESF uses the Quality Level (QL) designators, as defined in HNF-PRO-259, *Graded Quality Assurance*, for procurement activities only.

7. Exceptions Taken to WMP QAPP Program Requirements

The WESF takes no exception or has any open waivers against the 10 elements defined in the FH QAPD or the WMP QAPP.

8. WESF Implementation Matrix

The WESF project-specific procedures that implement the FH QAPD are listed in Table 1 of this attachment. (As a result of the transition of WESF into WMP, the procedures contained within FSP-WESF-001 and FSP-WESF-002 manuals are in the process of becoming WMP-325 level procedures and the new procedure titles reflect both references for traceability purposes.) Since WESF does not perform monitoring or waste characterization activities in which the collection and analysis of environmental samples are required to satisfy the RCRA permit, Table 2 [QAMS Implementation Matrix] is not required.

Note: Users of this document are advised to refer to the FH HNF-PRO, WMP-100, and WMP-200 level procedures identified in Attachments 1A, 1B, and HNF-MP-003 Appendix D, for additional Site and project-related procedures that may affect the work activities identified in the tables below.

Table 1: Waste Encapsulation & Storage Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Section 1, Program		
Project Hanford QA Requirements Flowdown	WMP-325 (FSP-WESF-001): MS-6, S/RID Configuration Management MS-11, Requirements Management	<ul style="list-style-type: none"> Identify the Hazards, Environmental Impacts and ES&H Requirements

Table 1: Waste Encapsulation & Storage Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Quality Planning		
Organization, Responsibilities, and Interfaces	WMP-325 (FSP-WESF-001): MS-2, WESF Administration MS-12, Field Work Supervision OH-1, Safety Program	<ul style="list-style-type: none"> Establish ES&H Policy Identify the Hazards, Environmental Impacts and ES&H Requirements Perform Work within Controls Provide Feedback and Continuous Improvement
Readiness Review	WMP-325 (FSP-WESF-001): NS-2, Identifying and Resolving WESF Unreviewed Safety Questions	<ul style="list-style-type: none"> Perform Work within Controls Analyze Hazards and Environmental Impacts and Implement Controls
Stop Work Authority	WMP-325 (FSP-WESF-001): MS-12, Field Work Supervision OH-1, Safety Program	<ul style="list-style-type: none"> Establish ES&H Policy Identify the Hazards, Environmental Impacts and ES&H Requirements Perform Work within Controls
Graded Application of Project Hanford QA Program	WMP-325 (FSP-WESF-001): NS-1, WESF Authorization Basis Compliance	
Resolution of Professional Disagreements	WMP-325 (FSP-WESF-001): MS-11, Requirements Management	
Developing and Maintaining S/RIDS	WMP-325 (FSP-WESF-001): MS-6, S/RID Configuration Management MS-11, Requirements Management	<ul style="list-style-type: none"> Identify the Hazards, Environmental Impacts and ES&H Requirements
Section 2, Personnel Training and Qualifications		
Training and Indoctrination		
Qualification and Certification		
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification	WMP-325 (FSP-WESF-001): MS-2, WESF Administration QA-2, Project Assessment Program QA-3, QA Surveillance Program MS-7, Identifying, Reporting and Tracking Nuclear Safety Rule Potential Noncompliances	<ul style="list-style-type: none"> Establish ES&H Policy Perform Work within Controls Provide Feedback and Continuous Improvement Management Review
Corrective Action Management	WMP-325 (FSP-WESF-001): MS-5, Corrective Action Management	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Nonconformance Control		
Performance Data Analysis		
Control of Suspect/Counterfeit Items	WHC-SD-WM-IP-009, B Plant/WESF Suspect/Counterfeit Parts Identification Program	
Feedback and Improvement (includes Performance Indicators and Trend Analysis)	WMP-325 (FSP-WESF-001): MS-2, WESF Administration QA-2, Project Assessment Program	<ul style="list-style-type: none"> Establish ES&H Policy Perform Work within Controls Provide Feedback and Continuous Improvement Management Review
Section 4, Documents and Records		
Documents		

Table 1: Waste Encapsulation & Storage Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Records	WMP-325 (FSP-WESF-001): MS-9, Records Management CM-6, Controlling Input Data for the Encapsulation Database System WM-1, Maintenance of Waste Shipment Records	
Section 5, Work Processes		
Work Process Documents	WMP-325 (FSP-WESF-001): CM-2, Work Management, Preventive Maintenance and Surveillance CM-6, Controlling Input Data for the Encapsulation Database System MS-12, Field Work Supervisor MS-13, Work Prioritization and Scheduling NS-1, WESF Safety Authorization Basis Compliance NS-2, Identifying and Resolving WESF Unreviewed Safety Questions MN-1, Materials Management for Maintenance Activities OP-1, WESF Drill Program OP-6, WESF Conduct of Operations Implementation RP-2, Controlling Entry and Egress for High Radiation Areas RP-6, Use and Installation of Temporary Shielding RP-7, RADON and THORON Mitigation WMP-325 (FSP-WESF-002): Section 9.0, Lockouts and Tagouts, Section 9.1, Administrative Lockouts and Tagouts	<ul style="list-style-type: none"> • Define the Scope of Work • Analyze Hazards and Environmental Impacts and Implement Controls • Perform Work within Controls • Provide Feedback and Continuous Improvement
Special Processes		
Identification and Control of Items		
Handling, Shipping and Storing		
Control of Process Monitoring or Data Collection Instruments		
Control of Computer Software	HNF-6768, WESF Capsule and Encapsulation Database System (EDS) Configuration Document	
Section 6, Design		
Design Input		
Design Process		
Design Verification		
Design Change Control		
Design Documentation and Records	WMP-325 (FSP-WESF-001): MS-9, Records Management	
Section 7, Procurement		
Procurement Planning	WMP-325 (FSP-WESF-001): MN-1, Materials Management for Maintenance	
Content of Procurement Documents		
Supplier Evaluation and Selection		

Table 1: Waste Encapsulation & Storage Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Supplier Performance Monitoring		
Acceptance of Items and Services		
Commercial Grade Items		
Procurement Document Control, including Supplier-generated Documents		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		
Inspection and Acceptance Testing Records		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Computer Program Testing		
In-Process Inspection		
Section 9, Management Assessment		
Management Assessments	WMP-325 (FSP-WESF-001): QA-2, Project Assessment Program	<ul style="list-style-type: none"> • Provide Feedback and Continuous Improvement • Management Review
Corrective Action (resulting from Management Assessments)	WMP-325 (FSP-WESF-001): MS-5, Corrective Action Management	<ul style="list-style-type: none"> • Provide Feedback and Continuous Improvement

Attachment 7 - WS
Facility-Specific Implementation
Waste Services

1. Facility/Project Name

Waste Services (WS)

2. Scope

Waste Services (WS) is responsible for expediting waste from the point of generation to final disposition. This includes wastes generated at the Hanford Site as well as those wastes received from other DOE and non-DOE Sites. To support these waste management activities WS provides a "cross-cutting service" to those waste generators that use the Hanford TSDs operated by FH or contracted to FH (offsite commercial TSDs) to ensure consistency and compliance with the regulations. WS provides support to these waste generators by coordinating waste life-cycle planning, waste accumulation, characterization/designation, packaging and transportation, TSD facility acceptance, treatment activities and waste records/data management and reporting. This includes dangerous, TSCA regulated, low-level, TRU and mixed radioactive wastes. WS maintains the Hanford Site solid waste acceptance criteria document (HNF-EP-0063) and serves as the technical authority for waste analysis plans used by the solid waste TSD operations to satisfy permit and Authorization Basis Document requirements. WS also performs programmatic oversight of the Pollution Prevention/ Waste Minimization, Transportation and Packaging, and Waste Sites programs.

WS consists of the following five groups:

- Generator Services
- Technical Services
- Pollution Prevention/Waste Minimization
- Transportation and Packaging
- Waste Sites

3. Facility/Project Organization

Refer to the WMP Organizational Charts, WMP-100, *Waste Management Project Policies*, Section 4.2, "WMP Project Charters," and WMP-100, *Waste Management Project Policies*, Section 4.6, "Integrated Safety Management Roles, Responsibilities, and Functions," for WS responsibilities.

WS has the following organizational interfaces between the other Hanford Site contractors and Project Hanford organizations:

- Performs waste characterization/designation services for WMP, AS, offsite generators and other Fluor Hanford projects through work agreement documents, contracts, etc. that request such service, which define work scope and areas of responsibilities for these activities. *Note: The waste generators are still responsible for the proper designation of their own waste, however, WS does provide the technical expertise to assist in this task.*
- Manages the contracts for FH between the transportation and packaging and the waste sampling and collection subcontractor (Waste Management Technical Services). *Note: These activities are typically performed by the subcontractor under their own QA Program unless defined differently in the procurement documents.*
- Obtains analytical services for WMP, when required, through Analytical Services using work agreement documents developed with the Hanford Site laboratories or offsite commercial contracted laboratories.

Major organizational interfaces between WS and Hanford Site contractors (e.g., DynCorp, Fluor Federal Services, etc.) are no different from the other WMP projects or facilities and is defined by the WMP and Project Hanford level documents and procedures.

4. Description of the Facility's Authorization Documentation

WS is not responsible for the operation of any major Hanford Site facility outside of administrative offices. Therefore, there are no facility safety basis documents, Safety Equipment Lists, or Authorization Envelope documents associated with Waste Services.

5. Management Systems not Defined by the WMP QAPP

The waste acceptance process is unique to WS and implements the requirements out of the Hanford Facility RCRA permit, Authorization Basis documents, WAC 173-303, *Dangerous Waste Regulations*, and DOE 0435.1, *Radioactive Waste Management*. The process is a performance-based program for accepting solid waste to be disposed of at WMP operated TSD units. WMP-200, *Waste Management Project Procedure*, Section 6.1, "Waste Acceptance Program," describes the overall program.

Listed below are the major elements of the process, along with the WS specific procedure that implements that activity:

- Waste Stream Approval - Refer to WMP-370, *Waste Services Procedures*, Section 1.6, "Waste Stream Approval Process"
- Pre-shipment Review - Refer to WMP-370, *Waste Services Procedures*, Section 1.7, "Radioactive Waste Acceptance Review"

- Physical and Chemical Screening Determination - Refer to WMP-370, *Waste Services Procedures*, Section 1.8, "Treatment, Storage and Disposal Transfer and Documentation Process"
- Verification Process (includes physical and chemical screening of selected containers) - Refer to WMP-370, *Waste Services Procedures*, Section 1.10, "Verification Program"
- Waste Receipt and Acceptance - Refer to WMP-370, *Waste Services Procedures*, Section 1.8, "Treatment, Storage and Disposal Transfer and Documentation Process"
- Generator's Performance Evaluation Program - Refer to WMP-370, *Waste Services Procedures*, Section 1.11, "Performance Evaluation System"

When WS is tasked by the waste generators to manage or conduct waste characterization activities for solid waste streams, they are performed in accordance with WMP-370, *Waste Services Procedures*, Section 2.26, "Physical/Chemical Characterization of Solid Waste."

6. Facility's Graded Application of the QA Program Description

WS applies controls and systems necessary to ensure the quality required by 10 CFR 830.120 using the graded approach described in Section 1.0 of the WMP QAPP.

7. Exceptions Taken to WMP QAPP Program Requirements

WS takes no exception or has any open waivers against the 10 elements defined in the FH QAPD or the WMP QAPP.

8. Waste Services Implementation Matrix

WS project-specific procedures that implement the FH QAPD are listed in Table 1 of this attachment. Table 2 lists the WS project-specific procedures that implement the environmental sampling and analysis QA requirements (e.g. QAMS).

Note: Users of this document are advised to refer to the FH HNF-PRO, WMP-100, and WMP-200 level procedures identified in Attachments 1A, 1B, and HNF-MP-003 Appendix D, for additional Site and project-related procedures that may affect the work activities identified in the tables below.

Table 1: Waste Services QAPD Implementation Matrix

Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Section 1, Program		
Project Hanford QA Requirements Flowdown		
Quality Planning		
Organization, Responsibilities, and Interfaces	WMP-370, Section 1.1, Waste Services Staffing Plan	
Readiness Review		
Stop Work Authority		
Graded Application of Project Hanford QA Program		
Section 2, Personnel Training and Qualifications		
Training and Indoctrination		
Qualification and Certification		
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Implementation	WMP-370, Section 1.10, Verification Program	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Corrective Action Management	WMP-370, Section 1.11, Performance Evaluation System	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Nonconformance Control		
Feedback and Improvement (includes Performance Indicators and Trend Analysis)	WMP-370, Section 1.12, Commitment and Action Tracking	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Section 4, Documents and Records		
Documents	WMP-370, Section 1.3, Maintaining Waste Acceptance Criteria Manual WMP-370, Section 1.4, Waste Specification Record Approval Process	
Records	WMP-370, Section 2.23, Technical Services Records Management	
Section 5, Work Processes		
Work Process Documents	WMP-370, Section 1.2, Planning Special Projects WMP-370, Section 1.6, Waste Stream Approval Process WMP-370, Section 1.7, Radioactive Waste Acceptance Review WMP-370, Section 1.8, Treatment, Storage and Disposal Transfer and Documentation Process WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste	<ul style="list-style-type: none"> Define Scope of Work Identify Hazards, Environmental Impacts and ES&H Requirements Analyze Hazards and Environmental Impacts and Implement Controls Provide Feedback and Continuous Improvement
Special Processes		
Identification and Control of Items	WMP-370, Section 2.12, Waste Stream Designation Process	
Handling, Shipping and Storing	WMP-370, Section 1.9, Offsite Shipment	

Table 1: Waste Services QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Control of Process Monitoring or Data Collection Instruments		
Control of Computer Software		
Section 6, Design		
Design Input		
Design Process		
Design Verification		
Design Change Control		
Design Documentation and Records		
Section 7, Procurement		
Procurement Planning		
Content of Procurement Documents		
Supplier Evaluation and Selection	WMP-370, Section 2.14, Evaluation of Off-Site Treatment, Storage, Disposal and Recycling Facilities	
Supplier Performance Monitoring		
Acceptance of Items and Services		
Commercial Grade Items		
Procurement Document Control, including Supplier-generated Documents		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		
Inspection and Acceptance Testing Records		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Computer Program Testing		
In-Process Inspection		
Section 9, Management Assessment		
Management Assessments		
Corrective Action (resulting from Management Assessments)		

Table 2: Waste Services QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
Project organization and responsibilities associated with data collection, review, and assessment. Key Personnel	Waste sampling activities are coordinated through Fluor Hanford Project Interface Description Documents between Waste Services and individual projects/facilities.

Table 2: Waste Services QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
	Key Personnel: ECO - P. W. Martin Generator Services - R. R. Connolly Data Management - C. L. Stratman Verification - R. E. Bolls QA - M. A. Hahn Technical Services - G. C. Triner Project Manager - L. T. Blackford
QA Objectives for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness.	HNF-EP-0063, Hanford Site Solid Waste Acceptance Criteria (specifies general physical/chemical criteria to satisfy State and Federal regulations) WHC-SD-EN-WAP-005, T Plant Waste Analysis Plan HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan HNF-1886, Central Waste Complex Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraph 4.2 DQOs)
Sampling Procedures	WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraph 4.3 SAPs) WMP-370, Section 1.10, Verification Program (paragraphs 5.0 - 8.0, Verification Program)
Analytical Procedures	HNF-EP-0063, Hanford Site Solid Waste Acceptance Criteria (specifies general physical/chemical criteria to satisfy State/Federal regulations) WHC-SD-EN-WAP-005, T Plant Waste Analysis Plan HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan HNF-1886, Central Waste Complex Waste Analysis Plan WMP-370, Section 1.10, Verification Program (paragraphs 7.0 & 8.0, Physical/Chemical Screening) WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraph 4.3, Developing SAPs)
Preventive maintenance procedures and schedules for equipment, including Facility services, that impact data quality.	

Table 2: Waste Services QAMS Implementation Matrix

Environmental Quality Program Elements	Implementing Documents
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 events when data fall outside acceptable limits.	WMP-370, Section 1.10, Verification Program WMP-370, Section 1.11, Performance Evaluation System
QA reports to management on the performance and effectiveness of measurement systems used to assess data quality.	WMP-370, Section 1.11, Performance Evaluation System (paragraph 4.5, Monthly Performance Evaluation)
Data collection and reporting requirements.	WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraph 4.4, Communicating SAP Requirements)
Data reduction, review and validation.	WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraph 4.6, Evaluating Data)
Requirements for calibration and performance evaluation samples for analytical methods used.	WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraph 4.4, Communicating SAP Requirements)
Requirements for data (and database) security, archival, and retention.	WMP-370, Section 5.01, SWITS Data Entry for Radioactive Waste WMP-370, Section 7.01, Solid Waste Engineering Analysis Database
Requirements for field and laboratory QA/QC activities.	WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraphs 4.3, SAP, and 4.4, Communicating SAP Requirements) WMP-370, Section 1.10, Verification Program (paragraph 9.0, Quality Assurance)
Requirements and qualifications for sampling and analysis personnel.	
Requirements for sample handling, packaging, shipping, and chain-of-custody.	WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraph 4.3 SAP)
Requirements for sample types, number, quantities, and sampling location.	WMP-370, Section 2.26, Physical/Chemical Characterization of Solid Waste (paragraph 4.3 SAP) WMP-370, Section 1.10, Verification Program (paragraphs 7.0 & 8.0 Physical/Chemical Screening)
Selection of field sampling or test methodologies, including specific sampling or field analytical instrumentation requirements and other analytical testing requirements.	WHC-SD-EN-WAP-005, T Plant Waste Analysis Plan HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan HNF-5841, Low-Level Burial Grounds Waste Analysis Plan HNF-1886, Central Waste Complex Waste Analysis Plan WMP-370, Section 2.26, Physical/Chemical

Table 2: Waste Services QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
	Characterization of Solid Waste (paragraph 4.3 SAP) WMP-370, Section 1.10, Verification Program (paragraphs 7.0 & 8.0 Physical/Chemical Screening)
Requirements for system and performance audits to monitor data quality.	

Attachment 8 - WRAP
Facility-Specific Implementation
Waste Receiving and Processing Facility

1. Facility/Project Name

Waste Receiving and Processing Facility (WRAP)

2. Scope

The WRAP performs all necessary facility/project operations and is responsible for work assignment, regulatory compliance, safety, training, radiological control, maintenance, quality assurance, process engineering, configuration control, and subcontractor activities within the WRAP.

The WRAP is designed and built to receive, characterize, treat, store, certify, ship contact-handled (CH), TRU, mixed, and low-level waste (LLW) to ultimate disposal. The TRU waste and TRU mixed waste is repackaged, certified, and shipped to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico, or to another approved waste disposal site. The LLW is processed, compacted, and disposed of in the Low Level Burial Grounds (LLBG). Mixed waste not capable of being treated to meet land disposal restrictions (LRD) at WRAP is shipped to an on-site TSD unit to await further treatment.

To accomplish this work WRAP provides:

- Nondestructive examination (NDE) and nondestructive assay (NDA) of CH waste. NDE identifies the physical contents of the waste container to support waste characterization and processing, confirmation, or certification. NDA results are used to determine radioactive content and distribution.
- Gloveboxes designed for opening, sorting, and sampling drummed waste. Sampling is done to characterize retrieved waste and/or to verify the characterization of newly generated containers of TRU, LLW, and mixed waste.
- Limited waste treatment capabilities in the process area gloveboxes include deactivation (neutralization, cementing, absorption, and controlled reaction with water), stabilization (cementing, absorption, and encapsulation), and amalgamation; volume reduction of waste (e.g., super compaction); and sorting and repackaging of waste.
- Limited waste storage capability for TRU, LLW, and mixed waste.

The Final Safety Analysis Report (FSAR) provides the hazard categorization of WRAP as a Hazard Category 2 nonreactor nuclear facility.

3. Facility/Project Organization

Refer to the WMP Organizational Charts, WMP-100, *Waste Management Project Policies*, Section 4.2, "WMP Project Charters," and WMP-100, *Waste Management Project Policies*, Section 4.6, "Integrated Safety Management Roles, Responsibilities, and Functions," for the WRAP responsibilities. The WRAP Project Manager is assigned responsibility for implementing the QA Program. Major organizational interfaces between the WRAP and other Site contractors (such as DynCorp, Fluor Federal Services, Waste Management Technical Services) are no different from other WMP projects or facilities and is defined by the WMP and Project Hanford level documents and procedures.

4. Description of the Facility's Authorization Documentation

Nuclear Safety

Nuclear Safety basis documents for the WRAP are:

- HNF-SD-W026-SAR-002, latest revision, "Safety Evaluation Report (SER) for the Annual Updates to the Waste Receiving and Processing Facility Final Safety Analysis Report"
- HNF-SD-WM-TSR-007, latest revision, Technical Safety Requirements
- HNF-2594, latest revision, "CSER-98-002 Criticality Analysis for the Storage of Special Nuclear Material Sources and Standards in the WRAP Facility"
- DOE Review and Approval of WRAP CSER-98-002, Letter No. DOE-00-ABD-027, K. A. Klein to R. D. Hanson

Environmental

The WRAP is currently under interim status requirements in accordance with WAC 173-303. The WRAP has a Part A permit as a waste storage and treatment facility, which was approved by the State of Washington, Department of Ecology (Ecology) on June 28, 1999. The WRAP has also prepared an application for their RCRA Part B permit which was submitted for Ecology approval in 1999.

5. Management Systems not Defined by the WMP QAPP

There are no unique QA standards or management processes outside of those addressed in the WMP QAPP that applies to the WRAP.

6. Facility's Graded Application of the QA Program Description

The WRAP graded approach is the same as defined in Section 1.0 of the WMP QAPP.

7. Exceptions Taken to WMP QAPP Program Requirements

The WRAP takes no exceptions or has any open waivers against the 10 elements defined in the FH QAPD or the WMP QAPP.

8. WRAP Implementation Matrix

The WRAP project-specific procedures that implement the FH QAPD are listed in Table 1 of this attachment. Table 2 lists the WRAP project-specific procedures that implement the environmental sampling and analysis QA requirements (e.g. QAMS).

Note: Users of this document are advised to refer to the FH HNF-PRO, WMP-100, and WMP-200 level procedures identified in Attachments 1A, 1B, and HNF-MP-003 Appendix D, for additional Site and project-related procedures that may affect the work activities identified in the tables below.

Table 1: Waste Receiving & Processing Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Section 1, Program		
Project Hanford QA Requirements Flowdown		
Quality Planning	WMP-350, Section 1.12, Compliance Matrix Identification and Control	
Organization, Responsibilities, and Interfaces	WMP-350, Section 1.8, Staffing Plan	
Readiness Review	WMP-350, Section 3.15, Facility Mode Change	<ul style="list-style-type: none"> Perform Work within Controls
Stop Work Authority	WMP-350, Section 1.1, WRAP Management Expectations	<ul style="list-style-type: none"> Establishing ES&H Policy
Graded Application of Project Hanford QA Program		
Section 2, Personnel Training & Qualifications		
Training and Indoctrination	WMP-350, Section 3.6, Access Control	
Qualification and Certification	WMP-350, Section 1.11, WRAP Training Requalification Program	<ul style="list-style-type: none"> Perform Work within Controls
Training and Qualification Records		
Section 3, Quality Improvement		
Deficiency Identification	WMP-350, Section 3.16, Compliance Equipment Problem Evaluators	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Corrective Action Management	WMP-350, Section 3.16, Compliance Equipment Problem Evaluators	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Nonconformance Control		
Feedback and Improvement (includes Performance Indicators and Trend Analysis)	WMP-350, Section 5.1, Monthly Environmental Self Inspection	<ul style="list-style-type: none"> Identify Hazards, Environmental Impacts and ES&H Requirements
Section 4, Documents and Records		
Documents	WMP-350, Section 3.9, Signature Record Log	

Table 1: Waste Receiving & Processing Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Records	WMP-350, Section 2.3, Data Management for NDE/NDA Results WMP-350, Section 2.4, Quality Assurance Objectives for Nondestructive Assay at WRAP WMP-350, Section 2.5, GEA Energy and Efficiency Setup and Baseline Establishment	
Section 5, Work Processes		
Work Process Documents	WMP-350, Section 2.2, Calculation of Assay Results WMP-350, Section 3.14, Glovebox Inventory Measurement Plan WMP-350, Section 3.18, WRAP Operating Practices	<ul style="list-style-type: none"> Identify Hazards, Environmental Impacts and ES&H Requirements
Special Processes	WMP-350, Section 1.2, fissile Inventory Tracking System WMP-350, Section 3.12, Nuclear Material Control	
Identification and Control of Items	WMP-350, Section 3.2, Sample Management Program	
Handling, Shipping and Storing	WMP-350, Section 3.1, WRAP Shipping Program	<ul style="list-style-type: none"> Analyze Hazards and Environmental Impacts and Implement Controls Perform Work within Controls
Control of Process Monitoring or Data Collection Instruments	WMP-350, Section 2.1, Facility Computer System Operations, Backup and Recovery Plan	
Control of Computer Software	WMP-350, Section 4.1, Plant Management System (PMS) Configuration Management Plan	
Section 6, Design		
Design Input		
Design Process		
Design Verification		
Design Change Control		
Design Documentation and Records		
Section 7, Procurement		
Procurement Planning		
Content of Procurement Documents		
Supplier Evaluation and Selection		
Supplier Performance Monitoring		
Acceptance of Items and Services		
Commercial Grade Items		
Procurement Document Control, including Supplier-generated Documents		
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning		
Inspection and Acceptance Testing Process		
Inspection and Acceptance Testing Records		
Inspection and Acceptance Testing Status		
Calibration of Measuring and Test Equipment		
Computer Program Testing		
In-Process Inspection		

Table 1: Waste Receiving & Processing Facility QAPD Implementation Matrix		
Project Hanford QAPD Part 2	Implementing Procedures	
	Project/Facility Procedures	ISMS Core Functions
Section 9, Management Assessment		
Management Assessments	WMP-350, Section 3.17, Surveillance Program	<ul style="list-style-type: none"> Provide Feedback and Continuous Improvement
Corrective Action (resulting from Management Assessments)		

Table 2: Waste Receiving & Processing Facility QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
Project organization and responsibilities associated with data collection, review, and assessment. Key Personnel	<p>All RCRA required sampling and analysis activities are coordinated with Waste Services (WS) through a Fluor Hanford Project Interface Description for Waste Management Services provided by the WS Program to the WRAP.</p> <p>Key Personnel: ECO - H. C. Boynton QA - C. A. Sams Facility/Project Manager - R. R. Bloom</p>
QA Objectives for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness.	HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan HNF-EP-0063, Hanford Site Solid Waste Acceptance Criteria (Specifies general physical/chemical criteria to satisfy State and Federal regulations.)
Sampling Procedures	WMP-350, Section 3.02, Sample Management Program
Analytical Procedures	HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan (Specifies analytical methods)
Preventive maintenance procedures and schedules for equipment, including Facility services, that impact data quality.	WRP-18002, EG&G Alpha/Beta Stack Monitor WRP-99001, Stack Air Flow Test
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 events when data fall outside acceptable limits.	HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan
QA reports to management on the performance and effectiveness of measurement systems used to assess data quality.	
Data collection and reporting requirements.	HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan
Data reduction, review, and validation	HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan
Requirements for calibration and performance evaluation samples for analytical methods used.	

Table 2: Waste Receiving & Processing Facility QAMS Implementation Matrix	
Environmental Quality Program Elements	Implementing Documents
Requirements for data (and database) security, archival, and retention.	
Requirements for field and laboratory QA/QC activities.	
Requirements and qualifications for sampling and analysis personnel.	
Requirements for sample handling, packaging, shipping, and chain-of-custody.	WMP-350, Section 3.02, Sample Management Program
Requirements for sample types, number, quantities, and sampling location.	HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan
Selection of field sampling or test methodologies, including specific sampling or field analytical instrumentation requirements and other analytical testing requirements.	HNF-2165, Waste Receiving and Processing Facility Waste Analysis Plan
Requirements for system and performance audits to monitor data quality.	

**Attachment 9 - TRU Projects
Facility-Specific Implementation
Transuranic (TRU) Projects**

1. Facility/Project Name

Transuranic (TRU) Projects

2. Scope

The TRU Projects organization is not responsible for the operation of any major Hanford Site facilities outside of administrative offices. The TRU Projects organization is responsible for ensuring that TRU waste treatment, characterization, receipt, retrieval, and shipment projects are planned, integrated, scheduled, coordinated and concurred with by applicable treatment, storage, and disposals (TSDs), and support functions to ensure projects are completed in accordance with customer or program requirements. This includes ensuring all TSDs and functions are aware of and concur with work scope and that said work scope is accomplished to meet quality, compliance, schedule, and cost objectives in a safe manner, and assisting TSDs and/or functions in the resolution of technical or cost issues associated with those activities.

The TRU Projects consists of four groups:

- Carlsbad Area Office [TRU Site Project Office]
- TRU Retrieval
- Spent Nuclear Fuel
- M-91

3. Project Organization

Refer to the WMP Organizational Charts, WMP-100, *Waste Management Project Policies*, Section 4.2, "WMP Project Charters," and WMP-100, *Waste Management Project Policies*, Section 4.6, "Integrated Safety Management Roles, Responsibilities, and Functions," for TRU Projects responsibilities. In addition, HNF-2600, *Hanford Site Transuranic Waste Certification Plan*, and HNF-2599, *Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan*, provide organizational roles and responsibilities. Through these documents, the Site Project Manager is assigned responsibility for implementing the QA Program. Major organizational interfaces between the TRU Projects and other Hanford Site contractors (e.g., DynCorp, Fluor Federal Services, Waste Management Technical Services) are no different from other WMP projects or facilities and is defined by the WMP and Project Hanford level documents and procedures.

4. Description of the Facility's Authorization Documentation

There are no facility safety basis documents, Safety Equipment Lists, or Authorization Envelope Documents associated with the TRU Projects.

As a generator of TRU and TRU mixed waste destined for disposal at the Waste Isolation Pilot Plant (WIPP) the Hanford Site must ensure that its TRU waste meets the requirements of the U.S. Department of Energy (DOE) O 435.1, *Radioactive Waste Management*, and the Contact-Handled (CH) Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WIPP-WAC). The WIPP-WAC requirements are derived from the WIPP Technical Safety Requirements, WIPP Safety Analysis Report, TRUPACT-II SARP, WIPP Land Withdrawal Act, WIPP Hazardous Waste Facility Permit, and Title 10 Code of Federal Regulations (CFR) 191/194 Compliance Certification Decision.

5. Management Systems not Defined by the WMP QAPP

The management systems for the TRU Projects are defined in HNF-2600, *Hanford Site Transuranic Waste Certification Plan*.

6. Facility's Graded Application of the QA Program Description

The TRU Projects graded approach is defined and implemented through WMH-400, *Waste Isolation Pilot Plant Procedures*, Section 1.1.2, "Graded Approach."

7. Exceptions Taken to WMP QAPP Program Requirements

The Hanford TRU Waste Program is responsive to the DOE Carlsbad Area Office TRU Waste Program Quality Assurance requirements and complies with the TRU Projects documentation and implementation 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) will be adhered to as written by all organizations and facilities participating in the TRU Waste Projects.

8. TRU Projects Implementation Matrix

TRU Projects specific procedures are listed in Table 1 of this attachment. Since the TRU Projects organization does not perform monitoring or waste characterization activities in which the collection and analysis of environmental samples are required to support the HF RCRA Permit or TPA activities, Table 2 [QAMS Implementation Matrix] is not required.

Table 1: Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	TRU Projects Procedures	ISMS Core Functions
Section 1, Program		
Project Hanford QA Requirements Flowdown	HNF-2600, <i>Hanford Site Transuranic Waste Certification Plan</i> , Section 5, "Quality Assurance Plan." HNF-2599, <i>Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan</i>	<ul style="list-style-type: none"> Establishing ES&H Policy
Quality Planning		
Organization, Responsibilities, and Interfaces	HNF-2600, <i>Hanford Site Transuranic Waste Certification Plan</i> , Section 2.1 HNF-2599, <i>Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan</i> , Section A-5	
Readiness Review		
Stop Work Authority	HNF-2600, <i>Hanford Site Transuranic Waste Certification Plan</i> , Section 2.1 HNF-2599, <i>Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan</i> , Section A-5 WMH-400, Section 2.1.1, TRU Process Control	
Graded Application of Project Hanford QA Program	WMH-400, Section 1.1.2, Graded Approach	
Section 2, Personnel Training and Qualifications		
Training and Indoctrination	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	<ul style="list-style-type: none"> Perform Work within Controls
Qualification and Certification	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	<ul style="list-style-type: none"> Perform Work within Controls
Training and Qualification Records	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 WMH-400, Section 1.5.1, TRU Records Management	

Table 1: Hanford TRU Waste Program		
Project Hanford QAPD Part 2	Implementing Procedures	
	TRU Projects Procedures	ISMS Core Functions
Section 3, Quality Improvement		
Deficiency Identification	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	<ul style="list-style-type: none"> • Provide Feedback and Continuous Improvement
Corrective Action Management	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	<ul style="list-style-type: none"> • Provide Feedback and Continuous Improvement
Nonconformance Control	WMH-400, Section 1.3.1, TRU Corrective Action Management WMH-400, Section 1.3.2, TRU Nonconforming Item Reporting and Control	<ul style="list-style-type: none"> • Provide Feedback and Continuous Improvement
Feedback and Improvement (includes Performance Indicators and Trend Analysis)	WMH-400, Section 1.3.1, TRU Corrective Action Management	<ul style="list-style-type: none"> • Provide Feedback and Continuous Improvement
Section 4, Documents and Records		
Documents	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	<ul style="list-style-type: none"> • Define the Scope of Work • Identify Hazards, Environmental Impacts & ES&H Requirements • Analyze Hazards and Environmental Impacts and Implement Controls • Perform Work within Controls • Provide Feedback and Continuous Improvement
Records	WMH-400, Section 1.5.1, TRU Records Management	
Section 5, Work Processes		
Work Process Documents	WMH-400, Section 2.1.1, TRU Process Control	<ul style="list-style-type: none"> • Define the Scope of Work • Analyze Hazards and Environmental Impacts and Implement Controls • Perform Work within Controls

Table 1: Hanford TRU Waste Program

Project Hanford QAPD Part 2	Implementing Procedures	
	TRU Projects Procedures	ISMS Core Functions
Special Processes	WMP-350, Section 2.2, Calculation of Assay Results WMP-350, Section 2.3, Data Management of NDA/NDE Results WMP-350, Section 2.4, QAOs for NDA at WRAP WMP-350, Section 2.5, GEA Energy and Efficiency Setup and Baseline Establishment FSP-PFP-5-8, Section 16.1, QAOs for NDA at PFP FSP-PFP-5-8, Section 16.2, Data Management for NDA Results WRP1-OP-503, Move Drums Throughout the WRAP Facility WRP1-OP-521, Receiving and Load TRUPACT-II Containers WRP1-OP-522, Assemble and Stretch Wrap TRUPACT-II WRP1-OP-524, Helium Leak Test of the TRUPACT-II Shipping Container WRP1-OP-725, TRU Sorting Glovebox Operation WRP1-OP-726, TRU Loadout Gloveboxes Operation WRP1-OP-729, Visual Examination WRP1-OP-905, Imaging Passive/Active Neutron Assay Operation WRP1-OP-906, Gamma Energy Assay Operations WRP1-OP-908 Operation of the Drum NDE System WRP1-OP-911, Storage and Use of Special Nuclear Material WRP1-OP-1225, Radiological Support of TRUPACT-II Shipping and Receiving LA-523-410, Determination of VOCs in TRU/Mixed Waste Container Headspace LA-523-426, Determination of Permanent Gases in TRU Waste Container Headspace DO-080-009, Obtain Headspace Gas Samples of TRU Waste Containers LO-080-407, Cleaning SUMMA Canisters for TRU Headspace Gas Sampling LO-090-450, TRU Project Sample COC, Storage Acceptance and Disposal ZA-400-301, SAS Energy and Efficiency Setup and Baseline Determination ZA-400-302, Calculation of Assay Results ZA-948-385, NDA Using the Segmented Gamma Scan Assay System (SGSAS) ZO-160-080, Pipe-n-Go Processing	
Identification and Control of Items	WMH-400, Section 2.4.3, TRU Inspection, Test and Operating Status	
Handling, Shipping and Storing	WMH-400, Section 2.1.4, TRU Handling and Storage	
Control of Process Monitoring or Data Collection Instruments	WMH-400, Section 2.4.4, TRU Control of Measuring, Test, and Data Collection Equipment	
Control of Computer Software	WMH-400, Section 6.1.1, TRU Software QA	
Section 6, Design	N/A for the TRU Projects	
Design Input		
Design Process		

Table 1: Hanford TRU Waste Program		
Project Hanford QAPD Part 2	Implementing Procedures	
	TRU Projects Procedures	ISMS Core Functions
Design Verification		
Design Change Control		
Design Documentation and Records		
Section 7, Procurement		
Procurement Planning	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	
Content of Procurement Documents	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	WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services	
Supplier Performance Monitoring	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	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	WMH-400, Section 2.3.3, TRU Control of Purchased Items and Services	
Procurement Document Control, including 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	
Section 8, Inspection and Acceptance Testing		
Inspection and Acceptance Testing Planning	WMH-400, Section 2.4.1, TRU Inspection Control	
Inspection and Acceptance Testing Process	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 Records	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	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	WMH-400, Section 2.4.4, TRU Control of Measuring, Test, and Data Collection Equipment	

Table 1: Hanford TRU Waste Program		
Project Hanford QAPD Part 2	Implementing Procedures	
	TRU Projects Procedures	ISMS Core Functions
Computer Program Testing	WMH-400, Section 6.1.1, TRU Software Quality Assurance	
In-Process Inspection		
Section 9, Management Assessment		
Management Assessments	WMH-400, Section 3.1.1, TRU Management Assessments WMH-400, Section 3.1.2, Quality Assurance Reports to Management	<ul style="list-style-type: none"> • Management Review
Corrective Action (resulting from Management 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	<ul style="list-style-type: none"> • Provide Feedback and Continuous Improvement
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	<ul style="list-style-type: none"> • Management Review • Provide Feedback and Continuous Improvement

Attachment 10 - WMP Suspect/Counterfeit Items Plan

This Plan is designed to provide an appropriate level of confidence that the WMP 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 provide 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

- Society of Automotive Engineers Standard J429, Grades 5, 8 and 8.2 bolts with headmarks matching those on the Headmark List in HNF-PRO-301.
- ASTM A325, Types 1, 2, and 3 bolts which exhibit the "KS" headmark on the Headmark List in HNF-PRO-301.
- ASTM A193 Grade B8 and ASTM A320 stainless steel bolts.

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 compared to the cost of surveillance or replacement necessary to prevent recurrence.

Control Requirements

WMP Quality Assurance 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.

WMP Quality Assurance personnel shall perform S/CI inspection of essential spare equipment before 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 to identify S/CI when observed.

Procurement Requirements

The procurement documents (mater catalog IDs, Material Requests, and Requisitions) for items or services that could be vulnerable to S/CI issues shall be reviewed by WMP Quality Assurance personnel 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 Overview 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 attend, as a minimum, Module 1 Awareness training.

Reporting

Items meeting the definition of S/CI, as defined in HNF-PRO-301 shall be identified to the WMP Quality Assurance 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 WMP-200, *Waste Management Project Procedures*, Section 2.6, "Abnormal Event Investigation, Notification, and Occurrence Reporting." The discovery of S/CI 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 to "use-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/markings 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.