S

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 654026

Proj. ECN

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 ○	Scott C. Klimper, Engineering, H0-34, 373-0078	○ Yes ◉ No	07/07/1999
	6. Project Title/No./Work Order No. Spent Nuclear Fuel Project	7. Bldg./Sys./Fac. No. NA	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SNF-4086, Rev. 0	10. Related ECN No(s). NA	11. Related PO No. NA

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)	NA	NA Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? ○ Yes ◉ No

This ECN documents the direct revision of SNF-4086, replacing Rev. 0 with Revision 1. A general description of the changes includes the following:

Text was updated throughout the document to indicate progress and current status.

Appendix A in Rev. 0 is deleted (It was moved to SNFP Administrative Procedure EN-6-030).

Appendix B in Rev. 0 is updated to enhance alignment with the requirements of HNF-PRO-1819, delete the temporary procedure numbers, and resort the entire matrix by the current procedure numbers. Appendix B is also renamed as Appendix A in Revision 1.

14a. Justification (mark one)	14b. Justification Details
Criteria Change ◉ Design Improvement ○ Environmental ○ Facility Deactivation ○ As-Found ○ Facilitate Const. ○ Const. Error/Omission ○ Design Error/Omission ○	Changes to HNF-PRO-1819 and engineering process improvements since SNF-4086, Rev. 0 was issued in March 1999, necessitated the need for an updated improvement plan.

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

See Distribution

RELEASE STAMP

DATE: JUL 13 1999
STA: 4
HANFORD RELEASE
ID: 2

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 654026

16. Design Verification Required	17. Cost Impact		18. Schedule Impact (days)
	ENGINEERING	CONSTRUCTION	
○ Yes	Additional ○ $ NA	Additional ○ $ NA	Improvement ○ NA
◉ No	Savings ○ $ NA	Savings ○ $ NA	Delay ○ NA

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	☐	NA	☐
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
NA	NA	NA

21. Approvals

	Signature	Date
Design Authority WC Miller	WC Miller	7/8/99
Cog. Eng. SP Desai	H D Forehand for	7/8/99
Cog. Mgr. GD Forehand	H D Forehand	7/8/99
QA NA		
Safety NA		
Environ. NA		
Other ~~JD Thomson~~	KDT	7/8/99
RL Kelmenson (Change Author)		7/8/99

	Signature	Date
Design Agent NA		
PE NA		
QA NA		
Safety NA		
Design NA		
Environ. NA		
Other NA		

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

NA

ADDITIONAL

NA

SNF PROJECT
ENGINEERING PROCESS IMPROVEMENT PLAN

RL Kelmenson
Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: 654026 UC: UC-510
Org Code: 2F400 Charge Code: 105353
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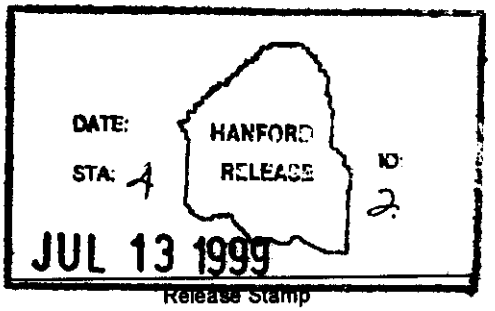
Key Words: Engineering, Improvement, Procedures, Process, HNF-PRO-1819, Configuration Management, Management Assessments, Engineering Training, Graded Approach, Technical Baseline

Abstract: This Engineering Process Improvement Plan documents the activities and plans to be taken by the SNF Project to support its engineering process and to produce a consolidated set of engineering procedures that are fully compliant with the requirements of HNF-PRO-1819. All new procedures will be issued and implemented by September 30, 1999.

7/12/99
Release Approval Date



Release Stamp

Approved For Public Release

RECORD OF REVISION

(1) Document Number: SNF-4086

(2) Title: SNF PROJECT ENGINEERING PROCESS IMPROVEMENT PLAN

Change Control Record

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release	
		(5) Cog. Engr.	(6) Cog. Mgr. Date
0	(7) Initial Release (EDT# 626551, 03/04/1999)		
1 RS	Text was updated throughout the document to indicate progress and current status. Appendix A was transferred to Administrative Procedure EN-6-030, and Appendix B was updated and renamed Appendix A. ECN-654026 dtd. 7-13-99.	SP Desai MDesai for	GD Forehand MDForehand 7/7/99

SNF PROJECT
ENGINEERING PROCESS IMPROVEMENT PLAN

July 1999

CONTENTS

LIST OF APPENDICES

LIST OF TERMS

SNF	Spent Nuclear Fuel
Project	SNF Project
1819	HNF-PRO-1819
SSCs	Systems, Structures and Components
DAs	Design Authorities
APs	Administrative Procedures
1613	HNF-1613, Rev 0B
EPs	HNF-1613, Rev 0B engineering practices
Transition Period	From March 1, 1999 until new APs are issued and implemented
PHMC	Project Hanford Management Contract
PHMS	Project Hanford Management System

SNF PROJECT ENGINEERING PROCESS IMPROVEMENT PLAN

1.0 Introduction and Purpose

This Engineering Process Improvement Plan documents the activities and plans to be taken by the SNF Project (the Project) to support its engineering process and to produce a consolidated set of engineering procedures that are fully compliant with the requirements of HNF-PRO-1819 (1819). These requirements are imposed on all engineering activities performed for the Project and apply to all life-cycle stages of the Project's systems, structures and components (SSCs). This Plan describes the steps that will be taken by the Project during the transition period to ensure that new procedures are effectively integrated into the Project's work process as these procedures are issued. The consolidated procedures will be issued and implemented by September 30, 1999.

1.1 Compliance to HNF-PRO-1819 Requirements

Currently, the Project is performing its design and engineering work under the existing SNF Project Engineering Practices (EPs) documented in HNF-1613 (1613). These existing practices implement most requirements in 1819. Concurrently, the Project is completing new engineering procedures which explicitly comply with the 1819 requirements. However, not all of the new procedures were completed by March 1, 1999, the implementation date of 1819. The Project has been employing an integrated program of new 1819-compliant engineering administrative procedures (APs) in combination with some of the existing 1613 EPs. A Management Directive (SNF-MD-009) directs all Engineering Staff to comply with any additional requirements in 1819. Therefore, the Project has been in compliance with 1819 since March 1, 1999.

1.2 Transition

The Project has been and will continue to issue and implement new procedures periodically during this transition period. Transition issues related to the integration and implementation of the new APs are addressed in Section 3 of this Plan and include introductory activities, conduct of training and indoctrination, performance of assessments, and completion of new APs. The remainder of this document describes the activities and plans of the Project to specifically address these transition issues.

1.3 Benefits

The implementation of the new APs has provided the opportunity to accomplish a number of procedural and programmatic objectives:

- Update and correct organization references with reference to the PHMC within the existing procedures.
- Update and correct document and procedure references with respect to the PHMS.
- Assure incorporation of any new requirements.
- Assure elimination of any rescinded requirements.
- Merge the engineering procedures with the Project's administrative procedure system.

- Apply "lessons learned" from the 1613 EPs to the new APs.
- Resolve applicable procedure corrective actions.

2.0 Current Status of Implementation

The Project is currently performing its design and engineering work under the existing 1613 EPs and approved engineering APs. This procedural program is based on the existing HNF-PROs for engineering which were derived from the former Westinghouse Hanford Company Standard Engineering Practices, WHC-CM-6-1.

The Project intends to have the new 1819-compliant APs issued and implemented by September 30, 1999. A schedule for their issuance is shown in Appendix A. As begun in March 1999, existing EPs will remain in effect to cover all engineering work processes until 1819-compliant APs have been issued and implemented as replacements.

Appendix A, "HNF-PRO-1819 SNF Project Engineering Requirements Compliance Matrix" of AP-EN-6-030, Engineering Process, relates the specific requirements in HNF-PRO-1819 to the corresponding implementing SNF Project engineering procedure. Appendix A to this plan, "1819 Procedure Map and New AP Compliance to 1819 Requirements" lists all the new APs and the sections of 1819 with which each new procedure complies. This table also indicates EPs that will be replaced by the new AP along with the target issue date for the new AP. Also shown is the author/technical authority of each new AP.

The Project recognizes that a combined program of the new 1819-compliant APs along with the existing EPs will need to address integration and implementation issues. These transition issues are addressed in Section 3.

3.0 Implementation of Improvement Plan - Transition Issues

3.1 New AP Introduction Steps

The new program and the management directive was announced to all affected SNF Project personnel on February 26, 1999. The SNF Project personnel affected by the new procedures have been identified. Specific orientation meetings were conducted for the various affected groups of SNF Project personnel. Any differences in work processes between the new APs and the existing EPs will be described.

3.2 Assistance during the Transition Period

The authors/technical authorities of the new APs have been identified to all affected personnel and are available by phone or e-mail. All procedure users are able to contact the authors/technical authorities and receive a prompt, accurate response to any question regarding the new procedures. The authors support the orientation programs described in Section 3.1 and the training and indoctrination programs described in Section 3.3. The authors/technical authorities also receive suggestions for improvement of the new procedures. In addition, the questions received by the authors are examined to determine if revisions should be made to improve the new procedures.

3.3 Training and Indoctrination

Initial training for each newly approved and released engineering Administrative Procedures is conducted in the form of a briefing by the procedure authors. A database of SNF Project personnel requiring the briefing has been established and administered by Systems Engineering (SE). The SNF Project Chief Engineer has re-emphasized the importance of attendance at the briefing sessions. The SNF Project personnel not able to attend scheduled briefing sessions have been offered make-up sessions, and video-taped briefings as well. Attendance is recorded at all sessions to ensure targeted audience has been briefed as planned.

Since performance-based instruction requires a long-term commitment for full implementation, and since the transition period begun on March 1, 1999, a second, concurrent path for training execution has been provided. This training path leads both new and existing personnel through procedurally-driven requirements for training and provides compliance to HNF-PRO-1819.

Activities along the second training path during March included required readings by personnel, compilation of a requirements matrix, and a review/assessment of management expectations (see section 3.5). New personnel are required to meet entry level requirements for technical staff positions as stipulated within AP-TN-8-007. Additionally, both new and existing personnel focus upon the critical elements of HNF-PRO-1819. Both past and new problems arising from procedurally-driven job functions are emphasized as well.

Ongoing secondary training path activities during the transition period consist, in part, of an overall observation of tech staff job performance to identify any additional compensatory measures.

3.4 Use of Procedures during the Transition Period

During the transition period, new APs will be issued as they are approved. Each time a new set of APs is issued, an announcement is made to affected SNF Project personnel. With each new issue of APs, the affected personnel within SNF Project are identified and briefings are conducted for them. During these briefings any changes or impacts to the work processes are described.

3.5 Monitoring of Procedure Use

Engineering management will develop an assessment plan. This plan will include a schedule of assessments with procedures to be assessed and assigned assessors. Guidance for performing the individual assessments will be provided in the plan.

3.6 Closure Activities during the Transition Period

The implementation of the new APs allows opportunity to close and resolve a number of procedural and programmatic issues during the completion. Closure of the issues during the transition period will be and have been achieving a number of benefits for the Project.

In particular, the new engineering procedures place emphasis on the establishment and maintenance of the design baseline for SSCs during the design, construction, and operations phases and focus the responsibility for the design baselines on the DAs. Other specific closure and completion issues to be addressed during the transition period for all of the new engineering procedures include the following:

- Engineering Work: All new engineering work will be performed under the new 1819-compliant program. For work in progress the DA will decide whether to continue under the existing procedure along with the management directive or to work under the new AP. If the DA decides to continue working under an existing procedure rather than a new AP, he shall obtain the approval of the Chief Engineer.

- Integration: During the transition period, the APs are finalized as a set of integrated SNF Project engineering procedures. These APs better reflect current SNF Project organization, titles and administrative practices; update and correct organizational references with respect to the PHMC; update and correct document and procedure references with respect to the PHMS; and capture Project procedural requirements related to the engineering process. Referrals from one AP to other related activity APs will be incorporated. During the transition period, crosswalk and mapping tools from the existing 1613 set of EPs to the new 1819 APs are being implemented to provide current status and guidance of "in-effect" procedures and practices.

- Administrative Control: During and after the transition period, the new APs will be administratively controlled and managed under the SNF Project administrative procedure system, along with the other Project-wide procedures. Under this system, the procedures will be consistent in format and level of detail and content and be accessible to the engineering personnel and easy to implement or revise.

- Finalization and Maintenance: The APs are being finalized as a set of SNF Project-specific and focused procedural requirements for the Project's engineering activities. Focus is placed on ensuring the development and maintenance of the design baseline from the engineering, design and construction stage to the operations stage. The APs include new procedural requirements and eliminate any rescinded requirements. Actions required to address procedure issues or findings identified from audit activities are incorporated into the new APs during the transition period.

- Training Requirements: During the transition period, training of affected engineering and support organization personnel, including those in QA, Safety and Operations, to the new APs are being performed in the form of briefings. This training includes more emphasis on previous problem areas and on new implementation requirements focusing on establishing the design baseline during design, engineering and construction; setting DA authorities and responsibilities; and maintaining the design baseline during operations.

- Updated Required Reading Lists: The Project developed and updates its required reading lists during the transition period. This will assure that revised requirements, references and new documentation are being conveyed to the engineering personnel.

- Traceability of 1819 Requirements to Project Procedures: The new APs are being completed to comply with 1819 requirements. Appendix A to AP-EN 6-030, Engineering Process provides traceability from each 1819 requirement to the procedure(s) that meets that requirement

3.7 Completion of Procedures

Engineering management is working with assigned procedure authors to complete all of the new engineering procedures. During the transition period, management will meet with the authors to support procedure completion and integration and to ensure that the new procedures are issued in a timely manner. Various coordination and integration issues will be discussed in these meetings. During the transition period engineering management will continue to devote the necessary resources to the completion of all new procedures. Procedure integration meetings will continue to be held until all new procedures are issued.

4.0 Schedule for Completion of New APs

The Project intends to issue all new engineering procedures identified in this plan (Appendix A) as soon as practical and no later than September 30, 1999. As the new procedures are being written and approved they are reviewed to ensure that they are clear and that all interfaces among these procedures and with other site procedures are correct. In addition the assessments performed during the transition period will produce some "lessons learned." These "lessons learned" will be incorporated into the subsequent procedures where appropriate. By September 30,1999, the new APs will be fully integrated with each other and with other site procedures.

5.0 Summary and Conclusions

The Project is in the process of implementing a number of new APs and the management directive. The Project has taken this new initiative as an opportunity to improve the overall engineering process and achieve benefits and enhancements. The new program will provide maintenance and documentation of the design baseline for operations.

A management directive has been issued requiring all personnel using the existing EPs to comply with the requirements of 1819. Thus, the Project has been in compliance with 1819 as of March 1, 1999, the effective date of issuance of the management directive. When all new APs are issued the management directive will be cancelled.

The completion schedule for the Project's new 1819-compliant APs and the use and transition of existing 1613 EPs to the new 1819-compliant APs are described in this Engineering Process Improvement Plan. The SNF Project will have all of its new APs issued and implemented by September 30, 1999. The Project has developed this Plan to assist in the implementation of these new procedures and their management during this time period. This Plan addresses notification,

communication, training and implementation issues for the transition period. The Plan is under configuration control and revised as necessary. Appendix A to AP-EN-6-030, "HNF-PRO-1819 SNF Project Engineering Requirements Compliance Matrix" was originally Appendix A to this plan. The current Appendix A to this plan was formerly Appendix B. This new Appendix A will be updated periodically to reflect current status and requirements. During this transition period, the SNF Project will continue to issue the remaining procedures, conduct training and indoctrination, perform assessments and implement corrective actions, as needed.

APPENDIX A: 1819 Procedure Map and New AP Compliance to 1819 Requirements

New AP #	New AP Title	1819 Req'ts	Tech Owner / POC	Summary Description	Current 1613 Procedures	Target Date of Issuance
EN- 6-004	Engineering Personnel Qualifications and Responsibilities	2.1 all 2.2 all 2.3.1 2.3.3 2.4 all 2.5.2 2.6.5 2.7.2 2.7.5 2.7.11 2.9.1.2 2.9.1.5 2.9.1.6 2.9.2.2 2.9.2.4 2.9.2.5 2.10.2 2.10.3 2.10.4 2.10.5 2.12.2	Medford	This procedure covers the selection and approval process for SNF Project design authorities and cognizant engineers. The current revision of this procedure covers SNF Project chief engineer, design authorities, and cognizant engineer responsibilities. The new revision will include a more complete coverage of design authority responsibilities consistent with HNF-PRO-1819. The version will also include qualification requirements and the procedure for documenting education and experience requirement equivalencies for all those who practice engineering within SNF Project.	AP 6-004 EP-7.1, Attach-5.9	Complete
EN- 6-005	Component Identification and Labeling	2.8.3.7	Mildon / Call	The procedure provides administrative requirements and process for the control and accuracy of Job Control System component database. It ensures that field labels are consistent with H-1 drawings component numbers. This procedure implements DOE Orders 5480.19 and 4330./4B, Section 5.3.1 for master equipment list. This procedure will replace two existing procedures dealing with labeling, namely: AP-2-022-02, Equipment and Piping Labeling, and AP-2-006-01, Temporary Identification of Equipment and Controls.	AP 6-005	Complete

APPENDIX A: 1819 Procedure Map and New AP Compliance to 1819 Requirements

New AP #	New AP Title	1819 Req'ts	Tech Owner / POC	Summary Description	Current 1613 Procedures	Target Date of Issuance
EN- 6-006	Engineering Drawing Requirements	2.3.3 2.4.1 2.4.2 2.4.4 2.8.2.3 2.8.2.6 2.8.2.7 2.8.3 all(except 2.8.3.6) 2.8.5.3 2.8.5.4	Cassidy	Procedure combines EP-1.3 and existing AP-6-006. This procedure defines the requirements associated with preparation, verification, approval, release, and revision of engineering drawings initiated by or prepared for Spent Nuclear Fuel Project. New significantly revised processes: • Redlining of Drawings • Maintenance of Baseline Drawing List	EP-1.3 AP 6-006	Complete
EN- 6-010	Calculations	2.4.1 2.4.2 2.4.4 2.8.1 all 2.8.2.2 2.8.2.3 2.8.2.6 2.8.2.7	Kessie / Frederickson / Friberg	This procedure establishes the requirements and process to be used for the preparation, documentation, review, approval, and retention of design analyses and calculations. Specific requirements are also provided for analyses and calculations that affect structures, systems, and components (SSCs); activities; and documents at the SNF Project from OCRWM Quality Assurance Requirements and Description (QARD) Q-List. (No significant changes to requirements.	NEW (EP-1.11)	Complete
EN- 6-011	Engineering Specification Requirements	2.4.1 2.4.2 2.4.4 2.8.2.2 2.8.2.3 2.8.2.6 2.8.2.7 2.8.4 all	Cassidy	Procedure is essentially a reformatting of EP-1.2. This procedure provides the requirements associated with the preparation, review, approval, release, and revision of specifications prepared by or for Spent Nuclear Fuel Project for such items as engineered equipment or software.	EP-1.2 EP-7.1, Attach-1.2 & Q	Complete
EN- 6-012	As-Built Verification Process	2.9.2 all except 2.9.2.6	Medford	This procedure describes the field walkdown verification program to be used by the SNF Project to validate the accuracy of field information for the development of as-built drawings issued at the completion of construction activities. The new revision of this procedure will include a more detailed field verification process that is based on HNF-PRO-1819 requirements.	AP 6-012	Complete
EN- 6-016	OCRWM Sample Control	None	D. Bergmann	This administrative procedure describes the process used to control physical samples collected in support of OCRWM QARD related SNF Project activities.	AP 6-016	Complete
CP- 6-019	Acceptance for Beneficial Use	None	Cassidy	Negligible Change only revised to update references.	AP 6-019	Complete

APPENDIX A: 1819 Procedure Map and New AP Compliance to 1819 Requirements

New AP #	New AP Title	1819 Req'ts	Tech Owner / POC	Summary Description	Current 1613 Procedures	Target Date of Issuance
EN- 6-020	Procurement of Safety Class Items and Management of Spares	2.8.4 all 2.1.2.1	Mildon / Dillsi	The procedure defines the engineering and procedures requirements associated with the procurement of structures, systems, and components (SSCs); dedication of commercial grade items (CGIs) for safety, i.e. safety class and safety significant, SSCs applications; and the management of spares. It replaces and updates the current EP-5.3.	EP-5.3	Complete
EN- 6-021	Interface Control Requirement	2.7.11	Forehand	Translation of EP-1.5 into Administrative Procedure (AP) format; Resolution of Configuration Management (CM) Gap Analysis actions and Interface Control Assessment actions; Resurrection of Interface Control Working Group (ICWG); Revisions to EC database and Administration Controls.	EP-1.5	Complete
EN- 6-022	Issue Closure	None	T. Bergman	The purpose of this procedure is to establish clear expectations for identifying, tracking, and documenting closure of technical issues affecting the SNF Project.	NEW	Complete
EN- 6-024	Field Change Request	None	Kessie	This procedure applies to the Chem-Nuclear Subcontractor and SNF Projects K Basins/Integrated Water Treatment System (IWTS) subproject's personnel in the preparation of design documents for the IWTS subproject. This procedure defines the process of how changes to a subcontracted design are to be implemented and identifies the required reviews and approvals.	AP 6-024	Complete
EN- 6-025	Supporting Document Requirements	2.4.1 2.4.2 2.4.4 2.8.2.2 2.8.2.3 2.8.2.6 2.8.2.7	Zlatnik	This new procedure describes the process for identification, preparation, approval, release, revision, and accountability of supporting documents.	EP-1.12 EP-7.1, Attach-1.2	Complete
EN- 6-026	Vendor Information Requirements	2.8.2.5 2.8.3.6 2.8.4.1	Mildon / Dillsi	This procedure defines the requirements for the identification, receipt, acceptance, tracking, distribution, revision, and filing of documents provided by vendors. The documents covered here are those specifically requested in the Purchase Requisition or Specification. The procedure replaces and updated the current EP-3.3.	EP-3.3	7/31/99

APPENDIX A: 1819 Procedure Map and New AP Compliance to 1819 Requirements

New AP #	New AP Title	1819 Req'ts	Tech Owner / POC	Summary Description	Current 1613 Procedures	Target Date of Issuance
EN- 6-027	Design Verification Requirements	2.9.1 all	Forehand / Yanochko	This is a new administrative procedure which implements the engineering requirements contained in HNF-PRO-1819, PHMC Engineering Requirements related to the Design Verification. This procedure replaces HNF-1613, Design Verification Requirements, EP-4.1. This Procedure: Consolidates existing design verification requirements and implements a minimal number of new requirements. Documents the requirements and describes the process for performing 5 types of design verification. Contains design verification requirements for those activities identified in Table 3-1 of HNF-SD-SNF-RPT-007, Application of the Office of Civilian Radioactive Waste Management Quality Assurance Requirements to the Hanford Spent Nuclear Fuel (SNF) Project. Documents requirements governing project verification plans. Incorporates requirements of HNF-1613, Design Verification Requirements, EP-4.1, Revision 6, Change2. Incorporates requirements of Engineering Practice Guidelines, WHC-IP-1026, to the extent identified in HNF-1613, EP-4.1. Implements design control requirements identified in HNF-1613, Design Control for Office of Radioactive Waste Management (OCRWM) – Related Activities, EP-7.1, Revision 0, section 3.2.4, Design Verification. Addresses Corrective Action Plan Concern 06.7, Resulting from Gap Analysis of Configuration Management Plan and SNF Procedures, dated January 19, 1999. Address SNF Project Conduct of Engineering Initiatives, Initiative No. 6, Graded Design Verification Procedure, dated January 25, 1999. Provides a graded design verification procedure using existing Administrative Procedures and HNF-MP-599, Quality Assurance Program, as a basis.	EP-4.1 EP-7.1, Attach-4.1	Complete

APPENDIX A: 1819 Procedure Map and New AP Compliance to 1819 Requirements

New AP #	New AP Title	1819 Req'ts	Tech Owner / POC	Summary Description	Current 1613 Procedures	Target Date of Issuance
EN- 6-028	Graded Approach	2.7.1 2.7.6	Cassidy	The graded approach process determines the appropriate application of requirements through the consideration of prescribed factors, such as the : ♦ Nuclear safety classification of the item or activity. ♦ Level of risk and impact associated with a failure of deficiency. ♦ Age, status, and condition of a facility, process, or an item. ♦ History of problems at a facility, with a process, or an item. ♦ Adequacy of existing controlling documentation. ♦ Complexity of products or activities involved. ♦ Control of potential project delays and costs if failures or deficiencies occur.	NEW	Complete
EN- 6-029	Safety Equipment List	2.4.1 2.4.2 2.4.4 2.8.2.2 2.8.2.3 2.8.2.6 2.8.2.7	Morgan / Garvin / Libs	Defines the method for developing, documenting, reviewing, approving, and maintaining the Safety Equipment List (SEL). Is a new procedure, developed in part from previous Hanford Management systems and guidelines. Incorporates requirements from HNF-PRO-1819 and specifies that OCRWM QARD SSCs are to be designated in the Q-List.	NEW	7/15/99
EN- 6-030	Engineering Process	2.5 all 2.6 all 2.7 all 2.8.2.1 2.8.5 all 2.10 all 2.11 2.12.1 2.12.3	Forchand / Desai	Describes the engineering process for SNF Project including an overview of engineering procedures. Is a new procedure developed in part from previous Hanford Engineering Practices Guidelines. Lists HNF-PRO-1819 compliance matrix referencing applicable engineering procedures. Incorporates following requirements from HNF-PRO-1819 and additional OCRWM/QARD requirements: • Recognition of need for engineering work • Plan design activity • Development of design criteria • Develop engineering solution • Design inputs • Engineering change notice • Control of special processes in OCRWM/QARD activities • Turn over of designed solution • Procurement of Engineered Items and Services	EP-7.1, Attach-2.0 EP-7.2 EP-7.4 EP-7.5	Complete

APPENDIX A: 1819 Procedure Map and New AP Compliance to 1819 Requirements

New AP #	New AP Title	1819 Req'ts	Tech Owner / POC	Summary Description	Current 1613 Procedures	Target Date of Issuance
EN- 6-031	Testing Requirements	2.9.2.1 to 2.9.2.6 (for verification)	Haller	This AP applies to testing activities conducted by the SNF Project for SSCs and computer software. This AP does not apply to ASME in-service inspection (ISI) programs, non-destructive examinations (NDEs), routine maintenance testing, routine system compliance testing, or routine radiation or other environmental/surveillance activities	EP-4.2 EP-7.1, Attach-4.2 EP-7.3	7/15/99
EN- 6-032	Development Control Requirement	2.6.5	Forehand	Translation of EP-2.4 & EP-7.1 into AP format. This AP describes the process for special fabrication and development associated with prototypical and experimental equipment.	EP-2.4, EP-7.1 Attach. 2.4	8/1/99
EN- 6-033	Facility Deactivation Requirements	2.3.2 2.8.2.5	Langevin	This AP establishes the process to ensure configuration of a facility is maintained during the transition from operation to deactivation and final disposition.	EP-2.5	9/1/99
EN- 6-034	Functions and Requirements	None	Mildon / Langevin	This new AP describes the process for performing and documenting functional and requirements analyses.	NEW	9/1/99
EN- 6-035	CGI Dedication	2.8.4.5 2.8.4.6	Libs	Describes the procedural requirements and processes for dedication of new and replacement commercial grade items (CGIs) used as SSCs in Safety Class (SC) and Safety Significant (SS) function applications in the SNF Project facilities. Is a new procedure, including in part, the dedication process from HNF-PRO-447. Incorporates HNF-PRO-1819 requirements with respect to CGI dedication and refers to OCRWM certification of CGIs as an extension of the CGI dedication process. Includes the following: • Applies dedication process to before and after procurement • Applies dedication process to engineered equipment • Applies dedication process to new and replacement spares • Provides criteria for determining if SSCs can be CGIs • Provides procedural aspects of dedication process • Includes discussion of Seismic and Environmental Qualification • Discusses CGI lot formation and sampling plan	NEW	Complete
EN- 6-036	Engineering Procurement Waiver Requirements	None	Langevin	Reformatting of procedure EP-2.3. No new requirements. This procedure establishes the method for documenting and approving requests to waive requirements identified in engineering documents used in the procurement process.	EP-2.3	Complete
EN- 6-038	Request for Information (constructor to engr)	None	Kessie	The purpose of this AP is to provide a consistent process and approach in dealing with Requests for Information (RFIs) and other types of Field Requests on the SNF Project. This is a new procedure and training on the process will be provided.		TBD

APPENDIX A: 1819 Procedure Map and New AP Compliance to 1819 Requirements

New AP #	New AP Title	1819 Req'ts	Tech Owner / POC	Summary Description	Current 1613 Procedures	Target Date of Issuance
EN- 6-039	Engineering Document Change Control	2.8.2.2 2.8.2.3 2.8.2.6 2.8.2.7 2.8.3 all	Langevin	This procedure will be updated to correct references.	EP-2.2	7/15/99
EN- 6-040	Software V&V		Duncan/ Praga	This procedure provides the process and requirements for performing verification and validation (V&V) of computer software used in preparing design and safety-related calculations.		TBD
EN- 6-041	Software Configuration Control		Forehand/ Nelson	This AP provides the process of establishing procedures, and ensuring configuration identification, configuration control, configuration status accounting, defect reporting and resolution, retirement, and withdrawal of computer software.		TBD
EN- 6-042	System Design Descriptions		Forehand	This AP describes the method for providing design descriptions for safety class (SC) and safety significant (SS) items		TBD