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**This document was reviewed following the
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WHC Information Release Administration Specialist:

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November 4, 1994

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7. Abstract This document provides the Implementation Plan for the Project W-026 (WRAP Module I) Operational Readiness Review (ORR). The plan documents prerequisites to be met by the operating organization prior to the ORR. The plan is to be implemented by the ORR Team Leader identified in the plan. The ORR Team is to verify the facility's compliance with criteria identified in the plan. The criteria are based on the "Core Requirements" listed in WHC-CM-5-34, "Solid Waste Disposal Operations Administration", Section 1.4, "Operational Readiness Activities."		
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**IMPLEMENTATION PLAN
FOR WRAP MODULE 1
OPERATIONAL READINESS REVIEW**

Prepared by the Westinghouse Hanford Company
for the
United States Department of Energy
Under Contract DE-AC06-87RL10930

MASTER
DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED *AK*

DISCLAIMER

This Operational Readiness Review Implementation Plan (ORRIP) was written in accordance with WHC-CM-5-34, "Solid Waste Disposal Operations Administration", Section 1.4, "Operational Readiness Activities". WHC-CM-5-34, Section 1.4, is in compliance with DOE Order 5480.31, "Start-up and Restart of Nuclear Facilities" and DOE-STD-3006-93, "Planning and Conducting Operational Readiness Reviews." The ORRIP has been issued as a controlled document with the understanding that it will require review and revision near to the startup date in order to ensure it is in accordance with requirements as they will exist near to the startup date. This final review and revision should occur within six calendar months of the proposed commencement of the ORR.

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ACRONYMS AND ABBREVIATIONS

ALARA	as low as reasonably achievable
ATP	acceptance test procedure
CAP	corrective action plan
CFR	Code of Federal Regulations
CH	contact-handled
CPS	Criticality Prevention Specification
CRAs	criteria and review approaches
CSER	Criticality Safety Evaluation Report
DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
ECN	engineering change notice
HVAC	heating, ventilating, and air conditioning
LCO	limiting condition of operation
LLMW	low-level radioactive mixed waste
LLW	low-level waste
NDE/NDA	nondestructive examination/nondestructive assay
ORR	operational readiness review
ORRIP	ORR Implementation Plan
OSHA	Occupational Safety and Health Administration
OSR	operational safety requirement
OTP	operational test procedure
PM	preventative maintenance
POA	ORR Plan-of-Action
PSAR	preliminary safety analysis report
QUEST	Quality, Environmental, Safety Tracking System
RWM	restricted waste management
SL	safety limit
S/RID	standards/requirements identification document
SWB	standard waste box
SWD	Solid Waste Disposal
TRU	transuranic
TSR	technical safety requirement
WAC	Washington State Administrative Code
WHC	Westinghouse Hanford Company
WRAP 1	Waste Receiving and Processing Module 1
WRTS	Waste Remediation Tracking System

REFERENCES

- 1) DOE Order 5480.21, *Unreviewed Safety Questions*
- 2) DOE Order 5480.22, *Technical Safety Requirements*
- 3) DOE Order 5480.23, *Nuclear Safety Analysis Reports*
- 4) DOE Order 5481.1B, *Safety Analysis and Review System*
- 5) DOE Order 5500.2B, *Emergency Categories, Classes, and Notification and Reporting Requirements*
- 6) WHC-CM-1-3, *Management Requirements and Procedures*
- 7) WHC-CM-1-4, *Corrective Action Management Manual*
- 8) WHC-CM-1-5, *Standard Operating Practices*
- 9) WHC-CM-3-5, *Document Control and Records Management Manual*
- 10) WHC-CM-5-34, *Solid Waste Disposal Operations Administration*
- 11) WHC-IP-1048, *Operational Readiness Activities*
- 12) WHC-SD-W026-SAR-001, *WRAP Module 1 Preliminary Safety Analysis Report*
- 13) WHC-SD-W026-PLN-002, *Plan-Of-Action For WRAP Module 1 Operational Readiness Review*

1.0 INTRODUCTION

The Waste Receiving and Processing Module 1 (WRAP 1) will be used to receive, sample, treat, and ship contact-handled (CH) transuranic (TRU), low-level waste (LLW), and low-level mixed waste (LLMW) to storage and disposal sites both on the Hanford site and off-site. The primary mission of WRAP 1 is to characterize and certify CH waste in 55-gallon and 85-gallon drums; and its secondary function is to certify CH waste standard waste boxes (SWB) and boxes of similar size for disposal. The WRAP 1 will provide the capability for examination (including x-ray, visual, and contents sampling), limited treatment, repackaging, and certification of CH suspect-TRU waste in 55-gallon drums retrieved from storage, as well as newly generated CH LLW and CH TRU waste drums. The WRAP 1 will also provide examination (x-ray and visual only) and certification of CH LLW and CH TRU waste in small boxes.

The facility will have an administrative area, a personnel support area, waste shipping and receiving area, a nondestructive examination/nondestructive assay (NDE/NDA) area, a waste process area, a process heating, ventilating, and air conditioning (HVAC) area, a control and computer area, and an electrical and mechanical equipment area. The waste process area consists of TRU and LLW glovebox lines with equipment and capabilities for processing of waste items that would be unacceptable in the finished product in what are referred to as restricted TRU and LLW glovebox lines. Key design features of the WRAP 1 facility include an automated drum stacker/retriever system in shipping and receiving; state-of-the-art NDE/NDA analytical equipment; alpha confinement glovebox suites that house the LLW, TRU, and restricted waste management (RWM) sorting/certification/volume reduction equipment; supercompaction of the LLW in drums; and automated guided vehicles that service the shipping and receiving, NDE/NDA, and waste process areas.

2.0 PURPOSE

The decision to perform an Operational Readiness Review (ORR) was made in accordance with WHC-CM-5-34, *Solid Waste Disposal Operations Administration*, Section 1.4, *Operational Readiness Activities*. It is commensurate with the facility's potential impact on safety and its planned conduct of operations.

The accidents analyzed in WHC-SD-W026-SAR-001, *WRAP Module 1 Preliminary Safety Analysis Report*, support a Hazard Category 3 designation (as defined per DOE Order 5480.23, *Nuclear Safety Analysis Reports*) because neither the offsite nor onsite non-facility worker receives an unacceptable dose.

The project is a new facility. Using the Table 1 matrix of WHC-CM-5-34, Section 1.4, it can be seen that a new, Hazard Category 3 facility requires an ORR. As a readiness activity for this project, Westinghouse Hanford Company (WHC) Solid Waste Disposal (SWD) will perform an ORR with the U.S. Department of Energy (DOE) as the approval authority. The ORR will ensure plant and

equipment readiness, management and personnel readiness, and management programs readiness for the initial startup of the facility. This implementation plan is provided for defining the conduct of the WHC ORR.

3.0 SCOPE

This ORR will review all facilities, activities, and processes associated with maintaining the WRAP 1 facility and receiving, sampling, examining, assaying, treating, sorting, repackaging, certifying, storing, and shipping at the WRAP 1 facility of the waste described in the Section 1.0, Introduction. The ORR will review specific requirements to a breadth defined in WHC-SD-W026-PLN-002, *Plan-Of-Action For WRAP Module 1 Operational Readiness Review* (the POA) and to a depth defined in the section entitled in this ORR Implementation Plan (ORRIP).

The review will be limited in physical and administrative scope. Operations conducted on the WRAP 1 premises for the purpose of performing the WRAP 1 mission, as described above, will be subject to review. Procedures and management systems associated with SWD operations at WRAP 1 will be subject to review. Management and personnel associated with operations at WRAP 1 will be subject to review. Other interfacing operations will not be subject to review if they do not fall within the above scope.

The major facility features and conditions that require ORR scrutiny include:

- Construction of the facility in accordance with plans and specifications
- Grading and facility access in accordance with plans and specifications
- Utilities, connections, and operational status of HVAC, air, water, and electrical power distribution
- Transuranic Waste Main Process Glovebox Line installation and testing
- Transuranic Waste Restricted Waste Management Glovebox installation and testing
- Low Level Waste Main Process Glovebox Line installation and testing
- Low Level Waste Restricted Waste Management Glovebox installation and testing
- Sample Management
- NDE/NDA equipment installation, calibration, and testing
- Shipping/Receiving equipment installation and testing
- Process Area HVAC
- Material Handling/Transport system
- Interfaces with other facilities that either ship to or receive waste from WRAP Module 1
- Control systems installation and testing

- Data collection and management systems installation and testing
- Internal computer interfaces
- Approved operating and maintenance procedures
- Operating, maintenance, and support personnel training and qualifications
- Management personnel training and qualifications
- Safety monitoring and fire protection equipment and systems - adequate for safe start-up and operation of the facility
- Approved Criticality Safety Evaluation Report(s) (CSER)
- Approved Criticality Prevention Specification(s) (CPS)
- Compliance with environmental regulations and Part B Permit conditions
- Compliance with applicable codes, standards, and statutes, as defined in SWD Contract Standards/Requirements Identification Document (S/RID)
- Compliance with applicable WHC requirements
- Safety documentation adequate to support facility operation
- Integrated Systems Testing
- Administrative facilities adequate to support all operations

An ORR is performed to verify that certain requirements are met, as applied to the scope of the review. These requirements are identified using the list of core requirements from WHC-IP-1048, *Operational Readiness Activities*, Section 1.0, *Performance of Operational Readiness Reviews*, Appendix B, as well as other identified WHC and/or regulator requirements. The sum of these requirements were identified in the POA. These requirements are restated in Appendix B, *Criteria and Review Approaches*. They have been redesignated as Objectives and renumbered for ease of reference. The order in which they were presented in the POA has been maintained. Core requirements that are stated in the POA as being not applicable have been deleted.

4.0 OVERALL APPROACH

This ORR will be performed under the guidance of WHC-CM-5-34, Section 1.4. An ORR Team (Team) will be convened in accordance with section 5.0, Administration, of this ORRIP. The Team Leader is Mr. Steve H. Norton, Manager, SWD OR for WHC. His qualifications and those of the Team Members, who will be selected at a later date, will be provided in the ORR Report.

The Team will conduct a performance-based ORR. The Team will concur with the Criteria and Review Approaches (CRAs) for this review (see Appendix B). These CRAs provide refined bases for conducting the ORR within the context of the breadth set forth by the Objectives.

The CRAs are based on federal and state laws, ORRs conducted at other DOE facilities, and on the combined expertise of the Team. They consider the potential hazards of operations, the findings and advice of internal and external review groups, and the recognized needs of the facility. They

include plans for reviewing procedures and programs, auditing records, interviewing personnel, inspecting equipment and facilities, and observing operations. Selected reviews will also require simulated operations by the facility to test the response of operational and support personnel to abnormal and accident events.

4.1 ORR Preparations

All Team Members will have received site General Employee Training and at least the minimum required training to be able to be escorted to anywhere within WRAP I (e.g. facility orientation, radiological worker training, hazardous waste operations training). Each Team Member will have assessment/auditing experience. No Team Member will have any connection with the facility's operations that impact their independence to review their assigned functional area. By their selection, the Team Leader certifies that each Team Member is technically competent, has assessment experience, is independent, and through the familiarization process described above, is familiar with the site. These qualifications will be formally documented in the ORR report.

The Team will coordinate with facility management to support a timely and proficient readiness process. Facility specific training of the Team Members will be conducted. This training will consist of site and facility familiarization, necessary radiological and safety training for unrestricted site and facility access, facility program status, and familiarization with this ORRIP and associated Criteria and Review Approaches (CRAs) (Appendix B). Coordination will also be necessary to perform walkthroughs and inspections, and plan and schedule the specifics of the ORR performance, as covered in Section 4.3, ORR Performance.

4.2 Prerequisites Check

Prior to the commencement of the ORR, the Team is to conduct a check of all prerequisites to ensure they are completed to the satisfaction of facility management, and are ready for the ORR. Each Group will complete the WRAP I ORR Prerequisite Checklist specific to the Objective(s) assigned to it (see Appendix A). Determination of the readiness of the items for startup of the facility will not be made until the ORR is conducted.

4.3 ORR Performance

During the conduct of the ORR, documentation of appraisal performance and Findings and the assembly of evidence of operational readiness will be the responsibility of the individual Team Members. The Criterion Appraisal Form (see Appendix C) is used to document the methods and actions by a Team Member taken in their criteria evaluation process. Each Criterion Appraisal Form covers a specific Criterion (Appendix B) and describes the means the Team Member has used to measure the site's performance relative to the Criterion.

The form should be complete enough to allow an outside agency reviewing the form to follow the inspection logic and means utilized to verify the site's performance with respect to the Criterion and to thereby validate the completeness and adequacy of the ORR. If for some reason the intent of a Criterion cannot be achieved, the reason should be documented on the Criterion Appraisal Form. Specific instructions for completion of the form are given in Appendix C.

Findings, as documented on Criterion Appraisal Forms, may be resolved prior to the completion of the ORR. If resolved to the satisfaction of the Group Leader and associated Team Member, the resolution is documented on the Criterion Appraisal Form and no further action is required. All findings that are not resolved prior to the completion of the ORR will be used to compile the Master Findings List (Appendix C).

Periodic Group and Team meetings will be held throughout the course of the ORR as defined in the Section 5.2, Meetings.

4.4 ORR Report Preparation

Prior to the first ORR report preparation meeting, all Criterion Appraisal Forms and Objective Appraisal Forms (Appendix C) will be completed. The Objective Appraisal Form is a compilation of all unresolved Findings listed on all Criterion Appraisal Forms that have been filed for the Objective. Each Objective Appraisal Form will reference the associated Criterion Appraisal Forms to provide the review logic.

The first ORR report preparation meetings will be used to present unresolved Findings, as listed on Objective Appraisal Forms, to the Team. Since the sum of all unresolved Findings for all Objectives may overlap and/or address similar issues, the Team will combine all unresolved Findings into a comprehensive set of Master Findings. The Team will then use the Findings Classification Criteria (Appendix D) to classify each Master Finding as Prestart or Poststart. A Master Findings List (Appendix C) will be used to document the final set of Prestart and Poststart Findings. The Master Findings List will reference the Objective Appraisal Forms to provide the review logic.

The Team Leader will review the Findings listed on the Master Findings List and develop an ORR report to document the results of the ORR and to provide justification for the Team's recommendations. All Criterion Appraisal Forms, Objective Appraisal Forms, and the Master Findings List will be included in the ORR report to provide the review logic. Team Members will all be asked to concur in the ORR report in their areas of expertise. Dissenting opinions that have not been resolved will be appropriately addressed in the ORR report.

The Team Leader will report any problems or successes and document them as lessons learned to aid future ORRs. These should include lessons learned with respect to the ORR process as well as any lessons learned regarding the design, construction, or decommissioning of DOE nuclear facilities. The lessons learned will be published at a later date as an addendum to the ORR report, to ensure all lessons learned are captured.

The ORR report will use the guidelines of the format in Appendix E.

4.5 ORR Report Issuance

Copies of the ORR report will be transmitted by the Team Leader to the Director SWD and to the facility manager. The original ORR report will be entered into RIDS by SWD/OR.

4.6 Post-ORR Presentations

The Team Leader will coordinate any follow-up meetings, which include closeout meetings with the facility's management, debriefings of the Team, and presentation of the ORR report to upper management. Presentations may be required to internal or external interested groups as well.

4.7 Corrective Action Plans

The Team and facility management will prepare Corrective Action Plans (CAPs) which address the Findings. The CAP for each Finding shall be developed in a closeout meeting, and should contain the following elements:

- a. The Finding, as written in the ORR report submitted by the ORR team, and whether the Finding is a Prestart or Poststart Finding.
- b. The actions shall address the deficiencies identified in that Finding. The actions shall provide evaluation of any overall programmatic deficiencies or root causes related to a specific Finding which may lead to further similar occurrences and include actions addressing such deficiencies or root causes.
- c. The proposed dates by which the actions will be completed. If the actions for a Finding are phased, then the dates for each phase shall be detailed.
- d. For Poststart Findings, a description of the risks and mitigating actions, if any, to be taken during the interim which will reduce the risks associated with the Finding to an acceptable level before final correction. Include justification that the activity can proceed with acceptable risk.

4.8 Action Tracking/Closure Methodology

The Team Leader will enter all CAPs associated with Prestart Findings into the QUEST database, per WHC-CM-1-4, *Corrective Action Management Manual*,

or successive tracking system. The Team will monitor and maintain approval authority over all Prestart CAPs. The Team Leader will close each Finding in QUEST as its CAP is completed.

In some cases, the Team Leader may require that CAPs include a post-review and verification of closure of the Finding by the Team Leader or Team Members. These reviews will be documented, and such documentation maintained with the closure documentation. In addition, it may be appropriate for the Team Leader to indicate a recommended organization to verify proper closure of individual Prestart Findings. The evaluation of the adequacy of the actions shall not be substituted for management responsibility to verify satisfactory closure of Prestart Findings.

5.0 ADMINISTRATION

5.1 Team Structure

The Team is comprised of the Team Leader and a number of Team Members that are divided into Groups. Each Group is comprised of a senior Team Member, who is the Group Leader, and one or more Support Members. Each Group has been assigned responsibility to perform the review for one or more Objectives.

Team membership will be comprised of knowledgeable persons with experience in the various areas to be reviewed (e.g. safety, quality assurance, environmental protection, engineering, operations, etc.). Team Membership will be determined by the Team Leader by April 1, 1996.

5.2 Meetings

To facilitate Team coordination and the exchange of information, the Team will meet regularly. These meetings will permit the Team Members to discuss significant observations or identified problems and will permit the Team Leader to identify any trends or areas where more detailed information may be required. The Team Leader will use these meetings to review the efforts of the Team Members to assure that all Objectives are thoroughly assessed and that the approach used is that called for in the CRAs. It will also allow potential schedule difficulties or possible information gaps to be flagged in time to take corrective actions.

5.3 Quality Assurance

Responsibility for quality assurance of the review process rests with the Team Leader and includes Team Leader approval of all WHC Team Members, daily onsite peer review of the findings of the Team Members, and specification of the form of reports and retention of records on which the Team's findings are based.

Any of the Team Members are free to issue a dissenting opinion, which will be carefully considered. Every attempt will be made to resolve the issue during the course of the review. However, should resolution not be achieved, provisions will be made to include the dissenting opinion in the ORR report.

Each Criterion Appraisal will be independently reviewed by a Team Member who did not perform it.

These methods of quality assurance, coupled with the professional experience of the participants, assures a responsible and comprehensive review. This provides confidence in the Findings to senior management.

6.0 SCHEDULE

The following is a proposed schedule that will be more firmly established by 4 months prior to the ORR commencement date.

Date	Action
up to April 1, 1996	Convene Team Prepare for ORR.
April 1, 1996	Submit final ORR schedule. Commence prerequisite check.
August 1, 1996	Commence ORR.
September 1, 1996	Commence ORR report preparation.
October 31, 1996	Conclude ORR and Issue ORR report.
November 1, 1996	Facility and Team develop Corrective Action Plan.
November 21, 1996	Facility complete Corrective Action Plan.

APPENDIX A: WRAP 1 ORR PREREQUISITE CHECKLIST

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 1

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Technical safety requirements,
- ☐ 2) Transuranic glovebox line operating procedures,
- ☐ 3) Low level waste glovebox line operating procedures,
- ☐ 4) Transuranic restricted waste management glovebox operating procedures,
- ☐ 5) Low level restricted waste management glovebox operating procedures,
- ☐ 6) Shipping/receiving operating procedures,
- ☐ 7) Non-destructive Examination/Non-destructive Assay operating procedures,
- ☐ 8) Internal waste transport operating procedures,
- ☐ 9) Sample management operating procedures,
- ☐ 10) TRUPACT II handling operating procedures,
- ☐ 11) Plant control system operating procedures,
- ☐ 12) Plant data management system operating procedures,
- ☐ 13) Process and utility systems emergency operating procedures/alarm response procedures,
- ☐ 14) Criticality Prevention Specification limits and controls,
- ☐ 15) Instrument calibration procedures;

The prerequisites for Objective 1 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 2

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Operating, maintenance, and management personnel training records,
- ☐ 2) Training and qualification program ,
- ☐ 3) Requalification program - frequency and/or other criteria for requalification of operating, maintenance, and management personnel,
- ☐ 4) Criticality safety training,
- ☐ 5) Operating specifications document training,
- ☐ 6) Operating procedures training;

The prerequisites for Objective 2 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 3

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Operating, maintenance, and management personnel training records,
- ☐ 2) List of operations and operations support personnel,
- ☐ 3) Qualification test results,
- ☐ 4) Alarm response procedure drills;

The prerequisites for Objective 3 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 4

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Final safety analysis report, including technical specifications,
- ☐ 2) Fire hazards analysis,
- ☐ 3) Radiation protection program,
- ☐ 4) Operating specifications document,
- ☐ 5) Technical safety requirements,
- ☐ 6) Configuration control program,
- ☐ 7) Criticality Safety Evaluation Report,
- ☐ 8) Criticality Prevention Specifications;

The prerequisites for Objective 4 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 5

Are the following prerequisites approved, in place, and ready for review?

- ___ 1) Safety equipment list including Technical Safety Requirement/Criticality Prevention Specification related equipment,
- ___ 2) Instrument calibration procedures,
- ___ 3) Technical Safety Requirements,
- ___ 4) Criticality Prevention Specifications,
- ___ 5) Work Place Air Sampling System,
- ___ 6) Records of instrument calibrations,
- ___ 7) Records of safety and non-safety related system testing, to include:
 - Acceptance Test Procedures and results,
 - Operational Testing Procedures and results,
 - Plant cold testing results,
 - Equipment operability reports,
- ___ 8) Program for maintenance of safety and non-safety related systems;

The prerequisites for Objective 5 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 6

Are the following prerequisites approved, in place, and ready for review?

- ___ 1) Oversight review comments and resolution documentation,
- ___ 2) Audit reports,
- ___ 3) Senior review board comments and resolution documentation,
- ___ 4) QUEST reports,
- ___ 5) Plan in place for future evaluations and reviews of operations,
e.g. self assessments, scheduled audits, etc.;

The prerequisites for Objective 6 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP 1 Operational Readiness Review
Prerequisite Checklist
Objective 7

Are the following prerequisites approved, in place, and ready for review?

___ 1) S/RID or equivalent document;

The prerequisites for Objective 7 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 8

Are the following prerequisites approved, in place, and ready for review?

- ___ 1) Maintenance program structure and management,
- ___ 2) Maintenance equipment and facilities,
- ___ 3) Work identification, planning, and scheduling system,
- ___ 4) Maintenance procedures,
- ___ 5) Maintenance quality assurance audit program,
- ___ 6) Preventive maintenance & evaluation program,
- ___ 7) Calibration program,
- ___ 8) Industrial hygiene program,
- ___ 9) Radiation safety program,
- ___ 10) Emergency preparedness program and procedures,
- ___ 11) Medical first aid support,
- ___ 12) Chemical process safety procedure,
- ___ 13) Environmental compliance assessment,
- ___ 14) Training records,
- ___ 15) Waste management program,
- ___ 16) Quality control/assurance program,
- ___ 17) Engineering support;

The prerequisites for Objective 8 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 9

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Emergency operation and response training records,
- ☐ 2) Records and audits of emergency operation drills;

The prerequisites for Objective 9 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 10

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Plant startup procedures,
- ☐ 2) Equipment operability reports;

The prerequisites for Objective 10 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 11

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Staffing Plan,
- ☐ 2) Position Description Forms;

The prerequisites for Objective 11 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 12

Are the following prerequisites approved, in place, and ready for review?

___ 1) WHC-CM-5-34 revised to include the facility;

The prerequisites for Objective 12 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 13

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Staffing Plan,
- ☐ 2) Operating personnel staffing ,
- ☐ 3) Management personnel staffing,
- ☐ 4) Maintenance personnel staffing,
- ☐ 5) Plant engineering personnel staffing;

The prerequisites for Objective 13 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 14

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Training records,
- ☐ 2) Plant safety policy interviews completed;

The prerequisites for Objective 14 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

WRAP I Operational Readiness Review
Prerequisite Checklist
Objective 15

Are the following prerequisites approved, in place, and ready for review?

- ☐ 1) Training and qualification records,
- ☐ 2) Operation drill records which show knowledge and competence,
- ☐ 3) Oral/written examination records.

The prerequisites for Objective 15 appear to have been met and are ready for ORR commencement.

Signatures:

Group Leader / Team Member(s):

APPENDIX B: CRITERIA AND REVIEW APPROACHES

All Criteria and Review Approaches are to be conducted within the Boundary of the Scope. All references to "the facility" apply to WRAP I. All references to the "authorization basis" apply to the WRAP I authorization basis.

Objective 1 (reference WHC-IP-1048 core requirement 1)

There are adequate and correct procedures and safety limits for operating the process systems and utility systems.

Interpretation

Procedures are defined to be operating, safety, and emergency permits, plans, and plant operating procedures.

This Objective requires a review of the authorization basis documents only to ensure that any identified Technical Safety Requirements (TSRs), Operational Safety Requirements (OSRs), Limiting Conditions of Operations (LCOs), and Safety Limits (SLs) have been implemented in the facility procedures.

The authorization basis documents are to be assessed under Objective 4. Acceptance Test Procedures (ATPs), Operational Test Procedures (OTPs), and Preventative Maintenance (PM) procedures are to be assessed under Objective 5. Facility initial startup procedures are to be assessed under Objective 10.

Criteria

- 1.1. There are adequate and up to date procedures in place which support the operating status of the facility.
- 1.2. The procedures adequately and correctly incorporate the identified TSRs, OSRs, LCOs, and SLs for operations of process and utility systems.
- 1.3. The procedures adequately address all possible operating modes for the facility.
- 1.4. The procedures provide operability and availability requirements for all systems and equipment operating modes. These requirements are consistent with facility safety documentation required by Objective 4.

Approach

1. Walk down all procedures with the assistance of a cognizant person to assess their completeness, accuracy, and clarity in addressing the operations to be performed.
2. Perform hand-over-hand walkthroughs of the system and compare with road maps, flow diagrams, valve lineups, schematics, drawings, etc., to ensure systems are documented as built and labeled. Verify as-built drawings are in place.
3. Review and assess the consistency among all procedures.

4. Review and assess the accessibility of procedures.
5. Verify that the sum of all procedures address all possible operating modes for the facility. Verify that operability and availability requirements are provided in the procedures.
6. Review and assess procedures to ensure that emergency conditions (the criteria to commence emergency operations) are defined.
7. Review the procedural control program to confirm that temporary procedures are adequately controlled. Specific attention is given to the approval process, the length of time allowed for use of temporary procedures, and the process for notifying other affected organizations.
8. Review and assess the adequacy and implementation of the procedure change management system.
9. Verify that all identified TSRs and associated OSRs, LCOs, and SLs in the authorization basis have been properly incorporated into all procedures.
10. Verify that the final versions of all procedures have been evaluated for their impact on the authorization basis, and that all modifications to the authorization basis have been made as necessary.

Basis

It is essential that procedures accurately reflect the actual equipment installed in the plant. If operation is based on an incorrect system configuration, safety cannot be ensured. Verification of the current status of procedures relative to plant modifications must be accomplished and must be supplemented by a strong program that continues to ensure compliance with requirements.

Any identified OSRs and LCOs are to be implemented in procedures prior to operations. To ensure that the safety envelope is maintained, the procedures must implement the correct OSRs during normal and off-normal events. DOE Order 5480.22, *Technical Safety Requirements*, requires the identification of OSRs. The above criteria and approaches are used to determine whether or not identified OSRs have been adequately incorporated into the procedures.

Operating procedures are used to ensure that OSR limits are not exceeded and that operations are conducted safely. An inaccurate or out-of-date procedure could compromise the safety envelope. It is imperative that procedures be approved and current, and that they are consistent with the effective OSRs. Experience in the nuclear industry is that procedures actually used by operators are sometimes updated very slowly or that changes may be incorrect, vaguely written, inconsistent, conflicting, inadequately reviewed, or

incorporated incorrectly. This review applies to all procedures, but focuses primarily on those affecting OSRs. Problems in this area would suggest similar problems in controlling changes in other operating and maintenance procedures.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 1, 3, 4, 9

Objective 2 (reference WHC-IP-1048 core requirement 2)

Training and qualification programs for operations and operations support personnel have been established, documented, and implemented (the training and qualification program encompasses the range of duties and activities required to be performed).

Interpretation

The Objective requires that:

- SWD and facility training requirements for initial and ongoing training programs are met,
- qualification records are accurate and complete,
- qualification requirements are adequate for all operations positions,
- training materials are technically accurate, incorporate the latest revisions to facility equipment and operating procedures, and sufficiently cover the knowledge requirements.

The Objective applies to facility-specific qualification programs established for non-exempt, bargaining unit operations and support personnel. It does not apply to support service qualification programs (e.g. Health Physics Technician qualification program), except to ensure that support service personnel are fully qualified.

The adequacy of exams, exam results, and personnel level of knowledge are to be assessed under Objective 3.

The determination of there being an adequate number of personnel available is to be assessed under Objective 13.

The adequacy of the training of exempt and non-bargaining unit personnel is to be assessed under Objective 15.

The adequacy of any special training given to the initial startup operations personnel is to be assessed under Objective 10.

The adequacy of training and qualification for portions that can only occur after the facility is operating is to be assessed under Objective 10.

Criteria

2.1. There are qualification programs in place that provide qualification standards and procedures (e.g., signature control, exam control, classroom seminars, practical factors, pass/fail threshold) for personnel directly associated with the facility.

2.2. An effective system for tracking the expiration of qualifications and the notification of the need for requalification is in operation.

2.3. Performance-based training programs have been developed for personnel directly associated with the facility using a systematic approach.

2.4. The scope and content of training programs are adequate to ensure that job assignments can be performed in a manner that supports facility and personal safety.

2.5. As-built drawings and the latest revision of approved procedures are available to personnel and personnel directly associated with the facility have been trained and qualified in their use.

2.6. Qualification programs are in place that provide qualification standards and procedures for training support personnel.

2.7. Facility personnel are adequately trained to respond to emergency situations.

2.8. Qualifications of personnel are documented.

Approach

1. Review and assess the training programs for initial qualification, continuing, and requalification.
2. Review and assess the performance-based aspects of the training plan. Ensure that those operations (normal and emergency) required for each operator's qualification are included as part of the program.
3. Review the qualification records at least 3 operations personnel to ensure that final completion approval is based upon satisfactory performance during the performance-based training.
4. Review and assess the adequacy of documentation of personnel qualification program records.
5. Review training materials to assess their technical accuracy and comprehensiveness, including the incorporation of all facility and procedural changes.
6. Review training records for 3 operators to verify that their training and qualifications are based on the most recent facility and procedural changes.
7. Review the training records of at least 3 operations personnel to verify that required training was satisfactorily completed.
8. Review training records of at least 1 operational support person in each of the support areas identified in the Criteria of Objective 8 to verify that all required training was satisfactorily completed.

9. Review training requirements for temporary personnel and visitors.
Review at least 3 training records to determine if these requirements are being followed.

Basis

WAC 173-303 and 29 CFR 126 require training-specific programs to be developed and implemented. This review will ensure that Federal and State requirements, as well as best management practices, are implemented.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapter 4

Objective 3 (reference WHC-IP-1048 core requirement 3)

Level of knowledge of operations and operations support personnel is adequate based on reviews of examinations and examination results and selected interviews of operating and operations support personnel.

Interpretation

This Objective requires:

- review and assessment of exam keys, both questions and answers, for technical accuracy and comprehensiveness,
- assessment of the level of knowledge of personnel using exam results,
- assessment of the level of knowledge of personnel by conducting interviews.

This Objective is to ensure that non-exempt, bargaining unit operations and support personnel are technically competent in all aspects of their assigned duties. The objective does not apply to a review of support service examination programs (e.g. Health Physics Technician examination program), but does allow interviews to assess the level of knowledge of support personnel in their areas of expertise (e.g. radiological fundamentals).

The adequacy of training of exempt and non-bargaining unit personnel is to be assessed under Objective 19.

The adequacy of any special training given to the initial startup operations personnel is to be assessed under Objective 10.

The adequacy of training and qualification for portions that can only occur after the facility is operating is to be assessed under Objective 10.

Criteria

3.1. The level of operations and operations support personnel skill is adequate to operate safely, as evidenced by review of examination results and by selective oral exams of personnel by RA team members.

3.2. Examinations given to operations and operations support personnel are adequate in their depth and breadth of subject matter as it pertains to the operation under review and the assigned duties of personnel.

3.3. Interviews with and/or on the job observations of selected operations and operations support personnel convey the impression that personnel are competent in their job.

Approach

1. Review and assess test material to verify that they adequately reflect training content and test for an understanding of technical fundamentals, TSRs, OSRs, LCOs, and SLs.

2. Review and assess overall test results.
3. Conduct interviews with at least 3 operations personnel to verify that they have an adequate understanding of technical fundamentals, procedure, TSRs, OSRs, LCOs, and SLs.
4. Observe work activities to evaluate the effectiveness of training.

Basis

The Defense Nuclear Facilities Safety Board (DNFSB) Recommendations 90-4, 91-3, 91-4, 92-3, and 92-6 delineated the important facets of a readiness review. These included assessment of the level of knowledge achieved during operator qualification programs as evidenced by review of exam questions and results and by selective oral exams of operators by the readiness review group.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 1, 4, 9

Objective 4 (reference WHC-IP-1048 core requirement 4)

Facility safety documentation is in place that describes the "safety envelope" of the facility. The safety documentation should characterize the hazards/risks associated with the facility and should identify mitigating measures (systems, procedures, administrative controls, etc.) that protect workers and the public from those hazards/risks. Safety systems and systems essential to worker and public safety are defined and a system to maintain control over the design and modification of facilities and safety-related utility systems is established.

Interpretation

This Objective requires a review of all safety documentation in the authorization basis.

Procedures that were reviewed under Objectives 1 and 5 are not to be reviewed under this Objective.

Criteria

- 4.1. The hazards and risks associated with the facility are characterized and safety limits are quantified.
- 4.2. TSRs, OSRs, and LCOs are appropriate for the status of the facility.
- 4.3. Safety systems are defined (including safety related process and safety related utility systems) and essential support systems are defined (systems essential in support of safety systems and essential to worker and public safety).
- 4.4. Safety documentation identifies mitigating measures (systems, procedures, administrative controls, etc.) that protect workers and the public from the characterized hazards and risks.
- 4.5. Safety documentation is in accordance with the applicable administrative and regulatory requirements for the type of facility.
- 4.6. The design control program was properly implemented in the design of the facility.

Approach

1. Review the authorization basis for safety equipment to assure they are adequately defined, identified, and described per WHC-CM-1-3, *Management Requirements and Procedures*, MRP 5.46, *Safety Classification Systems, Components, and Structures*.

2. Review the safety equipment lists to ensure they are accurate and complete.
3. Review and assess the implementation of WHC-CM-3-5, *Document Control and Records Management Manual*, Section 12.7, *Approval of Environmental, Safety, and Quality Affecting Documents*, and WHC-CM-5-34, Section 2.11, *Job Control System*, as pertains to the control of design, modification, and maintenance of safety equipment.
4. Review and assess the authorization basis documents.
5. Review and assess the accuracy and completeness of the authorization basis as pertains to the waste streams and inventories that are to be processed by the facility.
6. Verify that all Engineering Change Notices (ECNs) and work packages associated with safety equipment and related documents have been properly reviewed, approved, completed, and closed.

Basis

Experience in the DOE and commercial nuclear industry is that quality assurance program elements are sometimes not fully addressed to implement effective QA Programs. Documentation is generally weak, as well as, controls for design changes. The Code of Federal Regulations 10 CFR 830.120, QA Requirements, and 10 CFR 835, Occupational Radiation Protection, require formal application of quality assurance requirements, including assessment against recognized standards.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 3, 5, 6, 7, 8, 11, 12, 18

Authorization Basis documents

Objective 5 (reference WHC-IP-1048 core requirement 5)

A program is in place to confirm and periodically reconfirm the condition and operability of safety systems, including safety related process systems and safety related utility systems. This includes examinations of records of tests and calibration of safety system and other instruments which monitor limiting conditions of operation or that satisfy technical safety requirements. All systems are currently operable and in a satisfactory condition.

Interpretation

This Objective applies to those systems defined in Objective 4. As a best practice to ensure that all systems are ready for operations, this Objective will also be applied to non-safety systems.

Criteria

5.1. An adequate surveillance and test program is in place. Adequate documentation to support the implementation of this program is maintained.

5.2. An adequate preventative maintenance program is in place. Adequate documentation to support the implementation of this program is maintained.

5.3. An adequate calibration and repair program including the necessary documentation is in place.

5.4. All safety systems and safety related utilities are operable and available, as defined by Functional Design Criteria and operability and availability requirement procedures identified in Objective 1, and as reflected in proper equipment settings and lineups.

Approach

1. Review and assess the adequacy of and completion of all Acceptance Test Procedures (ATPs) and Operational Test Procedures (OTPs) by reviewing test procedures and test records. Verify that all tests were reviewed and approved.
2. Review and assess completion of all required calibrations.
3. Review and assess the procedures used to control measurement and test equipment and compare these to industry practice. Review and assess calibration laboratory/shop records to ensure that evidence verifies that calibrations, reference standards, and non-conformance requirements are controlled.

3. Review and assess preventative maintenance and recalibration schedules and procedures.
4. Review and assess management standards and goals related to maintenance backlog management.
5. Ensure spare parts have been identified and are available.
6. Review and assess method used to track the status of the operability and availability of all safety systems and safety related utilities.
7. Verify that Certified Vendor Information files are in place and are correctly referenced with the H-2 drawings.
8. Review and assess the as-built facility to the Functional Design Criteria. Verify that the Technical Basis Document is correct relative to facility design.
9. Review and assess the method used to inform operations of scheduled and unscheduled maintenance.
10. Ensure a system is in place to inform operations of any unscheduled/emergency/accident situation "on or off facility" that may cause safety systems or safety related utilities to be completely or partially inoperative for any length of time.
11. Ensure authorities are defined for approving maintenance or lack of operability or availability on the various levels of safety systems and safety related utility systems.
12. Review and assess the facility for industrial safety and fire hazards.

Basis

Appropriate procedural controls and clear definitions of responsibility are necessary to ensure that instrumentation equipment important to safe waste handling are performing the functions for which they were intended. Industry experience has shown that particular attention is warranted to clarity of procedures and controls for post-maintenance testing to ensure effective configuration control and system operability.

Prior to commencing operation, the facility must ensure that their work control system is operating effectively and that they can justify operations if any equipment important to Mixed Waste Burial is inoperable. Backlog trends and aging analysis can provide valuable insights to the organization's availability and utilization of resources.

In all stages of operations, the management and work force habits and culture will institutionalize practices of housekeeping and material controls. There is a direct correlation between good housekeeping practices, pride of ownership, and the level of industrial and radiological safety at industrial facilities.

Industrial safety and equipment reliability requires the availability of properly specified maintenance support equipment. Maintenance equipment provided must be maintained and calibrated to ensure that maintenance activities are safe, effective, and maintain configuration management controls.

Industry experience has shown that good maintenance practices enhance the safety of facility operations and the reliability of equipment and systems. An effective program of predictive, preventive, and corrective maintenance activities enhances availability and operability of equipment and provides data which can be used for continued improvements.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 3, 5, 6, 7, 8, 11, 12, 18

Authorization Basis documents

Objective 6 (reference WHC-IP-1048 core requirement 6)

A process has been established to identify, evaluate, and resolve deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and the operating contractor.

Interpretation

This Objective applies only to the facility specific tracking procedures and the facility's implementation of procedures established and required by WHC and SWD. The review does not apply to a determination of the adequacy of WHC or SWD tracking procedures.

Criteria

6.1. Self assessment procedures and systems exist and are used.

6.2. An adequate system exists and is implemented to track deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and WHC.

Approach

1. Review and assess the implementation of WHC-CM-5-34, section 1.4, *Operational Readiness Activities*, or successor.
2. Review and assess the implementation of WHC-CM-5-34, section 1.11, *Self Assessment*, or successor.
3. Review and assess the implementation of WHC-CM-5-34, section 1.18, *Occurrence Reporting and Processing of Operations Information*, or successor.
4. Review and assess the implementation of WHC-CM-5-34, section 1.20, *Waste Remediation Tracking System (WRTS)*, or successor.
5. Review and assess the implementation of WHC-CM-5-34, section 1.22, *Corrective Action Management*, or successor.
6. Review and assess the implementation of WHC-CM-5-34, section 1.24, *Unreviewed Safety Questions*, or successor.
7. Review and assess the implementation of WHC-CM-1-5, section 14.1, *Managing Lessons Learned*, or successor.
8. Review and assess the completion of items that were entered into QUEST.
9. Review and assess the completion of items that were entered into WRTS.

10. Review and assess items still open in QUEST and WRTS.

Basis

Review of this objective is based upon best management practice and guidance provided in WHC-IP-1048. The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 1, 2, 9, 10

Objective 7 (reference WHC-IP-1048 core requirement 7)

A systematic review of the facility's conformance to applicable DOE orders has been performed, any nonconformances have been identified, and schedules for gaining compliance have been justified in writing and formally approved.

Interpretation

This Objective is to review and assess the facility performance of initial and periodic compliance reviews against the SWD S/RID.

Actual verification of compliance with the SWD S/RID is performed under the other Objectives.

Criteria

- 7.1. A program has been implemented for conducting order compliance review and promulgating new requirements.
- 7.2. All noncompliance issues by the facility are adequately addressed and a compliance schedule has been approved by DOE.
- 7.3. Measures have been implemented to comply with the approved compliance schedule.

Approach

- 1. Review and assess documentation of the facility's compliance assessment.
- 2. Review and assess the compliance schedule.
- 3. Review and assess efforts to meet the compliance schedule.
- 4. Review and assess documentation referenced by the compliance assessment (e.g. National Environmental Policy Act documentation).

Basis

The DNFSB performed a review and evaluation of the content and implementation of standards relating to the design, construction, operation, and decommissioning of DOE defense nuclear facilities. The results indicated a large degree of variability in the level of detail specified by DOE orders and, in general, a level of specificity much less than is found in Nuclear Regulatory Commission requirements applied to commercial nuclear facilities. There was a lack of uniformity among such orders as to whether they are mandatory, non-mandatory, or referenced for information. Many DOE orders embodying safety requirements were in draft form, with substantial uncertainty as to when or in what form they will be issued. The DNFSB recommended and the

DOE accepted responsibility to identify the specific standards considered applicable to the design, construction, operation, and decommissioning at all DOE defense nuclear facilities.

References

SWD S/RID, All Chapters

Objective 8 (reference WHC-IP-1048 core requirement 8)

Management programs are established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure operational support services (e.g., training, maintenance, waste management, environmental protection, industrial safety and hygiene, radiological protection and health physics, emergency preparedness, fire protection, quality assurance, criticality safety, and engineering) are adequate for operations.

Interpretation

This Objective requires review of support service management programs, personnel, facilities, and equipment, which were established and procured specifically for the facility being reviewed. As an example, a training office and managing staff setup within the facility to be reviewed is within the scope of the review, but the rest of SWD and WHC training department is not within the scope of the review.

The completion and adequacy of support service personnel training is to be assessed under Objectives 2 and 3.

Criteria

- 8.1. The training organization is ready as defined by the Objective.
- 8.2. The maintenance organization is ready as defined by the Objective.
- 8.3. The waste management organization is ready as defined by the Objective.
- 8.4. The environmental protection and compliance organization is ready as defined by the Objective.
- 8.5. The industrial safety and hygiene organization is ready as defined by the Objective.
- 8.6. The radiological protection and health physics organization is ready as defined by the Objective.
- 8.7. The emergency preparedness organization is ready as defined by the Objective.
- 8.8. The fire protection organization is ready as defined by the Objective.
- 8.9. The quality assurance organization is ready as defined by the Objective.
- 8.10. The nuclear and criticality safety organization is ready as defined by the Objective.

8.11. The engineering organization is ready as defined by the Objective.

8.12. All applicable Hanford emergency response organizations are ready as defined by the Objective.

Approach

Each of the following approaches apply to all of the Criteria except 8.12.

1. Obtain organization charts and associated documents and procedures which establish and define the scope of responsibilities for the support service elements specific to the facility. Confirm that the organization is well defined and the required disciplines are adequately represented by competent personnel.
2. Review documentation to ensure that procedures address all activities necessary to implement the support service.
3. Using qualification records and job assignment records, compare the numbers of qualified personnel to the staffing levels identified by facility management to ensure. Verify the staffing levels are greater than or equal to any minimum staffing requirements identified in the authorization basis.
4. Review floor plans showing office allocation, tour the support organization office(s), shop(s), etc., and interview support service personnel to review and assess adequacy of the facilities and equipment.

For Criterion 8.12:

5. Conduct interviews with the managers of each applicable emergency response organization to verify that they know of the facility and are ready to respond to emergencies as required.

Basis

An effective emergency planning preparedness, and response program and organization are necessary to help ensure the safety and health of workers, the public and property and the environment in the event of an emergency involving DOE operations. Emergency management programs should be in place to enable organizations to respond to an emergency in a timely, efficient, and effective manner, resulting in improved mitigation of consequences and recovery. The basis for these programs should be hazard assessments specific to the DOE operations and assessment of potential consequences of accidents or events.

It is industry practice to establish an engineering support organization which clearly defines its management's authority, responsibility, and accountability

and which serves to provide the technical expertise necessary to support the needs of operations, maintenance, and Solid Waste management personnel.

Various sections of 40 CFR, WAC 173, WAC 197, and WAC 246, as identified in the SWD S/RID, require the preparation of an environmental management program which should include all procedures necessary to establish and implement an effective environmental program.

Regulations promulgated under the Resource Conservation and Recovery Act require solid, hazardous, and mixed waste be characterized and managed in a manner to ensure the safe accumulation, storage, treatment, and/or disposal of such wastes.

DOE Order 5500.2B, *Emergency Categories, Classes, and Notification and Reporting Requirements*, requires immediate notification to DOE Headquarters Emergency Operations Center and the National Response Center as soon as possible (always within 24 hours) after discovery of a hazardous material spill or release to the environment (in excess of reportable quantities) as a result of DOE operations.

The fire protection program must be initiated by management to function effectively across all lines of facility operations. The fire protection program must address the specific hazards of the Solid Waste facility and incorporate the concept of "defense in depth." Fire protection systems must be designed to accomplish defined objectives. Fire emergencies are infrequent occurrences which require immediate action to protect personnel, the public, operations, and property.

An effective maintenance organization is necessary to retain design basis requirements for fulfilling the facility mission. Specific controls are unique to maintenance activities which significantly impact safety and equipment reliability. Management's general approach to maintenance sets the organization's cultural bias toward safety, configuration management, and equipment availability.

Experience in the DOE and Commercial nuclear industry is that quality assurance program elements are sometimes not fully addressed to implement effective QA Programs. Documentation is generally weak, as well as, controls for design changes, procurement control, corrective action, reporting, training, and close out of open corrective actions. 10 CFR 830.120 requires formal application of quality assurance requirements, including assessment against recognized standards.

Various sections of the Code of Federal Regulations (CFR) and the Washington State Administrative Code (WAC), as identified in the SWD S/RID, require that training and qualification programs be established for facility personnel based on job requirements and that records for those programs be maintained in an auditable manner.

Industry practice, the Occupational Safety and Health Administration (OSHA), and DOE orders require that occupational safety and health programs ensure that employees are informed of potential hazards that may be encountered in the work place and that the associated controls are in place to maintain risks at an acceptable level. Effective procedures must be established and enforced to protect the employees' safety and health.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 2, 4, 5, 6, 10, 11, 12, 16, 18, 19, 20

Objective 9 (reference WHC-IP-1048 core requirement 9)

A routine and emergency operations drill program, including program records, has been established and implemented.

Interpretation

This Objective does not require a review of the Emergency Plan except to ensure that an adequate cross section of emergency situations are addressed by the drill program.

The adequacy of the Emergency Plan is to be assessed under Objective 1. The adequacy of the emergency preparedness organization is to be assessed under Objective 8.

Criteria

9.1 Emergency drills adequately simulate a range of accidents from minor impact to personnel and property to a major impact on personnel (on and off site), property and the environment. Records of routine and emergency drills are maintained.

9.2. Results of emergency and routine drills are documented and reviewed by emergency and facility management. Corrective actions and improvements to the drill program and the facility emergency plan are made as necessary.

Approach

1. Compare the Emergency Plan to the drill program to assess the adequacy and applicability of drills to the facility.
2. Observe and assess three or more drills.
3. Review and assess the results of the drill(s) as recorded in reports and assess the resolution of deficiencies.

Basis

An effective emergency planning preparedness, and response program and organization are necessary to help ensure the safety and health of workers, the public and property and the environment in the event of an emergency involving DOE operations. Emergency management programs should be in place to enable organizations to respond to an emergency in a timely, efficient, and effective manner, resulting in improved mitigation of consequences and recovery. The basis for these programs should be hazard assessments specific to the DOE operations and assessment of potential consequences of accidents or events.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapter 5

Objective 10 (reference WHC-IP-1048 core requirement 10)

An adequate startup or restart test program has been developed that includes adequate plans for graded operations testing to simultaneously confirm operability of equipment, the viability of procedures, and the training of operators.

Interpretation

This applies to startup test program that is to occur after the ORR is completed. It applies to aspects of testing that require the systems to be running in order for equipment operability and procedure viability to be confirmed and for operator training (performance-based portion) to be completed. All aspects of the startup test program are to be reviewed under this Objective, such as facility initial startup procedures, special training given to the initial startup operations personnel, and training and qualification program portions that can only occur after the facility is operating.

The adequacy of ATPs and OTPs are to be assessed under Objective 5.

Criteria

10.1. An adequate startup or restart test program is in place.

10.2. The test program adequately addresses graded operations testing to simultaneously confirm operability of equipment, the viability of procedures, and the training of operators.

Approach

1. Review and assess the startup test program training program per the CRA of Objectives 2, 3, 9, and 15.
2. Review and assess startup test program procedures per the CRA of Objective 1.
3. Review and assess the startup test program operability requirements to commence testing per the CRA of Objective 5.
4. Review and assess the startup test program schedule.
5. Review and assess the startup test program satisfactory test criteria.
6. Review and assess the startup test program organizational structure per the CRA of Objective 11.

Basis

Operations procedures are written to provide specific directions for facility operations personnel to operate systems and equipment during normal and postulated abnormal and emergency conditions. Operations procedures provide appropriate direction to ensure that the facility and equipment is operated in accordance with its design basis and within its safety envelope (safe operating limits). They are effectively used to support safe operation of the facility. (reference 10 CFR 830.310)

Operational basis documents should contain all requirements for the development and documentation of the technical basis of operations such as TSRs (reference DOE Order 5480.22) and safety analysis reports (reference DOE Order 5481.1B, *Safety Analysis and Review System*, and DOE Order 5480.23). Included in these documents should be all Limiting Conditions for Operation and Safety Limits.

Operating personnel should be made cognizant of Limiting Conditions for Operations and of the actions to be taken when limiting conditions are exceeded in order to protect personnel and public safety and mitigate adverse consequences to the facility and environment.

Controls should be established to ensure that a performance-based Training and Qualification program is executed in a manner such that personnel obtain the initial and continued training necessary to fulfill the responsibilities of their assigned positions. Training should be well organized and presented in a timely manner using the most current subject matter and presentation techniques available. Instructors should be knowledgeable of the subject and be adequately prepared to ensure effective and consistent delivery of training materials. (reference 10 CFR 830.330)

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 2, 4, 9, 18

Objective 11 (reference WHC-IP-1048 core requirement 11)

Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented with line management responsible for control of safety.

Interpretation

This applies to all facility personnel. The review is to ensure that line management has developed adequate position descriptions, job definitions, and reporting relationships and has adequately informed and trained all facility personnel on them.

Criteria

11.1. Facility personnel have a clear understanding of their function and responsibility at the facility.

11.2. Reporting relationships are clearly defined, understood and effectively implemented by facility personnel.

11.3. Position and minimum qualifications descriptions are available.

Approach

1. Review and assess the definition of the organizational structure. Ensure it is presented in appropriate documentation.
2. Review Organization Policy and resulting Position Descriptions for selected all facility positions to assess clarity of responsibility, accountability, and authority.
3. Interview selected facility personnel to assess their understanding of their responsibility, accountability, and authority and their reporting relationship to others.
4. Interview selected facility personnel to establish the extent of their knowledge and involvement in the existing facility status, problems, and accomplishments as pertains to their positions.

Basis

The DNFSB Recommendations 91-3, 91-4, 92-3, and 92-6 delineated the important facets of a readiness review. These included assessment of the interrelationships and the delineation of roles and responsibilities among the various contractor organizations involved.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 1, 3, 9, 19

Objective 12 (reference WHC-IP-1048 core requirement 12)

The implementation status for DOE Order 5480.19, conduct of operations requirements for DOE facilities, is adequate for operations.

Interpretation

This Objective is to verify the facility's compliance with the requirements on Conduct of Operations as defined in the applicable S/RID chapter (i.e. the requirements have been written in the WHC-CM-5-34 manual as applies specifically to the facility and the facility has properly implemented the Conduct of Operations chapters in the WHC-CM-5-34 manual). Conduct of operations is applied at the facility level and is in accordance with the procedures listed in WHC-CM-5-34.

The adequacy of systematic reviews of the facility's conformance to the SWD S/RID, the identification of any nonconformances, and schedules for gaining compliance, which includes Conduct of Operations requirements, is to be assessed under Objective 7.

Criteria

12.1 The facility has implemented the WHC-CM-5-34 Conduct of Operations chapters.

Approach

1. Review and assess the facility's implementation of each applicable chapter in WHC-CM-5-34, Section 3.0, *Operations*.

Basis

The organization and administration of facility Operations should ensure that a high level of performance in Operations is achieved through effective implementation and control of Operations activities. Operations management philosophy, policies, procedures, and activities should recognize that safety, environmental protection, and productivity are compatible goals. Policies describe the philosophy of standards of excellence under which the facility is operated. Clear lines of responsibility for normal and emergency conditions should be established. Effective implementation and control of operating activities may be achieved by establishing written standards for Operations, periodically monitoring and assessing performance, and holding personnel accountable for their performance. This element includes the policies, resources, monitoring, and accountability needed in Solid Waste Management Operations. (reference 10 CFR 830.310)

Good operating discipline ensures that facility and process configuration is maintained in accordance with design requirements, and that the operating

staff knows the status of the facility and process equipment and systems at all times. (reference 10 CFR 830.310)

Operations procedures are written to provide specific directions for facility Operations personnel to operate systems and equipment during normal and postulated abnormal and emergency conditions. Operations procedures provide appropriate direction to ensure that the facility and equipment is operated in accordance with its design basis and within its safety envelope (safe operating limits). They are effectively used to support safe operation of the facility. (reference 10 CFR 830.310)

The facility Operations records include a narrative log of the equipment and process status, maintained in sufficient detail and including descriptions of all significant events as required to provide an accurate history of the facility operations. As used in this context, logs are defined as a narrative sequence of events or functions performed at a specific shift position or for a specific operating purpose. (reference 10 CFR 830.310)

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 1, 2, 3, 9

Objective 13 (reference WHC-IP-1048 core requirement 13)

There are sufficient numbers of qualified personnel to support safe operations.

Interpretation

This Objective is only to ensure adequate numbers of personnel.

The adequacy of personnel qualifications is to be assessed under Objectives 2, 3, and 17.

The adequacy of support service staffing is to be assessed under Objective 8.

Criteria

13.1. There is an adequate number of qualified personnel for the mission of the facility.

13.2. Line management is aware at all times of the qualifications and lack of qualifications of all personnel under their direction.

13.3. The staffing requirements are adequate to ensure safe operations.

Approach

1. Review and assess the implementation of WHC-CM-5-34, Section 1.8, *Training Administration*, as applies to Criterion 13.2.
2. Using qualification records and job assignment records, compare the numbers of qualified personnel to the staffing levels identified by facility management to ensure Criterion 13.1 is met.
3. Verify the staffing levels are greater than or equal to any minimum staffing requirements identified in the authorization basis.
4. Review and assess staffing requirements identified by the authorization basis and line management by performing plant operating procedure and work plan walkthroughs to verify that adequate numbers of personnel are available to operate the systems.

Basis

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 1, 4, 9

Objective 14 (reference WHC-IP-1048 core requirement 14)

A program is established to promote a site-wide culture in which personnel exhibit an awareness of public and worker safety, health, and environmental protection requirements and, through their actions, demonstrate a high priority commitment to comply with these requirements.

Interpretation

This Objective requires assessment of the adequacy of facility specific programs and the adequacy of implementation of programs established and required by WHC and SWD. The Objective does not require assessing the adequacy of WHC or SWD programs.

Criteria

14.1. Management has implemented any site-wide programs to promote a culture of awareness of public and worker safety and health, and environmental protection requirements.

14.2. Personnel exhibit and demonstrate a high priority commitment to public and worker safety and health and environmental protection.

Approach

1. Review and assess the implementation of WHC-CM-5-34, section 1.14, *ALARA Program*, or successor.
2. Review and assess the facility's safety performance indicators and safety improvement plan.
3. Review and assess implementation of WHC formal programs or policies for positive reinforcement of safety or environmental protection performance.
4. Interview personnel to assess their understanding of procedural compliance as a routine and accepted way of doing business. Interview personnel to determine the extent of their understanding of any TSR/OSR/LCO compliance policies and the consequences of noncompliance.
5. Review and assess implementation of an employee concern program. Interview personnel to assess understanding and acceptance of the employee concern program by both management and employee.

Basis

Review of this objective is based upon best management practice and guidance provided in WHC-IP-1048. The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 1, 2, 6, 9, 10, 18, 19, 20

Objective 15 (reference WHC-IP-1048 core requirement 19)

The technical and management qualifications of contractor personnel, responsible for facility operations, are adequate.

Interpretation

This Objective applies to all exempt and non-bargaining unit personnel associated with the facility.

The adequacy of technical and management qualifications of support service personnel is to be assessed under Objective 8.

Criteria

- 15.1. Technical and management personnel responsible for facility operations have prior adequate on-the-job experience and/or training/education that qualifies them for their positions.
- 15.2. Adequate documentation of the qualifications of contractor personnel for technical and management positions in facility operations is available.
- 15.3. Responsible managers have sufficient applicable on-the-job experience and/or training to adequately understand and manage the facility operations and safety systems for which they are responsible.

Approach

- 1. Review and assess the resumes of all exempt personnel against Criterion 15.1.
- 2. Review and assess completion of qualifications.
- 3. Review and assess qualification requirements for adequacy.
- 4. Conduct interviews to determine the extent of understanding of technical fundamentals, procedure, TSRs, OSRs, LCOs, and SLs.
- 5. Review and assess the training examination program.
- 6. Verify that managers and supervisors meet the minimum position requirements of WHC-CM-5-34, section 1.8, *Training Administration*, or successor.

Basis

The DNFSB Recommendation 92-6 delineated some of the important facets of a readiness review. These included assessment of the technical and managerial

qualifications of contractor personnel responsible for direction, guidance, and operation of the facility.

The review will ensure that the facility is in compliance with associated requirements as identified in the SWD S/RID.

References

SWD S/RID, Chapters 1, 2, 4, 9

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APPENDIX C: FORMS

WRAP I OPERATIONAL READINESS REVIEW
CRITERION APPRAISAL FORM

Objective Number and Statement:

Criterion Number and Statement:

Documentation Reviewed:

WRITING INSTRUCTIONS

List all documentation that you used in your review process. List them under the following heading, using tabs for spacing.

Document Name

Document Number (if it has one)

Areas Visited:

WRITING INSTRUCTIONS

List all areas that you visited or toured during your review. List them under the following heading, using tabs for spacing.

Area

Personnel Contacted:

WRITING INSTRUCTIONS

List all people you had contact with (i.e. talked to, listened to, watched, etc.), not counting other board members. List them under the following heading, using tabs for spacing.

Name

Title/Job Description

Date Contacted

Summary of Review:

WRITING INSTRUCTIONS

In one page or less, explain the process you went through in your review and your findings. This section should be in paragraph format; it should not be in list format.

Findings:**WRITING INSTRUCTIONS**

This section is to list concise statements of the findings determined in the Summary of Review section, above. It is not to list actions that must be done to correct findings. It is not to be a general statement of whether or not readiness has been achieved (this will be a general board statement in the report). List each finding after one of the following numbers. You can list as many findings as you have.

- 1.
- 2.
- 3.

Resolutions:**WRITING INSTRUCTIONS**

This section is to reference the findings listed above (i.e. resolution 1 correlates to finding 1). If more information surfaces prior to the completion of the ORR that satisfies the Criterion as applies to a given finding, that evidence is to be explained, followed by the statement, "Finding resolved prior to completion of the ORR." If no further information surfaces prior to the completion of the ORR, the statement should be written, "No resolution prior to completion of the ORR."

- 1.
- 2.
- 3.

Acronyms Used:**WRITING INSTRUCTIONS**

List all acronyms used in this summary. List them under the following heading, using tabs for spacing.

AcronymDefinition**Signatures:**

Team Member:

Group Leader:

**WRAP I OPERATIONAL READINESS REVIEW
OBJECTIVE APPRAISAL FORM**

Objective Number and Statement:

Unresolved Findings:

WRITING INSTRUCTIONS

This section is a restatement of all findings that have not been resolved from the Criterion Appraisal Forms for all the Criteria associated with the Objective. An example of the writing format is shown below.

1. (Finding restatement)
(Criterion Number / Finding Number)

Acronyms Used:

WRITING INSTRUCTIONS

List all acronyms used in this summary. List them under the following heading, using tabs for spacing.

<u>Acronym</u>	<u>Definition</u>
----------------	-------------------

Signatures:

Group Leader:

Team Members:

**WRAP 1 OPERATIONAL READINESS REVIEW
MASTER FINDINGS LIST**

Prestart Findings:

WRITING INSTRUCTIONS

Each action shall have the following information (example shown below):

1. Prestart Finding number and statement.
2. Since a Prestart Finding may be a compilation of a number of unresolved Findings identified on Objective Appraisal Forms, it is important to be able to track each Prestart Finding back to all of the Objective Appraisal Forms that contributed to it. Thus, provide a list of all Objective Number/Unresolved Finding Number combinations that were used to write the Prestart Finding.
3. Identify the Finding Classification Criteria numbers that apply.

1. (Prestart Finding statement)
(Objective Number / Unresolved Finding Number)
(Finding Classification Criteria Numbers)

Post-start Findings:

WRITING INSTRUCTIONS

Same instructions as Prestart Findings, with the exception that there are no Finding Classification Criteria numbers.

Signatures:

Team Leader:

Group Leaders:

Team Members:

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APPENDIX D: FINDING CLASSIFICATION CRITERIA

These criteria will be used by the Team to determine if a Finding must be resolved before startup.

A. Initial Screening

1. Does this Finding involve a safety system?
2. Does this Finding involve processes, functions or components identified in the technical safety requirements/operational safety requirements (TSR/OSR) or nuclear safety control procedures?
3. Does this Finding involve potential adverse environmental impact exceeding regulatory or site-specific release limits?
4. Does this Finding impact non-safety processes, functions or components which could adversely impact safety related processes, functions or components?
5. Is this Finding noncompliant with a WHC or DOE/RL approved startup document?
6. Does this Finding indicate a lack of adequate procedures or administrative systems?
7. Does this Finding indicate operational or administrative noncompliance with procedures or policy?
8. Has this Finding occurred with a frequency that indicates past corrective actions have been lacking or ineffective?
9. Does this Finding require operator training not specified in existing facility training requirements?
10. Does this Finding impact worker health and safety?
11. Does this Finding impact the performance of the facility mission?

If the response to any of the above is yes, further evaluation, in accordance with the Finding Impact Criteria below is required. If the response to all of the above is no, the Finding is considered to be Poststart.

B. Finding Impact Criteria

1. Does the loss of operability of the item prevent safe shutdown, or cause the loss of essential monitoring?

2. Does the loss of operability of the item require operator action in less than 10 minutes to prevent or mitigate the consequences of events described in the safety analysis?
3. Does the loss of operability of the item cause operation outside the TSR/OSRs or safety analysis?
4. Does the loss of operability of the item result in a reduction of the margin of safety as described in the safety analysis?
5. Does the Finding indicate a lack of control which can have a near-term impact on the operability or functionality of safety related systems?
6. Does the Finding result in an unacceptable impact on worker health or safety?
7. Does the Finding prevent the facility from performing its mission?

If the response to any of the above questions is yes, the Finding is considered to be Prestart. If the response to all of the above questions is no, the Finding is considered to be Poststart. However, some Poststart Findings may be changed to Prestart by the Team Leader due to potential health, safety, and/or environmental significance.

APPENDIX E: OPERATIONAL READINESS REVIEW REPORT FORMAT

1. **TITLE PAGE** - The title page is the report cover and will state the subject and dates of the ORR.
2. **SIGNATURE PAGE** - This page will contain the signatures of the Team Leader and all Group Leaders.
3. **TABLE OF CONTENTS** - The table of contents will identify all sections and subsections of the report, illustrations, tables, charts, figures, and appendices.
4. **INTRODUCTION** - The introduction will provide information regarding the facility, the purpose of the ORR, and the Scope of the ORR. It should also contain a brief discussion of the ORR process and Team composition.
5. **EXECUTIVE SUMMARY** - This is a brief summary of the ORR process, the Findings, and the conclusions as to the readiness of the facility/activity to commence operations, with the appropriate recommendation.
6. **TEAM EVALUATION** - The report will present the review logic of appraising each Objective and determining the associated Prestart and Poststart Findings. The report will also provide conclusions as to readiness of the facility/activity to commence operations and the recommendation of the Team Leader. The Appraisal Forms provided in the appendices will be referenced to provide the review logic for each Finding.
7. **LESSONS LEARNED** - Lessons learned that may apply to future ORRs will be provided. Problems as well as successes will be documented. This may be issued at a later date as an addendum to the ORR report.
8. **APPENDICES** - Appropriate data will be provided as appendices to support the conclusions drawn in the report. These will include:
 - a) ORRIP,
 - b) RT Member qualifications,
 - c) Completed Prerequisite Checklist,
 - d) Criterion Appraisal Forms,
 - e) Objective Appraisal Forms,
 - f) Master Findings List,
 - g) Dissenting Opinions.

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