

U.S. Department of Energy, Office of River Protection

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**SELF-ASSESSMENT OF  
OFFICE OF RIVER PROTECTION'S  
MANAGEMENT SYSTEMS**

**May 2007**

**Management Systems Self-Assessment**

**A-07-ESQ-ORP-001**

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**Final Report**

U.S. DEPARTMENT OF ENERGY (DOE)  
Office of River Protection (ORP)  
Office of the Manager

ASSESSMENT: ORP Management System Self-Assessment

REPORT: A-07-ESQ-ORP-001

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## EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE), Office of River Protection (ORP) conducted an internal self-assessment of its current management systems and associated procedures. The purpose of the self-assessment was to:

- Review ORP management systems against the Office of Environmental Management (EM) Safety Management Functions, Responsibilities and Authorities (FRA) to identify any disparities.
- Compare the ORP management systems against the EM Integrated Safety Management System (ISMS) Description to ensure consistent application of approaches for completing DOE requirements.
- Determine whether the required management systems are established at ORP and supported with implementing procedures.
- Review the ORP Safety Management Functions, Responsibilities and Authorities Manual and ORP ISMS Description to determine whether all necessary functions, responsibilities, and authorities pertaining to the management of ORP project are adequately addressed.

The ORP management systems were evaluated against the requirements contained in the following:

- Approved DOE directives
- DOE O 413.3A, *Program and Project Management Acquisition of Capital Assets*
- *Safety Management Functions, Responsibilities, and Authorities (FRA)*, draft, U.S. Department of Energy, Office of Environmental Management
- DOE EM *Integrated Safety Management System Description*.

### Observations and Conclusions

The assessment identified the following Findings and Observations:

1. **Finding A-07-ESQ-ORP-001-F01:** Several ORP procedures have not been updated since the 2002 - 2004 time period and require a current review to ensure all DOE directive requirements are fully satisfied.
2. **Observation A-07-ESQ-ORP-001-O01:** Additional engineering, design review, document safety analysis, and authorization basis amendment request procedures are necessary to strengthen the associated management systems processes for these areas.

- 3. Observation A-07-ESQ-ORP-001-002:** Some ORP procedures for Human Resources, Communications, Safeguards and Security, and Emergency Preparedness are DOE Richland Operations Office (RL) Integrated Management System (RIMS) procedures, and not ORP specific. ORP should consider developing office-specific procedures for some of these systems.
- 4. Observation A-07-ESQ-ORP-001-003:** ORP M 450.4, *Integrated Safety Management System Description*, which was implemented November 2006, and DOE O 450.1, *Environmental Protection Program*, which implements the Environmental Management System (EMS), require annual ISMS and EMS assessments of the contractor. This includes review of the 17 EMS requirements listed in DOE O 450.1. The ORP ISMS assessments scheduled for the summer of 2007 should include criteria for reviewing contractor implementation of the 17 EMS requirements.
- 5. Observation A-07-ESQ-ORP-001-004:** The assessors found a broad range of ORP desk instructions for the various management systems. Desk instructions are procedures issued by an ORP organization that are applicable only to the issuing ORP organization, and do not establish new requirements. However, some of the desk instructions should be converted into ORP implementing directives or ORP procedure directives.

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## LIST OF ACRONYMS

Acronym	Description
ABAR	Authorization Basis Amendment Request
CARS	Consolidated Action Reporting Systems
DM	Directives Management
DOE	U.S. Department of Energy
DSA	documented safety analysis
EM	Office of Environmental Management
EMS	Environmental Management System
ESQ	Environment, Safety and Quality
FRA	Safety Management Functions, Responsibilities and Authorities
FRAM	Safety Management Functions, Responsibilities and Authorities Manual
ISMS	Integrated Safety Management System
OPR	Office of Primary Responsibility
ORP	Office of River Protection
ORPPD	ORP Procedure Directive
ORPID	ORP Implementing Directive
OUO	Official Use Only
PD	Procedure Directive
RIMS	Richland Integrated Management System
RL	Richland Operations Office
Team	Assessment Team
WTP	Waste Treatment and Immobilization Plant

## **Office of River Protection (ORP) Management Systems Self-Assessment**

### **1.0 INTRODUCTION**

This assessment evaluated the condition of the ORP management systems and associated procedures against the: U.S. Department of Energy (DOE) directives; DOE Office of Environmental Management (EM) Functions, Responsibilities and Authorities (FRA); and the DOE EM Integrated Safety Management System (ISMS) Description document.

The ORP management systems can be viewed as a hierarchy beginning with the definition of a need, progressing through to a baseline, and ending with verification that the need has been met. The management systems help accomplish the following objectives:

- Purpose and desired outcome for ORP
- Functions to be performed by this project and how they are best accomplished
- Definition of the performance requirements and constraints on the project
- Preferred approach for performing the functions and meeting the requirements

### **2.0 BACKGROUND**

The ORP management systems are the primary instrument for implementing the safety principles and actions to meet DOE requirements. The management systems define the practices, techniques, and tools ORP uses to meet the project requirements. The ORP management systems are “living” and progressive. The systems are adjusted over time to accommodate new requirements, lessons learned, and feedback for improvement. The following ORP management systems as defined in the ISMS Description are:

- Project Management System
- Assessment and Oversight Program
- Management Walk-Through Program and Facility Rep Oversight
- ORP Functions, Responsibilities and Authorities Manual (FRAM)
- Human Resources Management System
- Workforce Management
- Employee Relations
- Training and Development
- Federal Technical Capability Program
- Performance and Recognition
- Differing Professional Opinion
- Project Controls and Baseline Management

- Acquisition Management
- Asset Management
- Budget Formulation and Execution
- Financial Management
- Integrated Safety Management System (ISMS)
- Safety Basis Management System
- Authorization Basis Management
- Environmental Management System/Regulatory Compliance
- Construction and Operations Authorizations
- Employee Concerns Program
- Quality Assurance Program
- Safety and Health Management
- Fire Protection
- Safeguards and Security
- Performance Evaluation System
- Communications
- Lessons Learned/Operating Experience
- Self-Assessment Program
- Issues and Corrective Action Management
- Directives Management

### **3.0 PURPOSE, SCOPE, AND APPROACH**

ORP conducted an internal self-assessment of the current management systems and associated procedures. The purpose of the self-assessment was to:

- Review ORP management systems against the EM FRA to determine any potential disparities.
- Compare the ORP management systems against the EM ISMS Description to determine any potential discrepancies.
- Determine whether the required management systems are established at ORP and supported with implementing procedures.



- Review the ORP Safety Management Functions, Responsibilities and Authorities Manual (FRAM) and ORP ISMS Description to determine whether all necessary functions, responsibilities, and authorities pertaining to the management of the ORP project are adequately addressed.

## Scope

This assessment evaluated the ORP management systems necessary to achieve DOE directive requirements, and complete the defined project objectives. The Assessment Team (Team) considered the following criteria for this evaluation:

1. Does ORP have established management systems to meet the approved DOE directives and all DOE EM and ORP FRAM functions and responsibilities?
2. Are the ORP management systems consistent with the DOE EM management systems? Are there any discrepancies?
3. Are procedures established and current for all ORP management systems?

## Approach

Management systems are the application of knowledge, tools, processes, and techniques to activities to meet expectations and requirements. The ORP management systems are established to ensure:

- Safe execution of all work activities
- Effective communication
- Line management accountability
- Well-defined performance baselines
- Effective cost/schedule/quality management
- Regulatory compliance
- Completion of activities to DOE standards.

The Team performed four steps in their review. First, the assessors reviewed the ORP management systems against the DOE-approved Policies, Orders, Manuals, Guides, and Notices listed on the DOE Directives web page (<http://www.directives.doe.gov/directives/current.html#number>), and Appendix C of the ORP FRAM, Revision 7.

Second, the ORP management systems were reviewed against the EM FRA functions and responsibilities to ensure a system is in place to satisfy each item.

Third, the ORP management systems were compared against the EM ISMS Description management systems to identify any potential areas of weakness or discrepancy. ORP also reviewed DOE O 413.3A, *Program and Project Management Acquisition of Capital Assets*, to determine any other applicable systems or programs.

Fourth, the Team reviewed existing ORP directives, plans, manuals, procedures, and desk instructions to determine available process documentation for each system.

Upon review and comparison to the above documents, gap areas were identified. Table 1 provides a summary of ORP management system gap areas against EM key functions, as well as potential areas of deficient procedure documentation. Yellow highlights identify the gap or potential gap areas.

**Table 1. ORP Management Systems, Procedures, and Responsibility Matrix**

Yellow shading indicates gap or potential gap areas			
EM Functions	ORP Systems (ISMSD)	ORP Owner	ORP Procedures
<b>Program Planning &amp; Budget</b>	Project Management System Project Controls & Baseline Mgmt.	D. Noyes (TF) and J. Treadwell (WTP)	ORP M 413.3-1a and b, Project Reviews and Baseline Change Control
Strategic Planning & Analysis	Budget Formulation and Execution	L. Copeland (ORP)	WTP and TF Project Execution Plans ORP M 413.3-1c and d, River Protection Project Integrated Risk Management Process Manual
Disposition Strategy	ORP FRAM	B. Williams (ESQ)	ORP M 411.1-1, ORP FRAM, Rev. 7
<b>Acquisition &amp; Project Management</b>	Acquisition Management Asset Management Performance Evaluation System	M. Barrett (AMD)	ORP M 413.3-1a and b, Project Reviews and Baseline Change Control ORP Desk Procedure (DP) DP05, Project Assessment and Reporting System, FAR and DEAR
Procurement Planning			
Contract Execution			
Project Management	Project Management System	D. Noyes (TF) and J. Treadwell (WTP)	Same as above
<b>Engineering and Technology</b>			
Engineering and Technology	Design Oversight	D. Bryson (TF) and B. Griffith (WTP)	ORP DI 220.1, Conduct of Design Oversight WTP DI 220.1, Conduct of Design Oversight TF DI, Conduct of Program and Project Oversight
Waste Processing			
Groundwater & Soil Remediation	Environmental Management System	B. Taylor (ESQ)	ORP M 450.4, ISMS Description ORP M 435.1-1, Waste Incidental to Reprocessing Determinations
D&D, and Facility Engineering			
<b>Regulatory Compliance</b>			
Compliance	Environmental Management System Regulatory Compliance	B. Taylor (ESQ)	ORP M 450.4, ISMS Description Environmental Division Desk Instructions for TPA, NEPA, and Permitting
Disposal Operations			
Stakeholder Coordination			
<b>Human Capital &amp; Business Services</b>	HR Management System Workforce Management Employee Relations Performance Recognition	C. Fetto (MGR) D. Bryson (FTCP Workforce Analysis)	Human Capital Management Plan RL Integrated Management System
	Employee Concerns Program	B. Williams (ESQ)	Employee Concerns Program Plan and Differing Professional Opinion Procedure
	Training, FTCP	D. Bryson (TF) and B. Griffith (WTP)	Safety Oversight Program Plan ORP DI SO-DI-001, R2, SO Qualification Process ORP M 420.2c, Facility Rep Program
Business Services, IT Logistics	Issues Management System	Z. Smith (Deputy Manager)	ORP M 220.1, Integrated Assessment Plan (Preparing new procedure for CARS)
Records Management Action Tracking System	DNFSB Corrective Actions Management	C. Fetto (DNFSB CA Mgmt.)	DOE M 140.1B, Interface with the DNFSB

**Table 1 (continued)**

EM Functions	ORP Systems (ISMSD)	ORP Owner	ORP Procedures
<b>Safety Management &amp; Operations</b>	Safety and Health Management ISMS Quality Assurance Oversight and Assessment Management Walkthrough Lessons Learned	B. Taylor (ESQ)	ORP M 450.4, ISMS Description ORP M 414.1, Quality Assurance Program Descrip. ORP M 226.1, Assurance System Description ORP M 220.1, Integrated Assessment Plan ORP M 210.1, OE and Lessons Learned Program
Safety Management	Facility Representative Oversight	M. Brown and J. Bruggeman (FR Oversight)	ORP M 243.1, OA Oversight Database ORP M 432.1, WTP Project Construction Oversight ORP M 420.2c, Facility Representative Program EM M 420.2c, Facility Representative Program
	Safety Basis Management	D. Bryson (TF) and B. Griffith (WTP)	ORP PD 420.3, Safety Basis Management ORP M 425.1, Startup and Restart of Nuc. Facilities
Safety Operations Oversight	Fire Protection	B. Taylor (ESQ)	ORP M 414.1, Fire Protection Program
Transportation	Environmental Management System	B. Taylor (ESQ)	RIMS
<b>Safeguards &amp; Security, Emergency Management</b>	Safeguards and Security Emergency Management	M. Royack (TF)	RIMS, Security and Emergency Services Management System Description
Security			
Emergency Management			
<b>Office of Site Support &amp; Small Projects</b>	Communications	E. Olds (MGR)	RIMS ORP Communications in preparation
NNSA Site Interface	Project Management System	Z. Smith (MGR)	ORP M 413.3-1a and b, Project Reviews
Small Sites Projects			
Site Liaisons			
Real Property Management	Asset Management	M. Barrett (AMD)	ORP DP-03, Purchase Card (P-Card) Program RIMS Asset and Infrastructure Management Systems
Where no EM Function is identified for an existing management system	Directives Management	B. Williams (ESQ)	ORP M 251.1, Directives Management
	Financial Management System	L. Copeland (OPA)	ORP DP-12, Internal and External Audit ORP DP-06, Accrual Process

## 4.0 RESULTS AND CONCLUSION

The matrix in Table 1 identifies the comparative analysis of the ORP management systems against the EM FRA major functions and responsibilities. Additionally, procedural gap areas are identified by system. The yellow shaded cells on the matrix identify potential areas of weakness. ORP management systems which require additional strengthening and procedural documentation include:

- Engineering and Design Oversight
- Human Resource Management
- Environmental Management System, with emphasis on ISMS integration
- Communications
- Safeguards and Security
- Emergency Management

The assessment resulted in the following Findings and Observations:

**4.1 Finding A-07-ESQ-ORP-001-F01:** Several ORP procedures have not been updated since the 2002 - 2004 time-period and require a current review to ensure all DOE directive requirements are fully satisfied.

### Requirement

ORP M 251.1, Revision 2, *ORP Implementing Directives (ORPID) System Manual*, Section 6.5, (ORPID Cyclic Review Process) states:

- a. ORPIDs will be reviewed every 3 years to determine whether cancellation, revision, or continuation is appropriate. If not canceled, revised, or retained for continuation by the [Office of Primary Responsibility] OPR, the ORPID will automatically expire in 5 years.
- b. The Directives Control Point (DCP) will send a quarterly notice and ORPID review form to the OPR for each directive under its jurisdiction when more than 3 years has passed since the last revision.”

### Discussion

Currently, ORP Procedure Directive (ORPPD) 420.3, *Safety Basis Management*, is over three years old since last revision, and the following three ORPIDs are over five years old:

- ORP M 420.1-1, *ORP Fire Protection Program*
- ORPPD 220.1-3 *AMSQ Mixed Waste Storage Assessments*
- ORP M 425.1, *Startup and Restart of Tank Farm Contractor Nuclear Facilities*

Consequently, ORP M 420.1-1 is currently in review per Consolidated Action Reporting Systems (CARS) #9620 with a July 2007 due date. Secondly, on May 3, 2007, the DCP

requested status from the Environment, Safety and Quality (ESQ) regarding ORPPD 220.1-3. The PD is currently in review by ESQ. Lastly, the DCP requested Tank Farm Project review and update of ORP M 425.1, which is now in revision via CARS #11942 with a due date of May 31, 2007.

**4.2 Observation A-07-ESQ-ORP-001-001:** Additional engineering, design review, and authorization basis amendment request (ABAR) procedures are necessary to strengthen the associated management system processes for these areas.

#### Requirement

DOE M 413.3-1, *Project Management for the Acquisition of Capital Assets*, Section 5, identifies the requirements for project design reviews as follows:

- Evaluate adequacy of design including adequacy of drawings and specifications, and assess whether they are consistent with system functions and requirements. Assess whether all safety structures, systems, and components are incorporated into the preliminary design. Review results of the preliminary design review and assess whether additional work identified in the design review has been incorporated into the Performance Baseline as appropriate.
- Assess whether "design to" functions and requirements are complete and have a sound technical basis.
- Assess the applicability of Value Management/Engineering, and whether a Value Management/Engineering analysis has been performed with results being incorporated into the baseline. Also provide an assessment of the Value Management/Engineering process for the project.

Additionally, DOE O 414.1C, *Quality Assurance*, Section 4.b.(5)(a) states DOE will “perform work consistent with technical standards, administrative controls, and hazard controls adopted to meet regulatory or contract requirements using approved instructions, procedures, etc.”

Lastly, DOE O 226.1, *Implementation of DOE Oversight Policy*, states “The objective of the Order is to ensure that contractor assurance systems and DOE oversight programs are comprehensive and integrated for all aspects of operations essential to mission success.”

#### Discussion

The Waste Treatment and Immobilization Plant (WTP) and Tank Farms engineering organizations have current desk instructions for conducting design oversight. These desk instructions provide guidance for planning, performing, and documenting engineering oversight assessment of the contractor design processes. However, ORP needs additional procedures or procedure updates for the following engineering areas:

- Design reviews
- Technology readiness assessments
- Engineering walkthroughs
- ABAR and documented safety analysis (DSA) reviews and maintenance
- Preliminary Safety Analysis Report reviews
- Value Engineering

Consequently, the Team suggests the WTP and Tank Farm engineering organizations prepare procedures or desk instructions for the above.

**4.3 Observation A-07-ESQ-ORP-001-O02:** ORP should consider developing office-specific procedures for certain systems currently covered by DOE or Richland Operations Office (RL) procedures. These include: Human Resource Management, Communications, Safeguards and Security, and Emergency Preparedness.

#### Requirement

ORP is meeting DOE requirements for Human Resource Management, Communications, Safeguards and Security, and Emergency Management through the use of the RL Integrated Management System (RIMS) procedures.

#### Discussion

Since ORP may have specific requirements or actions for the above referenced systems, it is suggested that ORP review these areas to evaluate potential need of organization-specific processes, expectations, and goals. Suggested procedures include:

- Succession planning
- Capital management planning
- Stakeholder communications
- Official Use Only (OUO) requirements and actions

**4.4 Observation A-07-ESQ-ORP-001-O03:** ORP M 450.4, *Integrated Safety Management System Description*, which was implemented November 2006, and DOE O 450.1, *Environmental Protection Program*, which implements the Environmental Management System (EMS), require annual ISMS and EMS assessments of the contractor. This includes review of the 17 EMS requirements listed in DOE O 450.1. The ORP ISMS assessments scheduled for the summer of 2007 should include criteria for reviewing contractor implementation of the 17 EMS requirements.

#### Requirement

DOE M 450.4 and DOE O 450.1 require annual assessment of the contractor ISMSs, including review of the 17 EMS requirements listed in DOE O 450.1

## Discussion

ORP is currently in compliance with DOE M 450.4 and DOE O 450.1. This observation is provided to ensure the ORP assessors performing the 2007 contractor ISMS reviews include an evaluation of the 17 EMS requirements in their review.

**4.5 Observation A-07-ESQ-ORP-001-004:** The assessors found a broad range of ORP desk instructions for the various management systems. Desk instructions are procedures issued by an ORP organization that are applicable only to the issuing ORP organization, and do not establish new requirements. However, some of the desk instructions should be converted into ORP implementing directives or ORP procedure directives.

## Requirement

The ORP Corporate Board reviews and endorses ORP Policy Statements, ORP Notices, ORPIDs, and the FRAM prior to approval. ORPIDs include all ORP documents that provide direction and requirements to ORP organizations at such a level that they must be controlled documents. The ORPID system is used not only for documents that implement DOE directives, but also for documents such as the mission analysis report, management plans, program plans, program descriptions, procedures, business system processes, and desk instructions. Documents that do not fall within the scope of this system are those that do not establish requirements or ongoing management systems or processes.

The following are types of ORPIDs:

- a. ORP Policy Statement (ORP PS). Policy Statements are brief documents that provide broad policy framework from upper management.
- b. ORP Manuals (ORP M). A Manual contains plans, program descriptions, implementation information, and requirements and/or procedures that apply across ORP. Manuals can be any length, may be quite detailed, may supplement a DOE directive, and may stand alone.
- c. ORP Procedure Directives (ORP PD). These documents apply within a single ORP organization. They contain detailed implementation information, identification of roles and responsibilities, and step-by-step procedures to support ORP implementation of standards.
- d. ORP Notices (ORP N). Notices transmit temporary requirements or requirements that must be issued rapidly without full coordination. Notices may also be used to cancel ORPIDs. They expire no later than 1 year from issuance.
- e. Desk Instructions. Procedures issued by an ORP organization that are applicable only to the issuing ORP organization. Desk instructions are controlled by the issuing organization, do not establish new requirements, and contain no direction for other



organizations.

### Discussion

ORP has a number of viable desk instructions which provide valuable step-by-step instruction for performing an action or task. Upon review of the ORP procedures and desk instructions, the assessors identified some desk instructions which should be converted to ORPIDs or ORPPD. Some of these desk instructions include:

- Employee Concerns Program
- Resource Conservation and Recovery Act Permitting
- Conduct of Design Oversight

### 4.6 Action Planning

In response to the Finding and Observations, the following action plan is provided:

<b>Finding/Observation</b>	<b>Action</b>	<b>Assignee</b>	<b>Due Date</b>
Finding A-07-ESQ-ORP-001-F01	The ESQ Directives Management (DM) Coordinator sends a request to the authors of the 3 outdated procedures (5 years and older) for update.	ESQ DM Coordinator	Complete
	The 3 referenced outdated procedures are updated and implemented via the DM system.	ESQ, Tank Farms	07/30/07
Observation A-07-ESQ-ORP-001-001 and Observation A-07-ESQ-ORP-001-004	Prepare an Action Plan for review and update of ORP procedures	WTP Engineering Division Director	Complete
	Complete update of the suggested new engineering procedures and implement into the DM system.	WTP Engineering Division Director	12/31/07
Observation A-07-ESQ-ORP-001-002	Complete update of the ORP Succession Plan, Human Capital Management Plan, and Communications Plan. Determine need for an ORP Safeguards and Security procedure.	Manager's Office	12/31/07
Observation A-07-ESQ-ORP-001-003	ESQ Director provides guidance to the line organizations to include the 17 EMS requirements as review criteria for the next contractor ISMS review.	ESQ Director	07/02/07

## 5.0 REFERENCES

1. DOE EM FRA, *Safety Management Functions, Responsibilities, and Authorities (FRA)*, draft, March 28, 2007
2. DOE EM *Integrated Safety Management System Description*, April 2007.
3. DOE M 413.3-1, *Project Management for the Acquisition of Capital Assets*
4. DOE O 226.1, *Implementation of DOE Oversight Policy*
5. DOE O 413.3A, Change 1, *Program and Project Management for the Acquisition of Capital Assets*
6. DOE O 414.1C, *Quality Assurance*
7. DOE O 450.1, Change 1, *Environmental Protection Program*
8. ORP M 251.1, Rev. 2, *ORP Implementing Directives (ORPID) Systems Manual*
9. ORP M 411.1-1, Rev. 5, *Safety Management Functions, Responsibilities, and Authorities Manual for the U.S. Department of Energy, Office of River Protection*
10. ORP M 420.1-1, *ORP Fire Protection Program*
11. ORP M 425.1, *Startup and Restart of Tank Farm Contractor Nuclear Facilities*
12. ORP M 450.4, Rev. 2, *Integrated Safety Management System Description*.
13. ORPPD 220.1-3 *AMSQ Mixed Waste Storage Assessments*
14. ORPPD 420.3, *Safety Basis Management*

## 5.1 Other Documents Reviewed

1. 07-WTP-040, letter, L.F. Miller to J.R. Eschenberg, "Assessment Report D-07-DESIGN-037, WTP Independent Assessment Design Oversight Report," dated February 26, 2007.
2. DOE EM, *Proposed Missions and Functions Statement*
3. ORP Desk Instruction 220.1, *Conduct of Design Oversight*