APPENDIX D2

TRAINING REQUIREMENTS AND QUALIFICATION JOURNAL FOR

HIGH-LEVEL WASTE REPOSITORY INSPECTOR

1. **TRAINING REQUIREMENTS**
2. Applicability

The training described below is required for full-time inspectors and inspection team leaders assigned to perform High-Level Waste (HLW) Program inspections.

B. Training

 1. Required Initial Training.

 a) Self-Study and On-The-Job Training:

 (1) U.S. Nuclear Regulatory Commission (NRC) Orientation.

 (2) Code of Federal Regulations.

 (3) Office Instructions.

 (4) Regulatory Guidance.

 (5) Industry Codes and Standards.

 (6) NRC Inspection Manual.

 (7) NRC Management Directives.

 (8) Yucca Mountain Information.

 (9) Inspection Accompaniments.

 b) Core Training. These courses establish minimum formal classroom training requirements. Refer to Section 1246-09 for exceptions to these requirements.

 (1) Fundamentals of Inspection Course (G-101)

 (2) Inspecting for Performance Course - Materials Version

 (G-304)

 (3) Effective Communications for NRC Inspectors Professional

 Development Center (PDC)

 (4) Gathering Inspection Information Through Interviews (PDC)

 (5) Occupational Safety and Health Act (OSHA) Indoctrination Course (G-111)

 (6) Site Access Training (H-100)

 (7) HLW Repository Health Physics Course (H-403)

 (8) Licensing and Evaluation of HLW Geologic Repository (H415)

 c) Specialized Training. Depending on the employee's previous work experience and planned activities, additional courses may be required to gain knowledge necessary for specialized inspection or licensing activities. Management will make this determination on an individual basis.

 (1) Leading NRC Work Teams

 (2) Lead Auditor Training

 (3) General Underground Training (GUT), including First Aid and CPR

 (4) General Employee Radiological Training (GERT)

 (5) General Employee Training (GET)

 (6) Root Cause/Incident Investigation Workshop (G-205)

 (7) Environmental Monitoring for Radioactivity (H-111)

 (8) Risk Assessment for Applications in Nuclear Materials and Waste (P400 or P401)

 (9) Quantitative Risk Analysis (P403)

 NOTE: GUT, GERT, and GET Training are presently provided to NRC employees by DOE at the Yucca Mountain Site under mutual agreement between NRC and DOE. They are required for site visits.

 2. Supplemental Training. Additional training beyond that identified as Core Training. This training will be determined by the supervisor and will depend on the individual's previous work experience and planned inspection activities in specific areas .

 3. Refresher Training. Refresher training will be conducted every 3 years after initial certification. Refresher training will include the following courses and other courses, as determined by management:

 (1) Inspection Procedures Update Briefing for High-Level Waste Repository Inspectors

 (2) Site Access Refresher Training (H-101)

1. **QUALIFICATION JOURNAL**

Applicability.

This NRC Inspector Qualification Journal implements NRC Manual Chapter 1246, by establishing the minimum training requirements for personnel assigned to perform inspection activities at the HLW Repository. The Qualification Journal provides traceable documentation to show that minimum requirements are met for each inspector.

The NRC Inspector Qualification Journal consists of a series of qualification cards and associated qualification guides. Each qualification card is used to document completion of a specific area. Each qualification card has a corresponding qualification guide that establishes the minimum knowledge levels and self-study areas that must be completed prior to signing the qualification card.

The purpose of NRCs Yucca Mountain inspection program is to ensure that the geologic repository is designed, constructed, and tested in accordance with the applicable regulations and the construction authorization. For the geologic repository, DOE is required to implement a quality assurance (QA) program set by Regulation 10 CFR Part 63, Subpart G, Quality Assurance. The DOE QA program is described in the Office of Civilian Radioactive Waste Management Quality Assurance Requirements and Description (QARD), DOE/RW-0333P, and in DOEs application for a construction authorization.

As part of NRCs license review and inspection process, NRCs field reviews of the Yucca Mountain activities and inspection of DOEs QA program may begin when DOE submits a license application, during the review of the license application and continue through site construction pre-operational testing and repository operation.

INSPECTOR QUALIFICATION JOURNAL

High-Level Waste Inspector

 \_\_\_\_\_\_\_\_

 (Name) (Title) (Division) (Branch)

To complete your qualification as a High-Level Waste (HLW) Inspector, you are to complete the following signature cards. All sign-offs shall include the signature of the responsible reviewer and the date. Maintain these cards in a notebook, along with any background or written material required by the program. This notebook will comprise your NRC Inspector Qualification Journal.

1. NRC Orientation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

2. Code of Federal Regulations \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

3. Office Instructions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

4. Regulatory Guidance \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

5. Industry Codes and Standards \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

6. NRC Inspection Manual \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

7. NRC Management Directives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

8. Yucca Mountain Information \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

9. Inspection Accompaniments \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

10. Formal Training \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 First Line Supervisor Date

 Qualification Board \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 Requirement Met Secondary Level Supervisor Date

 or Board Chairman

 Recommendation as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 Qualified Inspector Second Level Supervisor Date

 Certification Memo Issued \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 Second Level Supervisor Date

Qualification Card 1

NRC Orientation

A. Site Orientation

 1. Facility tour and introduction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Employee Date

 2. New employee initial orientation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Supervisor Date

B. NRC Organization

 1. Review of NRC organization \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 and NRC web page completed Employee Date

 2. Review of NRC regulatory \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 authority completed Employee Date

 3. Discussion of NRC organization \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 and authority completed Supervisor Date

Qualification Card 2

Code of Federal Regulations (CFR)

A. Review of selected federal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 regulations completed Employee Date

B. Discussion of federal regulations \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Supervisor Date

Qualification Card 3

Office Instructions

A. Review of office policies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 and procedures completed Employee Date

B. Discussion of office policies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 and procedures completed Supervisor Date

Qualification Card 4

Regulatory Guidance

A. Review of selected regulatory \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 guidance completed Employee Date

B. Discussion of regulatory guidance \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Supervisor Date

Qualification Card 5

Industry Codes and Standards

A. Review of selected codes and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 standards completed Employee Date

B. Discussion of application codes and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 standards completed Supervisor Date

Qualification Card 6

NRC Inspection Manual Chapters

A. Review of manual chapters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Employee Date

B. Discussion of manual chapters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Supervisor Date

Qualification Card 7

NRC Management Directives

A. Review of management directives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Employee Date

B. Discussion of management directives \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Supervisor Date

Qualification Card 8

Yucca Mountain Information

A. Review of background information \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 on Yucca Mountain completed Employee Date

B. Discussion of current issues \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 related to Yucca Mountain completed Supervisor Date

Qualification Card 9

Inspection Accompaniments

A. Required inspection accompaniments \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Employee Date

B. Discussion of inspection results \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Supervisor Date

Qualification Card 10

Formal Training

A. Core training courses completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 Training Coordinator Date

B. Additional specialized courses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 completed Training Coordinator Date

C. Course completion reviewed and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 adequate documentation established Supervisor Date

Qualification Guide 1

NRC Orientation

A. Site Orientation

 1. The qualifying individuals Supervisor should provide for an orientation of the facility and work areas including:

 a. Tour of work area and introduction to co-workers and management

 b. Location of reference material, supplies, meeting rooms, office equipment, administrative staff, etc.

 2. The qualifying individuals Supervisor should provide for a discussion of the following topics:

 a. New employee forms to be provided to Human Resources

 b. Work hours, office hours and building access during off-hours

 c. Human Resources Management System (HRMS) to record daily time

 d. Employee Express System to obtain Earning & Leave Statements and information related to employee benefits

 e. NRC Fitness for Duty requirements and physical examination

 f. Availability of standard forms through Informs

 g. The NRCs Agency Wide Documents Access and Management System (ADAMS) to obtain agency documents

B. NRC Organization, Responsibilities and Regulatory Role

 1. The qualifying individual should become familiar with the following information through the use of the NRC web page:

 a. NRC organization including role and responsibilities of the key organizational components of the NRC including:

 (1) NRC Commissioners

 (2) Office of Executive Director of Operations

 (3) Office of Nuclear Material Safety and Safeguards

 (4) Office of Nuclear Reactor Regulations

 (5) Office of Nuclear Regulatory Research

 (6) Advisory Committee on Nuclear Waste

 (7) Office of General Counsel

 (8) Office of Inspector General (NUREG/BR 0146 The IG at the NRC)

 (9) Office of Investigations

 (10) Office of Enforcement

 (11) Office of Chief Information Officer

 (12) Office of Nuclear Security and Incident Response

 (13) Division of High Level Waste Repository Safety

 (14) NRCs Yucca Mountain On-site Representatives Office

 (15) Center for Nuclear Waste Regulatory Analysis (CNWRA)

 b. General information concerning the NRC as a regulatory agency including the following: (NRC Public Web Page/Electronic Reading Room/Basic References):

 (1) NRC FORM 3, Notice to Employees

 (2) NUREG-1100 Performance Budget (Executive Summary)

 (3) NUREG-1350 NRC Information Digest

 (4) NUREG-1542 NRCs Performance and Accountability Report

 (5) NUREG 1614 Strategic Plan

 (6) NUREG/BR-0010 Citizens Guide

 (7) NUREG/BR-0099 NRC Fact Sheet

 (8) NUREG/BR-0137 NRC Fact Sheet: Nuclear Material and Safeguards

 (9) NUREG/BR-0164 NRC: Regulator of Nuclear Safety

 (10) NUREG/BR-0215 Public Involvement in the Nuclear Regulatory Process

 (11) NUREG/BR-0216 Radioactive Waste: Production, Storage, and Disposal

 (12) NUREG/BR-0240 Reporting Safety Concerns

 (13) NUREG/BR-0256 The NRC and How It Works

 (14) NUREG/BR-0292 Safety of Spent Fuel Transportation

 c. Physical location of NRCs regional offices, NRCs Yucca Mountain On-site Representatives Office, DOEs Yucca Mountain Offices in Las Vegas and the CNWRA offices in San Antonio, TX

 d. Access to the DOE website for Yucca Mountain related information

 e. Access to the EPA website for Yucca Mountain related information

 f. Access to the Licensing Support Network

 2. The qualifying individual should become familiar with the key legal documents that created the NRC and establish the NRCs regulatory authority to include:

 a. 10 CFR Part 1 (Organization)

 b. NUREG -0980 Nuclear Regulatory Legislation (Note: this document includes the following Acts)

 (1) Atomic Energy Act of 1954, as amended

 (2) Energy Reorganization Act of 1974, as amended

 (3) Nuclear Waste Policy Act 1982, as amended

 (4) Energy Policy Act of 1992

 c. NRC Enforcement Policy (NUREG 1600)

 d. NRC Enforcement Manual

 e. NUREG/BR-0175 A Short History of Nuclear Regulations 1946-1999

 3. The qualifying individuals Supervisor should discuss 1) the principal NRC and DOE organizations and the key personnel that the qualifying individual may be interfacing with, 2) the regulatory authority of the NRC over the high-level waste repository and the proper protocol for interfacing with DOE, and 3) the potential for the qualifying individual to receive allegations from the DOE staff and contractors, how the NRC is currently handling allegations received related to the high level waste repository and the proper process for maintaining confidentiality of allegations received.

Qualification Guide 2

Code of Federal Regulations (CFR)

A. The qualifying individual should become familiar with the following sections of the Code of Federal Regulations:

 1. 10 CFR Part 2 Rules of practice for domestic licensing proceedings and issuance of orders

 2. 10 CFR Part 9 Public records

 3. 10 CFR Part 19 Notices, instructions and reports to workers: inspections and investigations

 4. 10 CFR Part 20 Standards for protection against radiation (including NUREG 1736 Consolidated Guidance: 10 CFR Part 20 Standards for Protection Against Radiation)

 5. 10 CFR Part 21 Reporting of defects and noncompliance

 6. 10 CFR Part 51 Environmental protection regulations for domestic licensing and related regulatory functions

 7. 10 CFR Part 63 Disposal of High-Level radioactive wastes in a proposed geologic repository at Yucca Mountain, Nevada

 8. 10 CFR Part 70 Domestic licensing of special nuclear material

 9. 10 CFR Part 71 Packaging and transportation of radioactive material

 10. 10 CFR Part 72 Licensing requirements for the independent storage of spent nuclear fuel and high-level radioactive waste

 11. 10 CFR Part 73 Physical protection of plants and material

 12. 10 CFR Part 170 Fees for facilities and materials, import and export licenses and other regulatory services under the Atomic Energy Act of 1954, as amended

 13. 10 CFR Part 960 General guidelines for the preliminary screening of potential sites for a nuclear waste repository

 14. 10 CFR Part 961 Standard contract for disposal of spent nuclear fuel and/or high- level radioactive waste

 15. 40 CFR Part 141 National primary drinking water regulations (specifically 40CFR141.15 and 141.16)

 16. 40 CFR Part 191 Environmental radiation protection standards for management and disposal of spent nuclear fuel, high level and transuranic radioactive wastes

 17. 40 CFR Part 197 Environmental radiation protection standards for Yucca Mountain, Nevada

 18. 49 CFR Part 173 Shippers - general requirements for shipping and packaging: (Subpart I: Class 7: Radioactive Material)

 19. 49 CFR Part 174 Carriage by rail (Subpart K: Detailed Requirements for Class 7 Radioactive Material)

 20. 49 CFR 177.842 Carriage by public highway (Class 7 Radioactive Material)

B. The qualifying individuals Supervisor should review selected federal regulations with the qualifying individual to ensure an understanding of the information and its application to the HLW inspection program.

Qualification Guide 3

Office Instructions

A. Office Policies and Procedures

 1. Qualifying individuals located at NRC headquarters should become familiar with the following NMSS Policy and Procedure (P&P) Letters:

 1-3 Handling Request for 10 CFR 2.206 Action

 1-8 Differing Professional Views and Opinions (MD 10.159)

 1-11 Communications with Licensees

 1-13 Signature Level on NMSS Correspondence

 1-19 Notification of Regional Administrators

 1-22 Quality Assurance

 1-23 Open Meetings

 1-24 Procedures for: (a) Handling Reports Received from Office of Investigations (OI); (b) Release of NRC Reports and Other Documents and Disclosures of Safety and Security Information to Licensees during Inspection/Investigation Process; (c) Material False Statements and Referral of Other Matters to OI; (d) Reporting the Status of Pending Investigations; (e) Notification of OI of Potential Wrongdoing; (f) Policy for Requesting OI Investigation

 1-27 Management of Allegations

 1-33 Procedures for Responding to Requests from the Commission/OGC for Technical Assistance

 1-37 NMSS Participation in ACNW Reviews

 1-38 Interface with Commissioners Offices

 1-39 Review of Speeches, Papers, and Journal Articles

 1-40 Legislative and Regulatory Review Requirements for the Office of the Inspector General

 1-48 Procedures for Preparing Environmental Assessments

 1-50 Environmental Justice in NEPA Documents

 1-52 Guidance on Making NRC Electronic Information Available to the Public

 1-85 Risk Informed Regulations in the HLW Repository Safety Program

 2. Qualifying individuals located at Region IV or the NRCs On-site Representatives Office in Las Vegas should become familiar with the following regional policy guides (ROPG):

 0100 Series Administrative Services and Programs

 0200 Series Assessments and Audits

 0250 Series Data Processing and Information Systems

 0350 Series Division Guidance

 0450 Series Emergencies, Incidents and Accidents

 0500 Series Emergency Preparedness

 0550 Series Enforcement

 0600 Series External Affairs

 0650 Series Files and Office Records

 0750 Series Health, Safety and Security

 0800 Series Inspection Activities

 0850 Series Investigation/Allegation Activities

 1000 Series Management Principles and General Practices

 2000 Series Meetings

 2050 Series Payroll

 3000 Series Personnel

 4000 Series Radiation Protection and Safeguards

 4050 Series Reports, Correspondence and Documents

 7000 Series Training and Employee Development

 8000 Series Travel

 9000B Series Division of Nuclear Material Safety

B. The qualifying individuals Supervisor should review selected office policies and procedures with the qualifying individual to ensure an understanding of the information and its application to the high- level waste inspection program.

Qualification Guide 4

Regulatory Guidance

A. The qualifying individual should become familiar with the following regulatory guidance documents and federal register notices:

 1. Regulatory Guides (RG).

 1.174 An Approach for Using Probabilistic Risk Assessment in Risk-informed Decisions on Plant-specific Changes to the Licensing Basis

 1.28 Quality Assurance Program Requirements (Design and Construction)

 3.69 Topical Guidelines for Licensing Support Network

 3.71 Nuclear Criticality Safety Standards for Fuels and Material Facilities

 7.3 Procedures for Picking Up and Receiving Packages of Radioactive Material

 8.13 Instruction Concerning Prenatal Radiation Exposure

 8.29 Instruction Concerning Risks from Occupational Radiation Exposure

 2. Information Notices (IN) and Bulletins (BL).

 IN 85-12 Recent Fuel Handling Events

 IN 87-33 Applicability of 10 CFR Part 21 to Non-Licensees

 IN 91-39 Compliance with 10 CFR Part 21 Reporting of Defects and Noncompliances

 IN 97-39 Inadequate 10 CFR72.48 Safety Evaluations of Independent Spent

 Fuel Storage Installations (ISFSIs)

 IN 99-29 Authorized Contents of Spent Fuel Casks

 IN 00-11 Licensee Responsibility for Quality Assurance Oversight of Contractor Activities Regarding Fabrication and Use of Spent Fuel Storage Cask Systems

 BL 96-04 Chemical, Galvanic, or Other Reactions in Spent Fuel Storage or Transportation Casks

 3. NUREGs (latest revision, where applicable).

 NUREG 0856 Final Technical Position on Documentation of Computer Codes for High-Level Waste Management (June 1983)

 NUREG 1298 Qualification of Existing Data for HLW Repositories (1988)

 NUREG 1563 Branch Technical Position on the Use of Expert Elicitation in the High-Level Radioactive Program (November 1996)

 NUREG 1636 Regulatory Perspectives on Model Validation in High-Level Radioactive Waste Management Programs: A Joint NRC/SKI White Paper

 NUREG 1518 Differing Professional Views and Opinions

 NUREG 1762 Integrated Issue Resolution Status Report

 NUREG 1804 Yucca Mountain Review Plan

 NUREG/BR-0308 Effective Risk communication, The Nuclear Regulatory Commissions Guidelines for External Risk Communication

 NUREG/BR-0318 Effective Risk Communication Guidelines for Internal Risk Communication

 NUREG/BR-0167 Software QA Program and Guidelines (February 1993)

 NUREG/CR-4369 QA Plan for Computer Software Supporting the U.S. NRCs HLW Management Program (January 1986)

 NUREG/CR-4640 Handbook of Software QA Techniques Applicable to the Nuclear Industry (August 1987)

 NUREG/CR-5398 Technical Basis for Review of High-Level Waste Repository Modeling

 NUREG/CR-6407 Classification of Transportation Packaging and Dry Spent Fuel Storage Components According to Important to Safety

 4. SECY Papers.

 89-319 Implementation of the U.S. Environmental Protection Agencys High-Level Waste Disposal Standards

 93-013 Analysis of Energy Policy Act of 1992 Issues Related to HLW Disposal Standards

 97-300 Proposed Strategy for Development of Regulations Governing Disposal of High-Level Rad Waste at Yucca Mt

 98-144 Risk-Informed White Paper (and Yellow Announcement 1999-19)

 98-198 Status of the Issue Resolution Process in the High-Level Radioactive Waste Program at Yucca Mountain, Nevada

 98-237 Final Rule, Part 2, Subpart J, Procedures Applicable to Proceedings for the Issuance of Licenses for the Receipt of High-Level Radioactive Waste at a Geologic Repository

 99-31 Agreement Between the U.S. Department of Energy/ Office of Civilian Radioactive Waste Management and U.S. Nuclear Regulatory Commission/Office of Nuclear Material Safeguards Regarding Pre-licensing Interactions

 99-074 Staff Review of U.S. Department of Energy Viability Assessment for a High-Level Radioactive Waste Repository at Yucca Mountain, Nevada

 99-100 Framework for Risk-Informed Regulation in NMSS

 99-186 Staff Plan for Clarifying How Defense-in-Depth Applies to the

 Regulation of a Possible Geologic Repository at Yucca Mountain,

 Nevada

 00-084 Draft Final Rule 10 CFR Part 63

 02-135 Specifications of a Probability for Unlikely Features, Events, & Processes

 05-0009 Identification of Adjudicatory Employees to Support the Commission and the Office of Commission Appellate Adjudication in the Adjudication of a Yucca Mountain Application

 05-0068 Update of the Risk-Informed Regulation Implementation Plan

 05-144 Proposed Rule: 10 CFR Part 63 Implementation of a Dose Standard After 10,000 Years

 5. Federal Register Notices.

 64FR8640 Disposal of High-Level Radioactive Wastes in a Proposed Geological Repository at Yucca Mountain, NV

 66FR32074 Public Health and Environmental Radiation Protection Standards for Yucca Mountain, NV - 40 CFR Part 197

 66FR54303 Final Decision Related to the US DOE General Guidelines for the Recommendation of Sites for Nuclear Waste Repositories and its Yucca Mountain Site Suitability Guidelines

 66FR55732 Disposal of High Level Radioactive Waste in a Proposed Geological Repository at Yucca Mountain, NV - 10 CFR

 Part 63

 66FR57298 Office of Civilian Radioactive Waste Management; General Guidelines for the Recommendation of Sites for Nuclear Waste Repositories; Yucca Mountain Site Suitability Guidelines - 10 CFR Part 960 and 963

 67FR20884 Disposal of High-Level Rad Waste at Yucca Mountain - Correction

 67FR62628 Specification of a Probability for Unlikely Features, Events, and Processes

 69FR18557 Record of Decision on Mode of Transportation and Nevada Rail Corridor for the Disposal of Spent Nuclear Fuel at Yucca Mountain

 70FR49014 Radiation Protection Standard for Yucca Mountain

 70FR53313 Implementation of Dose Standards After 10,000 Years

 6. Commission Correspondence.

 NRCs Preliminary Sufficiency Comments Regarding a Possible Geologic Repository at Yucca Mountain Nevada, November 13, 2001

B. The qualifying individuals Supervisor should review selected regulatory guidance with the qualifying individual to ensure an understanding of the information and its application to the high level waste inspection program.

Qualification Guide 5

Industry Codes and Standards

A. The qualifying individual should become familiar with the following industry codes and standards:

 1. American National Standard Institute (ANSI).

 ANSI/ASME NQA-1-1989 Quality Assurance Program Requirements for Nuclear Power Plants

 ANSI N14.6 American National Standard for Special Lifting Devices for Shipping Containers Weighing 10,000 lbs or More for Nuclear Material

 ANSI B30.2 Overhead and Gantry Cranes

 2. American Concrete Institute (ACI).

 ACI 311.4 Guide for Concrete Inspection

 ACI 318 Building Code Requirements for Standard Concrete

 ACI 349 Code Requirements for Nuclear Safety Related Concrete Structures

 3. American Society for Testing and Materials (ASTM).

 ASTM C-31 Standard Practices for Making and Curing Concrete Test Specimens in the Field

 ASTM C-33 Standard Specification for Concrete Aggregates

 ASTM C-39 Standard Test method for Compressive Strength

 ASTM C-94 Standard Specification for Ready Mixed Concrete

 ASTM C-143 Standard Test Method for Slump of Hydraulic Cement Concrete

 ASTM C-150 Standard Specification for Portland Cement

 ASTM C-494 Standard Specification for Chemical Admixtures for Concrete

 ASTM C-685 Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing

 ASTM C-1077 Standard Practice for Laboratory Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for laboratory Evaluation

 4. Electric Power Research Institute (EPRI).

 EPRI NP-4830 The Effects of Target Hardness on the Structural Design of Concrete Storage Pads for Spent Fuel Casks

 EPRI NP-7551 Structural Design of Concrete Storage Pads for Spent Fuel Casks

B. The qualifying individuals Supervisor should review selected industry codes and standards with the qualifying individual to ensure an understanding of the information and its application to the high level waste inspection program.

Qualification Guide 6

NRC Inspection Manual Chapters

A. The qualifying individual should become familiar with the following NRC manual chapters. Several of the manual chapters listed below were written to provide guidance for NRC inspectors at reactor facilities and material licensees. These manual chapters can also be applicable to the HLW inspection program. The qualifying individual should become familiar with the manual chapters and discuss their applicability to the HLW program with their supervisor.

 MC 0102 Oversight and Objectivity of Inspectors and Examiners at Reactor Facilities

 MC 0300 Announced and Unannounced Inspections

 MC 0330 Guidance for NRC Review of Licensee Draft Documents

 MC 0610 Inspection Reports

 MC 0620 Inspection Documents and Records

 MC 0730 Generic Communications

 MC 0970 Potential Generic Items Identified by Regional Offices

 MC 1007 Interfacing Activities between Regional Offices of NRC and OSHA

 MC 1120 Preliminary Notifications

 MC 1201 Conduct of Employees

 MC 1246 Formal Qualification Programs in Nuclear Material Safety and Safeguards Program Area

 MC 1301 Response to Radioactive Material Incidents that do not Require Activation of the NRC Incident Response Plan

 MC 1302 Action Levels for Radiation Exposures and Contamination Associated with Materials Events Involving Members of the Public

 MC 1330 Response to Transportation Accidents Involving Radioactive Materials

 MC 1360 Use of Medical Consultant

 MC 2300 Yucca Mountain Pre-Operation Inspection Program

 MC 2401 Near Surface Low-Level Radioactive Waste Disposal Facility Inspection Program

 MC 2410 Conduct of Observation Audits

 MC 2690 Inspection Programs for Dry Cask Storage of Spent Nuclear Fuel at ISFSIs

 MC 2700 Vendor Inspection Program

 MC 2901 Team Inspections

 MC 2920 Construction Appraisal Team Inspection Program

B. The qualifying individuals Supervisor should review selected manual chapters with the qualifying individual to ensure an understanding of the information and its application to the high level waste inspection program.

Qualification Guide 7

NRC Management Directives

A. The qualifying individual should become familiar with the following Management Directives

 MD 2.3 Telecommunications

 MD 2.7 Personal Use of Information Technology

 MD 3.1 Freedom of Information Act

 MD 3.2 Privacy Act

 MD 3.4 Release of Information to the Public

 MD 3.5 Attendance at NRC Staff Sponsored Meetings

 MD 3.23 Mail Management

 MD 5.1 Inter-government Consultation

 MD 5.2 Memorandum of Understanding with States

 MD 5.5 Public Affairs Programs

 MD 6.3 The Rule-making Process

 MD 7.3 Participation in Professional Organizations

 MD 7.4 Reporting Suspected Wrongdoing and Processing OIG Referrals

 MD 7.5 Ethics Counseling and Training

 MD 7.6 Public and Confidential Financial Disclosure Reports

 MD 7.7 Security Ownership

 MD 7.8 Outside Employment

 MD 7.9 Ethics Approvals and Waivers

 MD 7.10 Political Activities

 MD 8.2 NRC Incident Response Program

 MD 8.3 NRC Incident Investigation Program

 MD 8.8 Management of Allegations

 MD 8.9 Accident Investigation

 MD 8.11 Review Process for 10 CFR 2.206 Petitions

 MD 9.1 Organization Management

 MD 9.29 Organization and Function of Regional Offices

 MD 10.14 Employee Trial Period

 MD 10.42 Hours of Work and Premium Pay

 MD 10.43 Time and Labor Reporting

 MD 10.62 Leave Administration

 MD 10.67 Non-SES Performance Appraisal System

 MD 10.77 Employee Development and Training

 MD 10.99 Discipline, Adverse Action and Separation

 MD 10.100 Appeals from Adverse Action

 MD 10.101 Employee Grievances

 MD 10.102 Labor-Management Relations Program

 MD 10.122 Employee Assistance and Wellness Services Program

 MD 10.130 Safety and Health Program Under OSHA

 MD 10.131 Protection of NRC Employees Against Ionizing Radiation

 MD 10.159 The NRC Differing Professional Opinions Program

 MD 10.160 Open Door Policy

 MD 12.1 NRC Facility Security Program

 MD 13.1 Property Management

 MD 14.1 Official Temporary Duty Travel

B. The qualifying individuals Supervisor should review selected management directives with the qualifying individual to ensure an understanding of the information and its application to the high level waste inspection program.

Qualification Guide 8

Yucca Mountain Information

A. The qualifying individual should become familiar with information specific to Yucca Mountain to include:

 1. Yucca Mountain Site Description (DOE website)

 2. Organizational charts of U.S. DOE Yucca Mountain Office (available from NRCs Yucca Mountain Office)

 3. Yucca Mountain site access requirements, including safety equipment and training requirements (available from NRCs Yucca Mountain Office)

 4. Key Technical Issues for HLW (NRC Public Web Page/HLW Disposal/Resolution of Key Technical Issues)

 5. High Level Waste Document Capture Plan (ML04054277)

 6. HLW Communication Plan (available from HLW organization)

 7. Risk Insights Baseline Report (NRC Public Web Page/HLW Disposal/Resolution of Key Technical Issues/Risk Insight Baseline Report)

 8. Yucca Mountain Environmental Impact Statement

 9. Yucca Mountain Science and Engineering Report

 10. Yucca Mountain Safety Analysis Report

 11. DOE/OCRWM Quality Assurance Requirements and Description (QARD), DOE/RW-0333P

B. The qualifying individuals Supervisor should review selected Yucca Mountain related information with the qualifying individual to ensure an understanding of the information and its application to the high level waste inspection program.

Qualification Guide 9

Inspection Accompaniments

A. Each qualifying individual should accompany a certified inspector on at least four inspections. The information listed in Section C below, as a minimum, should be reviewed by the qualifying individual prior to each inspection.

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

 Facility Employee Date

 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

 Facility Employee Date

 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

 Facility Employee Date

 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

 Facility Employee Date

B. The qualifying individuals Supervisor should discuss the inspection results after each accompaniment with the qualifying individual to review any issues or questions concerning such topics as how to conduct an inspection, how to interface with the licensee, how to recognize issues and how to properly characterize the issues with the licensee.

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

 Facility Supervisor Date

 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

 Facility Supervisor Date

 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

 Facility Supervisor Date

 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

 Facility Supervisor Date

C. The qualifying individual should review and discuss the following material with the certified inspector prior to each inspection accompaniments.

 1. The inspection plan for the inspection

 2. The license, technical specifications and FSAR for the site to be visited

 3. The last two inspection reports issued for the site

 4. The history of any Inspection Follow-up Items currently open at the site

 5. The inspection procedures to be used for the inspection

 6. Reports required by the NRC (i.e. Annual Environmental Reports) and correspondence from the licensee to the NRC since the last inspection

 7. Any regulatory guides, information notices, etc. related to the inspection areas planned for the site that would be applicable

Qualification Guide 10

Formal Training

A. The qualifying individual should complete the following training courses:

 1. Fundamentals of Inspection \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

 Course (G-101) Training Coordinator Date

 2. Inspecting for Performance \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

 - Materials Version (G-304) Training Coordinator Date

 3. Effective Communications \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

 for NRC Inspectors (PDC) Training Coordinator Date

 4. Gathering Inspection Information \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

 Through Interviews (PDC) Training Coordinator Date

 5. OSHA Indoctrination Course \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

 (G-111) Training Coordinator Date

 6. Site Access Training (H-100) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

 Training Coordinator Date

 7. HLW Repository \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

 Health Physics Course (H-403) Training Coordinator Date

 8. Licensing and Evaluation of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

 HLW Repository (H-415) Training Coordinator Date

B. Other specialized training and/or courses as suggested in Appendix A and identified by the qualifying individuals supervisor:

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

 Course # and Title Supervisor Training Coordinator Date

 Initials

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

 Course # and Title Supervisor Training Coordinator Date

 Initials

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

 Course # and Title Supervisor Training Coordinator Date

 Initials

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

 Course # and Title Supervisor Training Coordinator Date

 Initials

C. The qualifying individuals Supervisor and the Training Coordinator should ensure adequate documentation has been obtained to provide confirmation of successful completion of the required training courses.

Attachment 1

Revision History for IMC 1246, Appendix D2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Commitment Tracking Number | Document Accession Number and Issue Date | Description of Change | Training Needed | Training Completion Date | Comment Resolution Accession Number |
| N/A | ML11230B34910/26/2011CN 11-022 | Revision history sheet added. Combined Appendix A14 with Appendix B14 and renamed as Appendix D2. Added “training requirements” section from Appendix A14. | None | N/A | ML112350568 |
|  |  |  |  |  |  |