

## SECTION VI

### NMSS SPENT FUEL PROJECT OFFICE QUALIFICATION JOURNAL

#### Applicability

The NMSS Spent Fuel Project Office (SFPO) Qualification Journal implements NRC Manual Chapter 1246, Appendix A, Section VI, by establishing the minimum training requirements for a new staff member in SFPO. These requirements provide a basis of knowledge for: (1) performing technical reviews of various types of radioactive material package applications; (2) performing licensing for radioactive material package and spent fuel storage designs; (3) performing activities associated with the storage of spent fuel; and (4) performing safety inspections of entities engaged in the design, fabrication, and use of packages and installations for the transportation of radioactive materials and the storage of spent nuclear reactor fuel.

The SFPO Qualification Journal serves as a guideline for the development of a Program Office Qualification Journal, and establishes the minimum training requirements consistent with NRC Manual Chapter 1246. The Program Office Qualification Journal must provide traceable documentation to show that minimum requirements are met for each SFPO staff member.

The SFPO Qualification Journal consists of a series of qualification guides and signature cards. Each signature card is used to document task completion, as indicated by the appropriate signature block(s). The corresponding qualification guide establishes the minimum knowledge levels or areas of study that must be completed for each signature card.

#### Discussion

This Qualification Journal contains a qualification summary sheet, qualification guides, and signature cards. Signature Cards 1 through 7 are to be completed by each new staff member, irrespective of assigned work group. Signature Cards 8 through 10 are specific to the various work groups within SFPO. The new staff member is expected to complete only the signature card(s) applicable to his/her assigned work group. It may not be necessary to complete every requirement. At the supervisor's discretion, requirements may be deleted, or other requirements added, depending on the new staff member's previous experience, training, etc.

In order to support the review of upper tier documents, programs, and policies, the staff member's supervisor should consider assigning one or more specific reactor facilities, fuel fabrication and storage facilities (e.g., ISFSIs), and/or certificate of compliance holders/licensees, as reference facilities. The selection of a reference facility is intended to provide the staff member's management with the ability to tailor the qualification process to the experience and training level of the staff member, and to meet SFPO's needs.

The SFPO staff member is expected to use the most current version or revision of each document cited in this Journal. Most of the documentation is readily available either on the NRC's internal web site, the NRC's Agencywide Documents Access and Management System (ADAMS), or the SFPO library. Some hard copies may exist elsewhere within SFPO, but caution should be exercised to verify that they are the current revisions before using them.

Unless otherwise indicated, the staff member is to initial and date each appropriate requirement sign-off and insert the appropriate revision number after the reference.

It is recognized that some of the required formal training courses may not be immediately available. At his/her discretion, the staff member's supervisor may substitute an alternative course, provide another method to meet the requirement, or delete the requirement altogether. Any such change should be documented in this Qualification Journal.

This Qualification Journal incorporates several "checklists" currently used by supervisors and secretaries to assist in new staff member orientation and indoctrination. When appropriately completed, they should be included with this Qualification Journal. The use and/or amending of these checklists is at the discretion of appropriate supervisor or secretary.

The time necessary to complete this Qualification Journal will vary, depending upon the new staff member's previous experience and education, but within one year is SFPO management's expectation. However, the availability of required training courses and the new staff member's assigned workload may prolong the time period.

Attached to this Qualification Journal is an Appendix, *Post-Qualification Recommended Training/Reading*, listing a number of training courses and reading material which are recommended for further professional development following initial qualification. While none of this material is required for initial qualification, SFPO staff may wish to include some of these items in their individual development plans.

**SFPO QUALIFICATION JOURNAL  
QUALIFICATION SUMMARY SHEET**

TECHNICAL REVIEWER  
LICENSING PROJECT MANAGER  
TRANSPORTATION PACKAGING AND DRY STORAGE SYSTEM SAFETY INSPECTOR

Name: \_\_\_\_\_

Position Title: \_\_\_\_\_

Section: \_\_\_\_\_

Date Training Started: \_\_\_\_\_

**SIGNATURE CARDS**

**CARD 1, GENERAL ORIENTATION**

\_\_\_\_\_  
Supervisor                      Date

**CARD 2, NRC FAMILIARIZATION READING**

\_\_\_\_\_  
Supervisor                      Date

**CARD 3, 10 CFR REGULATIONS**

\_\_\_\_\_  
Supervisor                      Date

**CARD 4, NRC MANAGEMENT DIRECTIVES**

\_\_\_\_\_  
Supervisor                      Date

**CARD 5, NRC ORIENTATION TRAINING**

\_\_\_\_\_  
Supervisor                      Date

**CARD 6, NMSS/SFPO ORIENTATION READING**

\_\_\_\_\_  
Supervisor                      Date

**CARD 7, NMSS/SFPO TRAINING**

\_\_\_\_\_  
Supervisor                      Date

**CARD 8, SPENT FUEL LICENSING SECTION**

\_\_\_\_\_  
Supervisor                      Date

**CARD 9, TECHNICAL REVIEW SECTIONS A & B**

\_\_\_\_\_  
Supervisor                      Date

**CARD 9A, CONTAINMENT/CONFINEMENT**

\_\_\_\_\_  
Supervisor                      Date

**CARD 9B, CRITICALITY**

\_\_\_\_\_  
Supervisor                      Date

**CARD 9C, MATERIALS**

\_\_\_\_\_  
Supervisor                      Date

**CARD 9D, SHIELDING/RAD PRO**

\_\_\_\_\_  
Supervisor                      Date

**CARD 9E, STRUCTURAL**

\_\_\_\_\_  
Supervisor                      Date

**CARD 9F, THERMAL**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10, TRANSPORTATION AND STORAGE SAFETY AND INSPECTION SECTION**

**CARD 10A, REQUIRED READING**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10B.1, CORE FORMAL TRAINING**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10B.2, REGULATORY GUIDES**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10B.3, INFO NOTICES, ETC.**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10B.4, NUREGs**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10B.5, NRC INSPECTION MANUAL**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10B.6, INDUSTRY CODES/STDs**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10B.7, INSPECTION ACCOMPANIMENT**

\_\_\_\_\_  
Supervisor                      Date

**CARD 10B.8, SAFETY ANALYSIS REPORTS**

\_\_\_\_\_  
Supervisor                      Date

## QUALIFICATION BOARD CERTIFICATION

Date of Oral Board: \_\_\_\_\_

Successful Completion of Oral Board:

_____	_____
Chairman	Date

_____	_____
Member	Date

_____	_____
Member	Date

Qualification Completion / Inspector Certification Memo Issued:

_____	_____
Supervisor	Date

**CARD 1  
GENERAL ORIENTATION**

*(ALL STAFF)*

NRC Welcoming Orientation completed

\_\_\_\_\_

Spent Fuel Project Office Orientation Checklist completed *(if used)*

\_\_\_\_\_  
Secretary      Date

Supervisor's Checklist completed *(if used)*

\_\_\_\_\_  
Supervisor      Date

**CARD 2**  
**NRC FAMILIARIZATION READING**

*(ALL STAFF)*

The following documentation should be read to develop a general understanding of the USNRC as an organization, from where its regulatory authority is derived, and the duties and responsibilities of its various offices. This information should be discussed with the staff member's supervisor (or as directed).

NUREG-1770, "Occupant Emergency Plan" \_\_\_\_\_

NUREG/BR-0118, "The White Flint North Complex" \_\_\_\_\_

NUREG/BR-0099, "The NRC Fact Sheet" \_\_\_\_\_

NUREG-1350, "USNRC Information Digest" \_\_\_\_\_

NUREG/BR-0164, "NRC Regulator of Nuclear Safety" \_\_\_\_\_

NUREG/BR-0298, "Nuclear Power Plant Licensing Process" \_\_\_\_\_

NUREG/BR-0217, "The Regulation and Use of Radioisotopes in Today's World" \_\_\_\_\_

NUREG/BR-0216, "Radioactive Waste: Production, Storage, Disposal" \_\_\_\_\_

NUREG/BR-0292, "Safety of Spent Fuel Transportation" \_\_\_\_\_

NUREG/BR-0010, "Citizen's Guide to U.S. NRC Information" \_\_\_\_\_

NUREG/BR-0215, "Public Involvement in the Nuclear Regulatory Process" \_\_\_\_\_

NUREG/BR-0282, "Nuclear Research Programs to ensure Public Health and Safety" \_\_\_\_\_

NUREG/BR-0175, "A Short History of Nuclear Regulation, 1946-1999" \_\_\_\_\_

NUREG-0325, "USNRC Organizational Charts and Functional Statements" \_\_\_\_\_

NUREG-1614, "USNRC Strategic Plan" \_\_\_\_\_

NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions" \_\_\_\_\_

**CARD 3**

**TITLE 10, CODE OF FEDERAL REGULATIONS (10 CFR)**

*(ALL STAFF)*

Part 1, STATEMENTS OF ORGANIZATION AND GENERAL INFORMATION \_\_\_\_\_

Part 2, RULES OF PRACTICE FOR DOMESTIC LICENSING PROCEEDINGS AND ISSUANCE OF ORDERS  
\_\_\_\_\_

Part 9, PUBLIC RECORDS \_\_\_\_\_

Part 19, NOTICES, INSTRUCTIONS, AND REPORTS TO WORKERS: INSPECTION AND INVESTIGATIONS  
\_\_\_\_\_

Part 20, STANDARDS FOR PROTECTION AGAINST RADIATION \_\_\_\_\_

Part 21, REPORTING OF DEFECTS AND NONCOMPLIANCE \_\_\_\_\_

Part 25, ACCESS AUTHORIZATION FOR LICENSEE PERSONNEL \_\_\_\_\_

Part 26, FITNESS FOR DUTY PROGRAMS \_\_\_\_\_

Part 50, DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES \_\_\_\_\_

Part 51, ENVIRONMENTAL PROTECTION REGULATIONS FOR DOMESTIC LICENSING AND RELATED  
REGULATORY FUNCTIONS \_\_\_\_\_

Part 71, PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL (*Including the Statements of  
Consideration*) \_\_\_\_\_

Part 72, LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL, HIGH-  
LEVEL RADIOACTIVE WASTE, AND REACTOR-RELATED GREATER THAN CLASS C WASTE (*Including the  
Statements of Consideration*) \_\_\_\_\_

Part 73, PHYSICAL PROTECTION OF PLANTS AND MATERIALS \_\_\_\_\_

Part 170, FEES FOR FACILITIES, MATERIALS, IMPORT AND EXPORT LICENSES, AND OTHER REGULATORY  
SERVICES UNDER THE ATOMIC ENERGY ACT OF 1954, AS AMENDED \_\_\_\_\_

Part 171, ANNUAL FEES FOR REACTOR LICENSES AND FUEL CYCLE LICENSES AND MATERIALS LICENSES,  
INCLUDING HOLDERS OF CERTIFICATES OF COMPLIANCE, REGISTRATIONS, AND QUALITY ASSURANCE  
PROGRAM APPROVALS AND GOVERNMENT AGENCIES LICENSED BY THE NRC  
\_\_\_\_\_



**CARD 4**  
**NRC MANAGEMENT DIRECTIVES**

*(ALL STAFF)*

- 2.7 "Personal Use of Information Technology" \_\_\_\_\_
- 3.1 "Freedom of Information Act" \_\_\_\_\_
- 3.2 "Privacy Act" \_\_\_\_\_
- 3.5 "Attendance at NRC Staff-Sponsored Meetings" \_\_\_\_\_
- 7.5 "Ethics Counseling and Training" \_\_\_\_\_
- 8.8 "Management of Allegations" \_\_\_\_\_
- 10.1 "Appointments, General Employment Issues, Details, and Position Changes" \_\_\_\_\_
- 10.14 "Employee Trial Period" \_\_\_\_\_
- 10.41 "Pay Administration" \_\_\_\_\_
- 10.42 "Hours of Work and Premium Pay" \_\_\_\_\_
- 10.43 "Time and Attendance Reporting" \_\_\_\_\_
- 10.62 "Leave Administration" \_\_\_\_\_
- 10.67 "Non-SES Performance Appraisal System" \_\_\_\_\_
- 10.77 "Employee Development and Training" \_\_\_\_\_
- 10.101 "Employee Grievances" \_\_\_\_\_
- 10.130 "Safety and Health Program Under the Occupational Safety and Health Act" \_\_\_\_\_
- 10.131 "Protection of NRC Employees Against Ionizing Radiation" \_\_\_\_\_
- 10.159 "Differing Professional Views or Opinions" \_\_\_\_\_
- 12.1 "NRC Facility Security Program" \_\_\_\_\_
- 13.4 "Transportation Management" \_\_\_\_\_
- 14.1 "Official Temporary Duty Travel"  
([http://www.internal.nrc.gov/ADM/DAS/cag/Management\\_Directives/index.html](http://www.internal.nrc.gov/ADM/DAS/cag/Management_Directives/index.html)) \_\_\_\_\_

**NRC ORIENTATION TRAINING**

*(ALL STAFF)*

Orientation Classes Offered By Professional Development Center

NRC: What It Is and What It Does \_\_\_\_\_

Regulatory Process \_\_\_\_\_

Orientation Self-Study Classes Offered On NRC Website *(As directed by the supervisor)*

PeopleSoft Human Resources Management System (HRMS or time and attendance) \_\_\_\_\_

Agencywide Documents Access and Management System (ADAMS) \_\_\_\_\_

Allegations \_\_\_\_\_

Computer Security Awareness \_\_\_\_\_

Other Orientation Classes Offered Throughout The Year *(As directed by the supervisor)*

Handling Sensitive Material \_\_\_\_\_

New Employee Ethics Training scheduled by OGC \_\_\_\_\_

Attendance At One (1) Each Of The Following Meetings (time - about ½ day each)

Advisory Committee on Nuclear Waste (ACNW) \_\_\_\_\_

Commissioners' Meeting \_\_\_\_\_

Miscellaneous

Tour the NRC Incident Response Center \_\_\_\_\_

**CARD 6  
NMSS/SFPO ORIENTATION READING**

*(ALL STAFF)*

General

NUREG/BR-0137, "Nuclear Material Safety and Safeguards" \_\_\_\_\_

SFPO Office Instructions  
(ADAMS Document Manager Folder: "NMSS/NMSS-SFPO/Office Instructions") \_\_\_\_\_

SFPO Operating Plan \_\_\_\_\_

Interim Staff Guidance (ISG) memoranda (*all*)  
(<http://www.nrc.gov/reading-rm/doc-collections/isg/spent-fuel.html>) \_\_\_\_\_

Regulatory Guide 8.29, "Instruction Concerning Risks from Occupational Radiation Exposure" \_\_\_\_\_

10 CFR Part 71

NUREG/BR-0111, "Transporting Spent Fuel" \_\_\_\_\_

49 CFR Parts 171 - 177 (*familiarization*) \_\_\_\_\_

NUREG/CR-6407, "Classification of Transportation Packages and Dry Spent Fuel Storage  
System Components According to Importance to Safety" \_\_\_\_\_

NUREG-0383, "Directory of Certifications" (*3 volumes*) \_\_\_\_\_

IAEA Safety Standard No. TS-R-1, "Regulations for the Safe Transport of Radioactive Material" \_\_\_\_\_

US DOT/NRC Memorandum of Understanding, dated 7/02/79 (FRN 44FR38690) \_\_\_\_\_

NUREG-1609, "SRP for Transportation Packages for Radioactive Material" \_\_\_\_\_

NUREG-1617, "SRP for Transportation Packages for Spent Nuclear Fuel" \_\_\_\_\_

NUREG/CR-5502, "Engineering Drawings for 10CFR71 Package Approvals" \_\_\_\_\_

Regulatory Guide 7.9“Standard Format and Content of Part 71 Applications for Approval of Packaging of Type B, Large Quantity, and Fissile Radioactive Material” \_\_\_\_\_

10 CFR Part 72

NUREG-1571, “Information Handbook on ISFSIs” \_\_\_\_\_

NUREG-1536, “SRP for Dry Cask Storage Systems” \_\_\_\_\_

NUREG-1567, “SRP for Spent Fuel Dry Storage Facilities” \_\_\_\_\_

Regulatory Guide 3.61, “Standard Format and Content for a Topical Safety Analysis Report for a Spent Fuel Dry Storage Cask” \_\_\_\_\_

NUREG 1748, “Environmental Assessments NMSS” \_\_\_\_\_

Quality Assurance

Regulatory Guide 1.28, “Quality Assurance Requirements” \_\_\_\_\_

**CARD 7  
NMSS/SFPO TRAINING**

*(ALL STAFF)*

*(all conducted via the PDC and as directed by supervision)*

H-100, "Site Access Training" \_\_\_\_\_

OR

H-102, "NMSS Radiation Worker Training" \_\_\_\_\_

P-400, "Introduction to Risk Assessment in NMSS" *(NOTE: This is a requirement of the NMSS Office Director)* \_\_\_\_\_

Communicating with the Public \_\_\_\_\_

Conducting and Participating in Meetings \_\_\_\_\_

Effective Briefing Techniques \_\_\_\_\_

Media Training Workshop \_\_\_\_\_

Technical Writing for Supervisors and Their Staff \_\_\_\_\_

Acquisition for Project Managers: *(NOTE: This is a requirement of the NMSS Office Director.)*

Overview (3 hrs.) \_\_\_\_\_

Developing an Independent Government Cost Estimate (3 hrs.) \_\_\_\_\_

Preparing Statements of Work (6 hrs.) \_\_\_\_\_

Organizational Conflicts of Interest (3 hrs.) \_\_\_\_\_

Contract Administration (6 hrs.) \_\_\_\_\_

## WORK GROUP SPECIALTY TRAINING

The following signature cards contain the specialty training requirements for each Section in SFPO:

Spent Fuel Licensing Section (SFLS)  
Technical Review Sections A & B (TRA/B)  
Transportation and Storage Safety and Inspection Section (TSSI)

Each signature card may contain a mixture of reading and formal classroom instruction. The employee's supervisor has the discretion to modify the requirements as needed based on the employee's previous experience, education, and course availability. The employee's supervisor may add, delete, or substitute with other material (e.g., from the Appendix), for course(s) which will not be available during the nominal one-year qualification period.

There are six technical specialty disciplines comprising the bulk of the technical evaluations performed by the technical review staff: (1) containment/confinement; (2) criticality; (3) materials; (4) shielding/radiological protection; (5) structural; and (6) thermal. The employee's supervisor will assign the employee one or more technical specialty disciplines. The employee's supervisor and/or the technical specialty team leader(s) (TSTLs), if so designated, will determine what training within a technical specialty discipline is required based on the employee's educational background and experience. The technical specialty training listed here may not be all-inclusive, and may be adjusted as desired by the employee's supervisor or TSTL.

The Transportation and Storage Safety Inspection (TSSI) section signature cards consist of two sets. The first set, represented by Signature Card 10A, covers the specialty requirements for all TSSI personnel. The second set, represented by Signature Cards 10B.1 through 10B.8, is for transportation and storage safety inspector candidates *only*. Signature Cards 10B.1 - 10B.8 are part of a condensation of the former NRC Inspection Manual Chapter 1246, Appendix A, Section VI, "NMSS Headquarters Transportation Packaging and Dry Storage System Safety Inspector," qualification program with redundancies with other parts of the SFPO Qualification Journal removed, except as noted. Unnecessary and obsolete requirements have also been deleted. Consequently, the transportation and storage safety inspector candidates must complete Signature Cards 1 through 7 and Cards 10A and 10B in the Transportation and Storage Safety and Inspection section of the SFPO Qualification Journal.

**CARD 8**  
**SPENT FUEL LICENSING SECTION/WORK GROUP**

Job Performance Measures

Perform one (1) licensing action as a project manager from the receipt of an licensing request (e.g., new package application, amendment request) to process completion (e.g., new certificate of compliance, amendment to an existing certificate of compliance), under the oversight of an experienced SFLS project manager.

\_\_\_\_\_  
SFLS Project Manager

Become familiar with the technical review process, including RAIs and SERs, under the oversight of the appropriate technical specialty team leader (TSTL) and/or supervisor in the employee's assigned technical discipline (selected based upon the employee's experience and education). *This JPM is estimated to take approximately one week over a period of time to complete.*

\_\_\_\_\_  
TSTL / Supervisor

Site visit to observe DSC loading/dry run activities.

\_\_\_\_\_

Reading

IN 84-050      Clarification of Scope of Quality Assurance Programs for Transport Packages Pursuant to 10 CFR 50, Appendix B

\_\_\_\_\_

IN 87-033      Applicability of 10 CFR Part 21 to Nonlicensees

\_\_\_\_\_

IN 91-021      Inadequate Quality Assurance Program of Vendor Supplying Safety-Related Equipment

\_\_\_\_\_

IN 91-039      Compliance with 10 CFR Part 21, "Reporting of Defects and Noncompliance

\_\_\_\_\_

IN 95-029      Oversight of Design and Fabrication Activities for Metal Components Used in Spent Fuel Dry Storage Systems

\_\_\_\_\_

IN 96-040      Deficiencies in Material Dedication and Procurement Practices and in Audits of Vendors

\_\_\_\_\_

IN 97-051      Problems Experienced Loading and Unloading Spent Nuclear Fuel Storage and Transportation Casks

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IN 97-057      Leak Testing of Packaging Used in the Transport of Radioactive Material

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IN 99-029      Authorized Contents of Spent Fuel Casks

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

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**CARD 9**  
**TECHNICAL REVIEW SECTIONS/WORK GROUPS A & B**

*(Note: Indicate assigned specialty group(s) by checking the box after group name.)*

All Disciplines

Job Performance Measures

Perform one (1) technical review, including a request for additional information (RAI), if appropriate, and safety evaluation report (SER) under the oversight of the appropriate specialty team leader and/or supervisor, in the employee's assigned technical discipline.

\_\_\_\_\_  
TSTL / Supervisor

Become familiar with the licensing process from the receipt of an licensing request (e.g., new package application, amendment request) to process completion (e.g., new certificate of compliance, amendment to an existing certificate of compliance), by working with an experienced SFLS project manager. *This JPM is estimated to take approximately one week over a period of time to complete.*

\_\_\_\_\_  
SFLS Project Manager

**CARD 9A**  
**CONTAINMENT/CONFINEMENT [ ]**

NUREG/CR-6487, "Containment Analysis for Type B Packages with Various Contents"

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RG 7.4, "Leakage Tests on Packages for Shipment of Radioactive Material"

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ANSI N14.5, "Leakage Tests on Packages for Shipment"

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**CARD 9B**  
**CRITICALITY [ ]**

NUREG/CR-5661, "Recommendations for Preparing Criticality Safety Evaluations of Transportation Packages"

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NUREG/CR-6361, "Criticality Benchmark Guide for Light-Water Reactor Fuel in Transportation and Storage Packages"

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ANSI/ANS-8.1, "Nuclear Criticality Safety in Operations with Fissionable Material Outside Reactors"

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ANSI/ANS-8.15, "Nuclear Criticality Control of Special Actinide Elements"

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ANSI/ANS-8.17, "Handling, Storage, and Transport of LWR Fuel Outside Reactors"

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ANSI/ANS-8.21, "Fixed Neutron Absorbers"

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**CARD 9C**  
**MATERIALS [ ]**

ASME B&PVC, Section II, Part C, "Specifications for Welding Rods, Electrodes, and Filler Metals"

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ASME B&PVC, Section II, Part D, "Material Properties"

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ASTM Specifications (*general familiarization*)

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**CARD 9D**  
**SHIELDING/RADIOLOGICAL PROTECTION**

49 CFR 173, Subpart I \_\_\_\_\_

10 CFR 835 \_\_\_\_\_

40 CFR 190 \_\_\_\_\_

40 CFR 191 \_\_\_\_\_

ANSI/ANS 6.1.1, "Flux to Dose Rate Conversion Factors" \_\_\_\_\_

ANSI N14.1, "UF6 Packages" \_\_\_\_\_

Reg Guide 8.8, "Information Relevant to Ensuring the Occupational Radiation Exposures at Nuclear Power Stations Will Be As Low As Reasonably Achievable" \_\_\_\_\_

Reg Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As Reasonably Achievable" \_\_\_\_\_

**CARD 9E**  
**STRUCTURAL [ ]**

RG 7.6, "Design Criteria for the Structural Analysis of Shipping Cask Containment Vessels"

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RG 7.8, "Load Combinations for the Structural Analysis of Shipping Casks for Radioactive Material"

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NUREG/CR-1815, "Recommendations for Protecting Against Failure by Brittle Fracture in Ferritic Steel Shipping Containers Up to Four Inches Thick"

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NUREG/CR-4554, "SCANS (Shipping Cask Analysis System) A Microcomputer Based Analysis System for Shipping Cask Design Review"

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NUREG/CR-6007, "Stress Analysis of Closure Bolts for Shipping Casks"

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**CARD 9F**  
**THERMAL [ ]**

RG 3.54, "Spent Fuel Heat Generation in an Independent Spent Fuel Storage Installation"

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ASTM Standard Practice for Thermal Qualification of Radioactive Material Packages"

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**CARD 10**  
**TRANSPORTATION AND STORAGE SAFETY AND INSPECTION SECTION/WORK GROUP**

**CARD 10A**  
**REQUIRED READING**

- 49 CFR Part 397, Subpart D \_\_\_\_\_
- NUREG-1608, "Categorizing and Transporting LSA and SCO" \_\_\_\_\_
- NUREG-1660, "US Specific Schedules of Regulations for Transport of Specified Types of Radioactive Materials Consignments" \_\_\_\_\_
- NUREG/BR-0024, "Working Safely in Gamma Radiography" \_\_\_\_\_
- RAMREG-001-98, "Radioactive Material Regulations Review" (USDOT) \_\_\_\_\_
- Atomic Energy Act of 1954, as amended \_\_\_\_\_
- Energy Reorganization Act of 1974, as amended \_\_\_\_\_
- Nuclear Waste Policy Act of 1982, as amended \_\_\_\_\_
- NUREG/BR 0195, "NRC Enforcement Manual" \_\_\_\_\_



**CARD 10B.1  
CORE FORMAL TRAINING**

	<u>Initials</u>	<u>Date</u>
Fundamentals of Inspection Course (G-101)	_____	_____
Inspecting for Performance Course (G-303 or G-304)	_____	_____
Effective Communications for NRC Inspectors	_____	_____
OSHA Indoctrination Course (G-111)	_____	_____
Site Access Training (H-100)	_____	_____

**CARD 10B.2  
REGULATORY GUIDES**

The inspector's supervisor should discuss these policies and practices with the inspector to ensure that he/she has a full and complete understanding of the material.

- 1.28 Quality Assurance Requirements (Design and Construction) \_\_\_\_\_
- 1.33 Quality Assurance Program Requirements (Operation) \_\_\_\_\_
- 3.60 Design of an Independent Spent Fuel Storage Installation (Dry Storage) \_\_\_\_\_
- 3.61 Standard Format and Content for a Topical Safety Analysis Report for a Spent Fuel Dry Storage Cask \_\_\_\_\_
- 7.7 Administrative Guide for Verifying Compliance with Packaging Requirements for Shipments of Radioactive Materials \_\_\_\_\_
- 7.9 Standard Format and Content of Part 71 Applications for Approval of Packaging of Type B, Large Quantity, and Fissile Radioactive Material \_\_\_\_\_
- 7.10 Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material \_\_\_\_\_
- 8.29 Instruction Concerning Risks from Occupational Radiation Exposure \_\_\_\_\_

**CARD 10B.3**  
**INFORMATION NOTICES (IN), BULLETINS (BL) AND GENERIC LETTERS (GL)**

The inspector's supervisor should discuss these policies and practices with the inspector to ensure that he/she has a full and complete understanding of the material.

IN 84-050      Clarification of Scope of Quality Assurance Programs for Transport Packages Pursuant to 10 CFR 50, Appendix B

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IN 87-033      Applicability of 10 CFR Part 21 to Nonlicensees

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IN 91-021      Inadequate Quality Assurance Program of Vendor Supplying Safety-Related Equipment

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IN 91-039      Compliance with 10 CFR Part 21, "Reporting of Defects and Noncompliance

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IN 95-029      Oversight of Design and Fabrication Activities for Metal Components Used in Spent Fuel Dry Storage Systems

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IN 96-040      Deficiencies in Material Dedication and Procurement Practices and in Audits of Vendors

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IN 97-051      Problems Experienced Loading and Unloading Spent Nuclear Fuel Storage and Transportation Casks

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IN 97-057      Leak Testing of Packaging Used in the Transport of Radioactive Material

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IN 99-029      Authorized Contents of Spent Fuel Casks

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

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GL 91-05      Licensee Commercial-Grade Procurement and Dedication Programs

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**CARD 10B.5**  
**NRC INSPECTION MANUAL CHAPTERS (MC) AND INSPECTION PROCEDURES (IP)**

The inspector's supervisor should discuss these policies and practices with the inspector to ensure that he/she has a full and complete understanding of the material.

MC 0102	Oversight and Objectivity of Inspectors and Examiners at Reactor Facilities	_____
MC 0300	Announced and Unannounced Inspections	_____
MC 0610	Inspection Reports	_____
MC 0620	Inspection Documents and Records	_____
MC 1330	Response to Transportation Accidents Involving Radioactive Materials	_____
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 2681	Physical Protection and Transport of SNM and Irradiated Fuel Inspections of Fuel Facilities	_____
MC 2690	Inspection Program For Dry Storage of Spent Reactor Fuel at Independent Spent Fuel Storage Installations	_____
MC 2700	Vendor Inspection Program	_____
IP 60851	Design Control of ISFSI Components	_____
IP 60852	ISFSI Component Fabrication By Outside Fabricators	_____
IP 60853	On-Site Fabrication of Components and Construction of an ISFSI	_____
IP 60854	Preoperational Testing of an ISFSI	_____
IP 60855	Operation of an ISFSI	_____
IP 60856	Review of 10 CFR 72.212(b) Evaluations	_____

IP 60857      Review of 10 CFR 72.48 Evaluations

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IP 86001      Design, Fabrication, Testing, and Maintenance of Transportation Packagings

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**CARD 10B.6**  
**INDUSTRY CODES AND STANDARDS**

The inspector's supervisor should discuss these policies and practices with the inspector to ensure that he/she has a full and complete understanding of the material.

American Society of Mechanical Engineers (ASME)/NQA-1, Quality Assurance Program  
Requirements for Nuclear Facilities

ASME Boiler and Pressure Vessel Code (*applicable parts of Sections III, V, and IX*)

**CARD 10B.7  
INSPECTION ACCOMPANIMENTS**

The inspector should accompany certified inspectors on at least four (4) inspections. If possible, two of these inspections should be of 10 CFR Part 71 activities and two of 10 CFR Part 72 activities. The following is a guide for material that the inspector should study and discuss with the lead inspector during these inspection accompaniments. The inspector's supervisor may also discuss these items, as appropriate, following any of the inspection accompaniments.

4. The Inspection Program
5. Scheduling and Preparation for Inspections
6. Scope of Inspection
7. Entrance/Exit Interviews
8. Conduct of Inspection and Accumulation of Data
9. Post-inspection Activities of Inspectors
10. MCs 0610 and 2690 Inspection Reports (including the use of Form 591S)

Record of Accompaniments

2.	Location/Facility:	_____
	Inspection Dates:	_____
	Inspection Type (71/72):	_____
	Successful Completion:	_____
		Lead Inspector/Supervisor
3.	Location/Facility:	_____
	Inspection Dates:	_____
	Inspection Type (71/72):	_____
	Successful Completion:	_____
		Lead Inspector/Supervisor
4.	Location/Facility:	_____
	Inspection Dates:	_____
	Inspection Type (71/72):	_____
	Successful Completion:	_____
		Lead Inspector/Supervisor
5.	Location/Facility:	_____
	Inspection Dates:	_____
	Inspection Type (71/72):	_____
	Successful Completion:	_____
		Lead Inspector/Supervisor

**CARD 10B.8**





## APPENDIX

### Post-Qualification Recommended Training/Reading

The training courses and reading material included in this appendix are recommended to the SFPO staff for professional development following the successful completion of the qualification program. Selected material could be included in an IDP or considered for continuing training on a periodic basis. (For example, SFPO transportation inspectors attend headquarters and regional counterpart meetings and workshops.) This list is not all-inclusive and the staff is encouraged to consider alternatives. Training listed for a specific work group may well be of benefit to other work groups, and should be considered.

#### GENERAL ORIENTATION

Atomic Energy Act of 1954, as amended

Energy Reorganization Act of 1974, as amended

Nuclear Waste Policy Act of 1982, as amended

NUREG/BR-0195, "NRC Enforcement Manual"

NUREG/BR-0101, "Procedures for the Administration of Technical Assistance Contracts"

Attend the following meetings (time - about ½ day each):

Advisory Committee on Reactor Safeguards (ACRS)

Committee to Review Generic Requirements (CRGR)

#### WORK GROUP SPECIALTY TRAINING

##### Spent Fuel Licensing Section

Acquisition for Project Managers (also see **SIGNATURE CARD 7**):

Developing Proposal Evaluation Factors (3 hrs.)

Source Evaluation Panel Procedures (6 hrs.)

Negotiation of Project Terms and Conditions (6 hrs.)

Property Management (3 hrs.)

Closing Out the Contract (3 hrs)

Basic Health Physics Technology

Conflict Resolution

Ethics in Government

Managing Change

Small Group Dynamics

H-308, "Transportation of Radioactive Materials" (DOE)

Technical Review Sections A/B

Criticality

University of New Mexico, "Nuclear Criticality Safety" (short course)

LANL, "Basic Criticality Safety" (5-day course)

LANL, "Introduction to MCNP"

ORNL, "SCALE Criticality Safety (CSAS/KENO V.a)"

ORNL, "SCALE KENO VI Training Course"

AEA Technology, "Introduction to the MONK Code"

Materials

ASME/ASM Fracture Mechanics course

NACE Corrosion/Coatings course

ASME B&PVC, Section IX, "Welding and Brazing"

Shielding/Radiological Protection

Computer Codes: SAS2H, MICROSHIELD: ORIGEN 2.1, MCBEND, DORT/TORT, MCNP, SAS1, SAS4, ORIGENARP, ORIGENS.

H-117, "Introduction to Health Physics"

H-308, "Transportation of Radioactive Material"

ORNL, "SCALE Shielding & Source Terms"

Harvard School of Public Health, "Analyzing Risk: Science, Assessment, and Management"

Harvard School of Public Health, "Nuclear Emergency Planning"

Harvard School of Public Health, "Radioactivity in the Environment: Risk, Assessment, and Measurement"

EPA 410-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents"

## Thermal

“ANSYS Introduction” (*Part 1*) course

“ANSYS Heat Transfer” course

Transportation and Storage Safety and Inspection Section

H-308, “Transportation of Radioactive Material”