APPENDIX B

SECTION VI

ATTACHMENT 1

OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS QUALIFICATION JOURNAL FOR SPENT FUEL STORAGE AND TRANSPORTATION PROJECT MANAGER AND TECHNICAL REVIEWER

A. Applicability

This Nuclear Material Safety and Safeguards (NMSS) Qualification Journal for the Division of Spent Fuel and Transportation (SFST) (hereafter, the SFST Qualification Journal) implements U.S. Nuclear Regulatory Commission (NRC) Inspection Manual Chapter (IMC) 1246, Appendix A, Section VI, Attachment 1, by establishing the minimum training requirements for a new project manager or technical reviewer in SFST. These requirements provide a basis of knowledge for:

1. Performing technical reviews of various types of radioactive material package and spent fuel storage cask designs;

2. Managing license reviews for radioactive material package and spent fuel storage applications; and

3. Performing activities associated with the storage of spent fuel.

The SFST Qualification Journal serves as a guideline for the development of a Program Office Qualification Journal, and establishes the minimum training requirements consistent with NRC IMC 1246. The Program Office Qualification Journal must provide traceable documentation to show that minimum requirements are met for each SFST staff member. 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 alternate material, for course(s) that will not be available during the qualification period. For exceptions to the SFST qualification process (e.g., grandfathering and individuals qualified under other NRC's divisions), refer to section 11 of the introduction of IMC 1246 and SFST Office Instruction number six (SFST-06). For post qualification training, refer to section 12 of the introduction of IMC 1246 and Section VI, Appendix A, of this IMC.

The SFST Qualification Journal consists of a series of qualification cards 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. Employees to be qualified as project managers or technical reviewers should follow the guidance in Section VI, Attachment 1, Appendices A and B, of NRC's IMC 1246, while

employees to be qualified as inspectors should follow Section VI, Attachment 2, Appendices A and B, of IMC 1246.

B. Discussion

This SFST Qualification Journal contains a qualification summary sheet, qualification guides, and signature cards. The supervisor should discuss the scope of this SFST Qualification Journal and expected knowledge level, as described later in this SFST Qualification Journal, with the staff member before the staff member starts the qualification process. Each new staff member should complete signature cards 1 through 8, regardless of assigned work group. Signature Card 9 is specific to the various disciplines of technical reviewers within SFST. 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 and/or training, etc. To support the review of upper-tier documents, programs, and policies, the supervisor should consider assigning the staff member one or more review cases that involve NRC licensees and/or certificate of compliance licensing actions. The staff would work with a Project Manager (PM) or Technical Mentor and his/her supervisor, as part of the qualification process. The selection of the case(s) 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 SFST's needs.

The SFST staff member is expected to use the most current version or revision of each document cited in this SFST Qualification Journal. Most of the documentation is readily available either on the: (1) IMC 1246 Section VI, Attachment 1, 09/24/08 (NRC's internal web site); (2) NRC's Agency-wide Documents Access and Management System (ADAMS); or (3) SFST library. 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. The supervisor may substitute an alternate course, provide another method to meet the requirement, or delete the requirement altogether. Any such change should be documented in this SFST Qualification Journal. In addition, it should be noted that the supervisor and secretaries will provide each new employee with an NRC indoctrination checklist, apart from this qualification journal. The purpose of the list is to familiarize the new employee with NRC processes; however, it is not part of the formal qualification program.

The time necessary to complete this SFST Qualification Journal will vary, depending the new staff member's previous experience and education. SFST management expectation is that this qualification journal should be completed within 18 months. However, the availability of required training courses and the new staff member's assigned workload may prolong this anticipated time frame.

NMSS SFST QUALIFICATION SUMMARY SHEET
PROJECT MANAGER AND TECHNICAL REVIEWER

Name: _____
Position Title: _____
Branch: _____
Date Training Started: _____

Complete the following signature cards for a Spent Fuel Storage and Transportation project manager (PM) or technical reviewer (TR) as they may apply to you. All sign-offs shall include the signature of the responsible reviewer and the date. Maintain these cards in a notebook (hard copies of background or written material, required by the program, may also be kept for reference purposes). This notebook will comprise your NRC PM/TR Qualification Journal.

SIGNATURE CARDS

		Supervisor	Date
CARD 1.	NRC ORIENTATION	_____	_____
CARD 2.	CODE OF FEDERAL REGULATIONS	_____	_____
CARD 3.	NRC MANAGEMENT DIRECTIVES	_____	_____
CARD 4.	NMSS/SFST ORIENTATION READING	_____	_____
CARD 5.	REGULATORY GUIDANCE	_____	_____
CARD 6.	FORMAL TRAINING	_____	_____
CARD 7.	DIRECTED CASE WORK	_____	_____
CARD 8.	INSPECTION ACCOMPANIMENTS	_____	_____

NMSS SFST QUALIFICATION SUMMARY SHEET
PROJECT MANAGER AND TECHNICAL REVIEWER
(CONT.)

Name: _____
Position Title: _____
Branch: _____
Date Training Started: _____

SIGNATURE CARDS

		Supervisor	Date
CARD 9.	REVIEW OF DISCIPLINE-SPECIFIC DOCUMENTATION	_____	_____
CARD 9A.	CONTAINMENT/CONFINEMENT	_____	_____
CARD 9B.	CRITICALITY	_____	_____
CARD 9C.	MATERIALS	_____	_____
CARD 9D.	SHIELDING/RAD PROTECTION	_____	_____
CARD 9E.	STRUCTURAL	_____	_____
CARD 9F.	THERMAL	_____	_____

QUALIFICATION BOARD CERTIFICATION

IMC 1246, Section 08, "Oral Qualification Board," provides guidance on conduct of the Oral Qualification Board that should be used by the Board members. Additional guidance is provided below, on documenting possible Board outcomes.

Board Recommendations

The Board will document the results of its assessment, in writing, as follows, to the Division Director, each time a Board examines an individual:

a. If the Board's assessment is favorable, the recommendation will be to grant Full Qualification. The individual must complete any areas where he/she requires additional review (look up items) and an assigned member of the Board must verify this completion before forwarding the Board's decision to the division director.

b. If the Board has identified areas of weakness requiring formal remediation, the Board will identify the areas for improvement in writing and recommend that the individual appear before a Board for re-examination, when the remediation activities are complete. The Board and the individual's supervisor will agree on a schedule for re-examination.

c. If the Board has identified performance deficiencies that could not be successfully addressed with a remediation effort, the Board will document the full scope of the deficiencies and recommend that the individual not be remediated nor re-examined.

d. A copy of each Qualification Board's results, identifying any weaknesses and deficiencies, will be placed in the individual's personnel file. The employee will receive a copy of the Board's findings and recommendation.

Re-examination Board: A Re-examination Board must include at least one individual from the original Board. The Board questioning during re-examination will focus on only the areas of identified weakness.

Board Documentation: The Board's decisions are forwarded to the Division Director, for information. The form on the following page shall be used to document the Board's decision.

RESULT OF QUALIFICATION BOARD
FOR PROJECT MANAGER OR TECHNICAL REVIEWER

Date of Oral Board: _____

Successful or Unsuccessful (circle outcome) Completion of Oral Board:

_____ _____
Chairperson Date

_____ _____
Member Date

_____ _____
Member Date

Qualification Completion Certification Memo Issued:

_____ _____
Supervisor Date

Qualification Completion Certificate Issued/Ordered:

_____ _____
Supervisor Date

The documentation review requirements, specified in the following Cards, reflect the minimum information that should be reviewed, understood, and successfully applied to perform technical review and project management activities in SFST. It is recognized that some subjects require different levels of understanding to adequately perform assignments in SFST. Accordingly, the training and documentation are marked with the following guidelines, to indicate the level of knowledge and understanding that is expected in the qualification process. As discussed below, the employee should use a graded approach in reviewing and applying the document. Similarly, qualification questions should be consistent with the prescribed knowledge level.

(F) Familiarity: The individual is knowledgeable of the document's purpose and general content. The individual is expected to have paged through the document, but not to have read it word-for-word. Knowledge of specific contents is not expected.

(B) Basic: The individual is knowledgeable of the document's purpose and scope, the major topical areas, and relationship to the roles, responsibilities, and assignments of position for which he/she is qualifying. The individual is expected to have read the document and understand how it is used and/or the role it plays in the regulatory process.

(I) In-Depth: The individual is expected to have read and studied the document. Although rote memorization is not required, the individual should be able to describe basic requirements of the regulations and/or industry standards, guidance contents (within the individual's area of qualification), analytical techniques and processes consistent with the individual's grade level, and any associated limitations, and how the document is used in the review process. Because rote memorization is not required, reference to the document is expected for complex questions concerning its content and use.

CARD 1

NRC ORIENTATION
(ALL STAFF)

The following documentation should be read to develop a general understanding of the U.S. NRC, as an organization, and from where its regulatory authority is derived. This information should be discussed with the qualifying individual's (i.e., staff member's) supervisor (or as directed).

		Employee	Supervisor	Date
I NUREG-1614	"U.S. NRC Strategic Plan" - Vol. 4 (Purpose and Strategic Goals) (32 pages)	_____	_____	_____

The following training courses should be taken to develop a general understanding of NRC as an organization and to familiarize the individual with general tasks that the staff performs.

Orientation Classes Offered by Professional Development Center

	Employee	Supervisor	Date
"NRC: What It Is and What It Does" (2 days)	_____	_____	_____
"Regulatory Process" (2 days)	_____	_____	_____

Training Offered On NRC Website

	Employee	Supervisor	Date
"Allegations" (3 hrs) (Management Directive 8.8)	_____	_____	_____
"Information Security Awareness" (INFOSEC) (3 hrs)	_____	_____	_____

CARD 1
NRC ORIENTATION
(ALL STAFF)
(CONT.)

Other Orientation Material

	Employee	Supervisor	Date
"Open, Collaborative, Work Environment" (3 hrs) (Orientation Seminar or presentation slides at NRC's internal website: http://www.internal.nrc.gov/OE/dva/index.html)	_____	_____	_____
"Regulatory Review Philosophy" (1 hr)*	_____	_____	_____

*This training course is an orientation session to discuss practices that an NRC employee should follow when reviewing licensing documentation to make a regulatory decision.

CARD 2
CODE OF FEDERAL REGULATIONS
(ALL STAFF)

The qualifying individual should become familiar with the following sections of the Code of Federal Regulations (CFRs) as they are applicable to his/her area of expertise. After the qualifying individual's completion of the self-study of the listed CFR Parts, he/she will discuss them with his/her supervisor. To the extent possible, the supervisor should emphasize recent application of various sections, new regulatory initiatives, and current industry issues.

			Employee	Supervisor	Date
I	10 CFR Part 71	"Packaging and Transportation of Radioactive Material" (~54 pages)	_____	_____	_____
I	10 CFR Part 72	"Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor - Related Greater than Class C Waste" (~58 pages)			
B	10 CFR Part 20	"Standards for Protection Against Radiation" – Overview of Subparts A Through K (~27 pages)	_____	_____	_____
F	10 CFR Part 2	"Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders" or On-line Training - Overview of Types of Hearings and 2.390	_____	_____	_____
F	10 CFR Part 21	"Reporting of Defects and Noncompliance" (~7 pages)	_____	_____	_____
F	10 CFR Part 51	"Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions" – Overview of Sections 1, 21-22, 25-35, 45, and 70 (~10 pages)	_____	_____	_____

CARD 3
NMSS/NRC MANAGEMENT DIRECTIVES
(ALL STAFF)

The first-line supervisor should select some currently applicable NRC Management Directive (MD) references and discuss the application of the selected NRC MDs with the qualifying individual. (The first line supervisor should also discuss where MDs are located including how to access these documents in NRC's internal website.) These references should include those listed below and be documented. The qualifying individual should be expected to have a general knowledge of the topics addressed in the references. He/she may learn the information by studying, study-quizzes, briefings, or discussions. The selection should include:

		Employee	Supervisor	Date
B NRC MD 10.131	"Protection of NRC Employees Against Ionizing Radiation" (76 pages)	_____	_____	_____
F NRC MD 3.1	"Freedom of Information Act" (97 pages)	_____	_____	_____
F NRC MD 3.5	"Attendance at NRC Staff - Sponsored Meetings" (50 pages)	_____	_____	_____

(Management directives can be found in the following link in NRC's internal website: http://www.internal.nrc.gov/ADM/DAS/cag/Management_Directives/index.html.)

CARD 4
NMSS/SFST ORIENTATION READING
(ALL STAFF)

The qualifying individual's supervisor should discuss these policies and practices with the employee to ensure that he/she has a general understanding of the material.

General Overview

	Employee	Supervisor	Date
F "Enforcement Policy" (Introduction and Purpose) (2 pages) (http://www.nrc.gov/about-nrc/regulatory/enforcement/enforc-pol.pdf)	_____	_____	_____

SFST Reading

	Employee	Supervisor	Date
B "SFST Office Instructions" (ADAMS Document Manager Folder: "NMSS/NMSS-SFPO/Office Instructions")	_____	_____	_____
F "U.S. DOT/NRC Memorandum of Understanding," dated 7/02/79 (FRN 44FR38690) (9 pages)	_____	_____	_____
F "U.S. OSHA/NRC Memorandum of Understanding" (see IMC 1007, "Interfacing Activities Between Regional Offices of NRC and OSHA," and http://r12k3web.nrc.gov/dnms/Training/MOU06_2003.htm)	_____	_____	_____

NRC Inspection Manual Chapter

	Employee	Supervisor	Date
F IMC 1201 "Conduct of Employees" (35 pages)	_____	_____	_____

CARD 4
NMSS/SFST ORIENTATION READING
(ALL STAFF)
(CONT.)

The qualifying individual's supervisor should discuss these policies and practices with the employee to ensure that he/she has a general understanding of the material.

Policy and Procedures Letters

The following NMSS' Policy and Procedure Letters (P&PLs) should be discussed with the qualifying individual to develop a general understanding of NMSS as an organization and to familiarize the individual with general tasks that the staff performs. (The first line supervisor should also discuss where P&PLs are located in ADAMS.)

		Employee	Supervisor	Date
F P&PL1-13	"Signature Level on NMSS Correspondence" (Revised Nov99, 1 page) (ML032180768)	_____	_____	_____
F P&PL1-28	"Preparation of Responses to Congressional Inquiries" (01/1993; 1 page) (ML032230067)	_____	_____	_____
F P&PL1-39	"Review of Speeches, Papers and Journal Articles Revised" (Sept 99; 2 pages) (ML032240298)	_____	_____	_____
F P&PL1-84	"10 CFR Part 72 Backfit Guidance for NMSS" (11/6/04; 45 pages) (ML040330332, ML050350399)	_____	_____	_____
F P&PL1-85	"Handling Requests to Withhold Proprietary Information from Public Disclosure" (3/3/05; 15 pages) (ML050340352)	_____	_____	_____

CARD 5
REGULATORY GUIDANCE
(ALL STAFF)

The supervisor should select currently applicable regulatory guidance related to the individual's tasks. These references should include those listed below and should be documented. The qualifying individual should be expected, as appropriate, to have a general knowledge of the topics in the references. The level of knowledge of standard review plans (SRPs) may be caveated with respect to PMs and TRs roles. In terms of SRPs, PMs and TRs will need in-depth knowledge of some chapters, and familiarity with others. The individual can review the topics by self-study, study-quizzes, briefings, or discussions.

10 CFR Part 71

			Employee	Supervisor	Date
I	NUREG-1609	"SRP for Transportation Packages for Radioactive Material" - Selected Portions (149 pages)	_____	_____	_____
I	NUREG-1617	"SRP for Transportation Packages for Spent Nuclear Fuel" - Selected Portions (162 pages)	_____	_____	_____
F	NUREG/ CR-5502	"Engineering Drawings for 10 CFR 71 Package Approvals" http://www.rampac.com/NRCinfo/NUREG_5502.pdf	_____	_____	_____
F	IAEA Safety Standard, No. TS-R-1 2005	"Regulations for the Safe Transport of Radioactive Material [Types B(U) and B(M) Only] - IAEA Safety Standards Section I; Section VI – pages 81-83; 86; 89-92; Section VII – pages 99-105; 108 (top); Section VIII – pages 111-126, general (~48 pages)	_____	_____	_____
F	RAMREG-XXX-XX (formerly RAMREG-001-98)	"Radioactive Material Regulations Review" (U.S.DOT) - Sections I-V, and X-XII (~57 pages)	_____	_____	_____

CARD 5
REGULATORY GUIDANCE (CONT.)
(ALL STAFF)
(CONT.)

10 CFR Part 72

			Employee	Supervisor	Date
I	Regulatory Guide 3.72	"Guidance for Implementation of 10 CFR 72.48, Changes, Tests, and Experiments" (7 pages) (ML010710153)	_____	_____	____
I	NUREG-1536	"SRP for Dry Cask Storage Systems"-Selected Portions (232 pages)	_____	_____	____
I	NUREG-1567	"SRP for Spent Fuel Dry Storage Facilities"- Selected Portions (410 pages)	_____	_____	____
I	NUREG 1745	"Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance"	_____	_____	____
F	NUREG 1748	"Environmental Review Guidance for Licensing Actions Associated with NMSS Programs" - Introduction	_____	_____	____

Interim Staff Guidance

		Employee	Supervisor	Date
I	Interim Staff Guidance (ISG) memoranda (Selected Reading) (http://www.nrc.gov/reading-rm/doc-collections/isg/spent-fuel.html) (B for PMs)	_____	_____	____

CARD 5
REGULATORY GUIDANCE (CONT.)
(ALL STAFF)
(CONT.)

Quality Assurance (if applicable – Rules, Inspections, and Operations Branch only)

			Employee	Supervisor	Date
F	Regulatory Guide 7.10	"Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material" (28 pages) – ML050540330	_____	_____	____

Generic Communications

		Employee	Supervisor	Date
F	IN 91-039, "Compliance with 10 CFR Part 21, Reporting of Defects and Noncompliance" (4 pages)	_____	_____	____
F	IN 95-029, "Oversight of Design and Fabrication Activities for Metal Components Used in Spent Fuel Dry Storage Systems" (4 pages)	_____	_____	____
F	IN 97-051, "Problems Experienced Loading and Unloading Spent Nuclear Fuel Storage and Transportation Casks" (5 pages)	_____	_____	____
F	IN 97-057, "Leak Testing of Packaging Used in the Transport of Radioactive Material" (4 pages)	_____	_____	____
F	IN 99-029, "Authorized Contents of Spent Fuel Casks"(1-2 pages)	_____	_____	____
F	IN 2004-13, "Quality Assurance of Transportation Packages" (9 pages)	_____	_____	____
F	IN 2005-10, "Changes to Part 71 Packages" (3 pages)	_____	_____	____

CARD 5
REGULATORY GUIDANCE (CONT.)
(ALL STAFF)
(CONT.)

Generic Communications

		Employee	Supervisor	Date
F	RIS 2006-22 “Lessons Learned from Recent 10 CFR Part 72 Dry Cask Storage Campaigns” (10 pages)	_____	_____	____
F	RIS 2007-09, “Examples of Recurring Requests for Additional Information (RAIs) for 10 CFR Part 71 and 72 Applications” (20 pages)	_____	_____	____
B	RIS 2005-27, Rev. 1, “NRC Timeliness Goals, Prioritization of Incoming License Applications and Voluntary Submittal of Schedule for Future Actions for NRC Review” (9 pages)	_____	_____	____
F	BL 96-04, “Chemical, Galvanic, or Other Reactions in Spent Fuel Storage and Transportation Casks” (9 pages)	_____	_____	____

CARD 6
FORMAL TRAINING
(ALL STAFF)

A. CORE TRAINING

	Employee	Supervisor	Date
"Site Access Training" (H-100) or "NMSS Radiation Worker Training" (H-102)	_____	_____	____

B. SPECIALIZED TRAINING

Other specialized training and/or courses required for PMs or TRs in performing regulatory activities in specific areas.

CARD 7
DIRECTED CASE STUDY

Complete the Directed Case Study card as applicable to PMs or TRs. At the completion of the assignment, lessons learned should be discussed with the experienced PM and/or supervisor. These tasks can be performed either individually or in groups of two or three individuals, depending on the availability of case studies.

A. PROJECT MANAGERS

Job Performance Measures

Perform one (1) project management assignment under the oversight of an experienced PM.

_____
Project Manager

B. TECHNICAL REVIEWER

DISCIPLINE: _____

Job Performance Measures

Perform at least one technical review that is moderate to complex in nature, either related to 10 CFR Part 71, or to 10 CFR Part 72. The individual should lead the development of a request for additional information (RAI), a safety evaluation report (SER), and other interactions with the applicant, as appropriate. The review should be performed under the oversight of the appropriate technical specialty individual and/or supervisor, in the employee's assigned technical discipline. As appropriate, within certain technical disciplines, the supervisor may require completion of additional technical reviews (or portions) to qualify the individual for review methods and acceptance criteria that may be unique to either a Part 71 or Part 72 licensing action.

_____
Supervisor or Assignee

Participate in, and assist, the licensing process, from the receipt of a licensing request (e.g., developing schedules, arranging meetings, coordinating reviews, briefing and updating management documentation; new package and new certificate of compliance application request; and/or amendment to an existing certificate of compliance) by working with an experienced PM.

_____
Project Manager

CARD 8
INSPECTION ACCOMPANIMENTS
(ALL STAFF)

The qualifying individual should accompany staff on at least one site visit or inspection of a fabrication facility or certificate holder. These tasks can be performed either individually or in groups, depending on the availability of site visits or inspections. The following is a guide for material that the individual may discuss, as applicable, with the lead staff member of the site visit or lead inspector before/after/during the accompaniment:

1. Type of facility
2. Applicability to staff's duties
3. Logistics (e.g., scheduling and preparation of site visits or inspections)
4. Inspection program
    a. Entrance and exit interviews
    b. Accumulation of data
    c. Importance of inspection procedures and reports (e.g., Form 591S)
5. Post-site visit or post-inspection activities

The individual's supervisor may also discuss these items, as appropriate, after the accompaniment.

Record of Accompaniments

Location/Facility: _____

Date(s): _____

Type (71/72): _____

Successful Completion: _____
Staff Member/Supervisor

CARD 9
REVIEW OF DISCIPLINE-SPECIFIC DOCUMENTATION
WORK GROUP SPECIALTY TRAINING

The following signature cards contain the specialty training requirements for the following technical branches in SFST:

Structural, Mechanics, and Materials Branch (SMMB)

Criticality, Shielding, and Dose Assessment Branch (CSDAB)

Thermal and Containment Branch (TCB)

Work group specialty training is performed in addition to the requirements in qualification cards 1 through 8. 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.

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/security assessment 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 individual, 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. To the extent practical, knowledge of some of the required documents may be demonstrated, in part, through discussion and completion of the job performance measures described in Card 7. For each specialty card, the technical reviewer should have an appropriate level of knowledge (as marked) of the following documents, in order to be qualified to independently perform technical reviews in that area for his or her grade level.

CARD 9A
CONTAINMENT/CONFINEMENT

			Employee	Supervisor	Date
I	NUREG/ CR-6487	"Containment Analysis for Type B Packages with Various Contents"	_____	_____	_____
I	ANSI N14.5	"Leakage Tests on Packages for Shipment"	_____	_____	_____
B	ASME, Section III, Division 3	"Containment Systems and Transport Packaging"	_____	_____	_____
B	ANSI N14.1	"UF_6 Packages"	_____	_____	_____
F	Regulatory Guide 1.145	"Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants"	_____	_____	_____
F	Regulatory Guide 7.4	"Leakage Tests on Packages for Shipment of Radioactive Material"	_____	_____	_____
F	NUREG 1736	"Consolidated Guidance: 10 CFR Part 20, Standards for Protection Against Radiation"	_____	_____	_____

Training Courses.

ORIGEN - ARP/TRITON Course (F368) _____ _____ _____

CARD 9B
CRITICALITY

			Employee	Supervisor	Date
I	NUREG/ CR-5661	"Recommendations for Preparing Criticality Safety Evaluations of Transportation Packages"	_____	_____	_____
I	ANSI/ANS-8.1	"Nuclear Criticality Safety in Operations with Fissionable Material Outside Reactors"	_____	_____	_____
I	ANSI/ANS-8.15	"Nuclear Criticality Control of Special Actinide Elements"	_____	_____	_____
I	ANSI/ANS-8.17	"Handling, Storage, and Transport of LWR Fuel Outside Reactors"	_____	_____	_____
B	NUREG/ CR-6361	"Criticality Benchmark Guide for Light-Water Reactor Fuel in Transportation and Storage Packages"	_____	_____	_____
B	NUREG/ CR-6686 (ORNL/TM-1999/322)	"Experience with the Scale Criticality Safety Cross-Sections Libraries"	_____	_____	_____
B	ANSI/ANS-8.21	"Fixed Neutron Absorbers"	_____	_____	_____
B	NEA/NCS/ DOC (95)03	"International Handbook of Evaluated Criticality Safety Benchmark Experiments"- NEA Nuclear Science Committee	_____	_____	_____
F	10 CFR Part 50	"Domestic Licensing of Production and Utilization Facilities" - Overview of Section 59 and Appendix B (Section 68; Criticality only) (~6 pages)	_____	_____	_____
F	NUREG/ CR-6328 (ORNL/TM-12970)	"Adequacy of the 123-Group Cross-Section Library for Criticality Analyses of Water-Moderated Uranium Systems"	_____	_____	_____

CARD 9B
CRITICALITY
(CONT.)

Training Courses

	Employee	Supervisor	Date
I SCALE Training Course (e.g., KENO-5, KENO-6)	_____	_____	_____
I MCNP Training Course	_____	_____	_____

CARD 9C
MATERIALS

			Employee	Supervisor	Date
B	ASME B&PVC Section II, Part C	"Specifications for Welding Rods Electrodes, and Filler Metal"	_____	_____	_____
F	NUREG/ BR-1815	"Recommendations for Protecting Against Failure by Brittle Fracture in Ferritic Shipping Containers…"	_____	_____	_____
F	NUREG/ CR-5502	"Engineering Drawings for 10 CFR 71 Package Approvals" http://www.rampac.com/NRCinfo/NUREG_5502.pdf	_____	_____	_____
F	ASME B&PVC Section II, Part D	"Material Properties"	_____	_____	_____
F	ASTM Specifications	(Supervisor selected reading)*	_____	_____	_____
F	ACI-318-XX	"Building Code requirements for Structural Concrete"	_____	_____	_____

Training Courses

ASM: "Stainless Steels"	_____	_____	_____
NACE: "Basic Corrosion"	_____	_____	_____

* The level of understanding [i.e., familiarity (F), basic (B), or in-depth (I)] will depend on the section selected by the supervisor for self-study.

CARD 9D
SHIELDING/RADIOLOGICAL PROTECTION/SECURITY ASSESSMENT

			Employee	Supervisor	Date
I	NUREG/ CR-6802	"Recommendations for Shielding Evaluations for Transport and Storage Packages"	_____	_____	_____
I	ANSI/ANS 6.1.1	"Flux to Dose Rate Conversion Factors"	_____	_____	_____
I		"Supplement to the Communication Plan for the Security Assessment of Materials and Research and Test Reactor Licensees" (ML070890305)	_____	_____	_____
I		"Guidance for Security Assessments of Storage and Transportation of Radioactive Material" (ML073110136)	_____	_____	_____
B	10 CFR Part 835	"Occupational Radiation Protection"	_____	_____	_____
B	Regulatory Guide 8.8	"Information Relevant to Ensuring the Occupational Radiation Exposures at Nuclear Power Stations Will Be As Low As Reasonably Achievable"	_____	_____	_____
B	ANSI N14.1	"UF_6 Packages"	_____	_____	_____
F	49 CFR Part 173	"Shippers - General Requirements for Shippers," Subpart I	_____	_____	_____
F	40 CFR Part 190	"Radiation Protection Programs"	_____	_____	_____
F	Regulatory Guide 8.10	"Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As Reasonably Achievable"	_____	_____	_____
F	NUREG 1736	"Consolidated Guidance: 10 CFR Part 20-Standards for Protection Against Radiation"	_____	_____	_____

CARD 9D
SHIELDING/RADIOLOGICAL PROTECTION/SECURITY ASSESSMENT
(CONT.)

Training Course

	Employee	Supervisor	Date
I "Shielding Code Training Code" (e.g., MCNP, SCALE)	_____	_____	____

CARD 9E
STRUCTURAL

			Employee	Supervisor	Date
I	NUREG/ CR-5502	"Engineering Drawings for 10 CFR 71 Package Approvals" http://www.rampac.com/NRCinfo/NUREG_5502.pdf	_____	_____	_____
B	Regulatory Guide 3.60	"Design of an ISFSI (Dry Storage)"	_____	_____	_____
B	Regulatory Guide 7.4	"Leakage Tests for Packages for Shipments of Radioactive Materials"	_____	_____	_____
B	Regulatory Guide 7.6	"Design Criteria for theStructural Analysis of Shipping Cask Containment Vessels"	_____	_____	_____
B	Regulatory Guide 7.8	"Load Combinations for the Structural Analysis of Shipping Casks for Radioactive Material"	_____	_____	_____
B	NUREG/ CR-1815	"Recommendations for Protecting Against Failure by Brittle Fracture in Ferritic Steel Shipping Containers Up to Four Inches Thick"	_____	_____	_____
B	NUREG/ CR-6007	"Stress Analysis of Closure Bolts for Shipping Casks"	_____	_____	_____
B	NUREG/ BR-0111	"Transporting Spent Fuel"	_____	_____	_____
B	ACI-318-XX, (As Directed)	"Building Code Requirements for Structural Concrete"	_____	_____	_____
F	NUREG/ CR-4554	"SCANS (Shipping Cask Analysis System) A Microcomputer-Based Analysis System for Shipping Cask Design Review"	_____	_____	_____
F	ASME Section III	"Containment Systems and Transport Packaging"	_____	_____	_____

	Employee	Supervisor	Date
F IN 97-057, “Leak Testing of Packaging Used in the Transport of Radioactive Material” (4 pages)	_____	_____	_____

Training Course

	Employee	Supervisor	Date
Introduction to ANSYS	_____	_____	_____

CARD 9F
THERMAL

			Employee	Supervisor	Date
B	NUREG/ CR-6886, Rev. 1 PNNL-15313	"Spent Fuel Transportation Package Response to the Baltimore Tunnel Fire Scenario"	_____	_____	_____
B	NUREG/ CR-6894, Rev. 1 PNNL-15364	"Spent Fuel Transportation Package Response to the Caldecott Tunnel Fire Scenario"	_____	_____	_____
B	"CFD Analysis and Validation for Ventilated Concrete Cask," Internal Report, for Official Use Only, Prepared for SFST by Office of Nuclear Regulatory Research (ML0729505470)		_____	_____	_____
F	Regulatory Guide 3.54	"Spent Fuel Heat Generation in an Independent Spent Fuel Storage Installation"	_____	_____	_____
F	ASTM E 2230-02	"Standard Practice for Thermal Qualification of Type B Packages or Radioactive Material"	_____	_____	_____
F	PNNL-14962	"Analysis Package for the Transnuclear TN-24P Cask" (ML0506106170)	_____	_____	_____
F	PNNL-14930	"Analysis Package for the VSC-17 Ventilated Concrete Cask" (ML0506106360)	_____	_____	_____
F	PNNL-14863	"Analysis Package for the CASTOR-V/21 Cask" (ML0506106460)	_____	_____	_____
F	"Spent Nuclear Fuel Effective Thermal Conductivity Report," July 11, 1966. Prepared for the Department of Energy by TRW Environmental Safety Systems		_____	_____	_____
F	"The TN-24P Spent Fuel Storage Cask: Testing and Analyses," EPRI NP-5128, PNL-6054, UC-85 (April 1987)		_____	_____	_____

CARD 9F
THERMAL
(CONT.)

	Employee	Supervisor	Date
Training Courses (any TWO of the listed courses)			
“Introduction to FLUENT/GAMBIT”	_____	_____	_____
“Introduction to ANSYS/ICEM-CFD Course”	_____	_____	_____
“Introduction to STAR-CCM+/STAR-CD Course”	_____	_____	_____

Revision History for IMC 1246 B06, Attachment 1

Commitment Tracking Number	Issue Date	Description of Change	Training Needed	Training Completion Date	Comment Resolution Accession Number
N/A	05/25/06	Added additional guidance for qualification board conduct and documentation	N/A	N/A	N/A
N/A	09/24/08 CN 08-027	Complete rewrite of IMC 1246 A06 and change title name. IMC 1246 A06 was also divided into two qualification journals (i.e, SFST project managers and technical reviewers, and SFST inspectors). A total of four documents were created during this revision; attachments were created within IMC 1246 A06 and new titles were assigned to these attachments. The section and title of this document should be the following: IMC 1246 B06, Attachment 1, “Office of Nuclear Material Safety and Safeguards Qualification Journal for Spent Fuel Storage and Transportation Project Manager and Technical Reviewer”	N/A	N/A	ML081280089