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9. CONDUCT OF OPERATIONS

This chapter describes the organization and general plans for operating the FSV ISFSI. The organization section includes a brief description of the responsibilities of key personnel. The training program for the facility staff is described. The Emergency Plan, Decommissioning Plan and the Physical Protection Plan are described. Procedures that govern routine operations and maintenance and the records developed as a result of those operations are also discussed.

9.1 Organizational Structure

9.1.1. Corporate Organization

The Manager of DOE-ID is authorized to be the license holder for the FSV ISFSI (materials license SNM-2504). This authority was delegated and responsibility was assigned to the DOE-ID Manager by the Secretary of Energy pursuant to 10 CFR 72.16(b) (Ref.1) in Delegation Order No. 10CFR72.512.1. As the facility owner and licensee, DOE retains ultimate responsibility for the safe operation of the facility and for compliance with all license conditions.

9.1.2. Corporate Functions, Responsibilities, and Authorities.

The Manager of DOE-ID is the authorized DOE representative having direct authority and responsibility for compliance with the FSV ISFSI License. The Manager of DOE-ID is responsible for overall executive management of the Idaho Operations Office, has signature authority for the FSV ISFSI license, and is the person ultimately responsible for compliance with the facility's license conditions and overall facility nuclear safety. The Manager of DOE-ID shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the facility to ensure nuclear safety and compliant operations. The responsibilities of the personnel reporting directly to the Manager of DOE-ID, as depicted in Figure 9.1-1, are described below.

The responsibility of the Deputy Manager for Idaho Cleanup Project (ICP) is the overall execution of EM-funded programs and operations at the INL, under which spent nuclear fuel storage (including NRC-licensed ISFSI operations) falls. The actual day-to-day execution of programs and operations associated with the NRC-licensed ISFSIs is performed by a contractor. The Deputy Manager for ICP and staff provide management direction and oversight of contractor performance in accordance with DOE-ID's Quality Assurance Program and commitments herein.

The Deputy Manager for Operations Support is independent of facility line management and is responsible for environmental protection, safety, health, quality assurance, and security. This Office provides DOE-ID oversight of the contractor for licensed activities, independent of the ICP organization.

The responsibility for developing the appropriate revisions to the contract is delegated to the Assistant Manager for Administration Services.

9.1.2.1. Applicant's In-House Organization.

This section continues the description of DOE-ID's organization, as depicted in Figure 9.1-1. The responsibility for DOE-ID's role of providing direction to the contractor for spent fuel management lies with the Deputy Manager for Idaho Cleanup Project. Oversight of the EM owned spent fuel management facilities and activities, including the NRC-licensed ISFSIs, is delegated by the Deputy Manager for ICP to the Assistant Manager for Facility and Material Disposition.

Reporting directly to the Assistant Manager for Facility and Material Disposition is the FSV Facility Director, who is responsible for the oversight of the contractor to ensure that approved requirements and performance objectives are met for the FSV ISFSI. The FSV Facility Director has an alternate, designated in writing, who meets the training and qualification requirements specified below for the Facility Director. The FSV Facility director has direct access to the Manager of DOE-ID on issues affecting the safety and surety of ISFSI operations.

Also reporting to the Assistant Manager for Facility and Material Disposition through the Materials Disposition Project Team Leader is the NRC Licensing Manager. The Licensing Manager is responsible for the preparation and submittal of license applications (including any necessary amendments thereto), timely response to NRC communications and inquiry, and providing other licensing and interface support to the FSV Facility Director.

The responsibility for oversight of both the contractor's QA Program for the NRC-licensed ISFSIs as well as the DOE-ID oversight program of the ISFSI operations is delegated through the Deputy Manager for Operations Support and Assistant Manager for Operational Support to the Quality and Safety Director. The Quality and Safety Director delegated the responsibility for QA oversight of the ISFSIs to the ISFSI Quality Assurance (QA) Manager. The roles and responsibilities of the ISFSI QA Manager are further described in Chapter 11 of this SAR. As with the FSV Facility Director, the ISFSI QA Manager has direct access to the Manager of DOE-ID on issues affecting the safety and surety of ISFSI operations.

9.1.2.2. Interrelationships with Contractors and Suppliers.

The DOE utilizes a contractor for the FSV ISFSI activities. The authority for the management and operation of the facility is contractually delegated and the responsibility for compliance with license requirements and applicable regulations is contractually assigned to the contractor. To exercise DOE's ultimate responsibility, DOE will: (1) retain responsibility for and perform independent audits of the contractor's FSV ISFSI Quality Assurance program (both the achievement of quality by contractor management and the verification of quality by contractor QA personnel), (2) ensure the license requirements for the facility are included in the contract, (3) assess the performance of the contractor against the terms of the contract, (4) retain the responsibility to budget funds necessary and sufficient to safely operate the facility, and (5) retain the authority to revise the contract in the event contract deficiencies are found relative to proper implementation of license requirements.

The key relationships between DOE-ID's FSV Facility Director, TMI/FSV Licensing Manager, and ISFSI QA Manager and its contractor are also depicted in Figure 9.1-1.

9.1.2.2.1. ISFSI Oversight Program

The Facility Director is the day-to-day management DOE-ID employee responsible for the compliance of FSV ISFSI operations. Although not in residence at the FSV ISFSI, the FSV Facility Director shall maintain routine electronic and verbal communication with the facility staff.

The FSV Facility Director shall visit the FSV ISFSI at least twice a year for the purpose of verification or audit of FSV ISFSI compliance with regulatory requirements and license basis commitments, to communicate in person with facility staff, and to apprise DOE-ID management of FSV ISFSI status based on observations.

The FSV Facility Director or alternate shall be present during significant operational or maintenance evolutions, emergency exercises, and announced NRC inspections. Surveillances of these activities will be performed. During prolonged evolutions, the FSV Facility Director shall be present during initial activities and at least monthly thereafter.

The DOE-ID FSV Facility Director or alternate shall perform surveillances of the contractor's ALARA Committee and the ISFSI Safety Review Committee and shall be an ex officio member (and is a quorum requirement) of these committees when they meet to review ISFSI matters to ensure these committees' functions are satisfactory and to report to DOE-ID management as needed. (See Section 9.1.3.1.1 for the duties of the ISFSI Safety Review Committee.)

The DOE-ID FSV Facility Director or alternate shall review the results of management assessments performed for the following contractors' programs: training, security, emergency, quality assurance, and radiation protection.

The DOE-ID FSV Facility Director or alternate shall review and concur with all of the following:

- All 10 CFR 72.48 evaluations and TS Basis evaluations (TS 5.5.1) for the FSV ISFSI
- 10 CFR 72.44(e) – Physical Protection Plan evaluations, 10 CFR 72.44(f) – Emergency Plan evaluations, and evaluations of changes to DOE-ID's other essential programs (TS 5.5.2)
- Changes to TS Bases
- All changes to the SAR
- 10 CFR 72.70 SAR update
- Nuclear Material Status Reports (submitted electronically)
- Annual environmental report
- Other reports which may be submitted to NRC in response to conditions or events which are not submitted by the Manager of DOE-ID.

9.1.2.3. Applicant's Technical Staff.

The DOE Idaho Operations Office has a technical staff representing several areas of expertise with the wide variety of projects and activities at the INL. This staff is available to assist the management and oversight of the activities at the FSV ISFSI. Staff assigned to assist the management and oversight in the areas of security, radiation protection, emergency preparedness, and quality assurance are trained and qualified in accordance with Licensing Management Procedures, or perform work directly under the supervision of the FSV Facility Director.

9.1.3. Operating Organization, Management, and Administrative Control System

The operating organization, line management, and administrative control systems are provided by DOE's contractor personnel. The DOE and its contractor commit to provide the NRC with ready access to the FSV ISFSI, personnel, and records that NRC considers necessary to carry out its responsibilities.

DOE-ID has assigned responsibility and delegated authority for the management and operation of the facility to the contractor. DOE-ID policy requirements for operating the FSV ISFSI are assigned to the contractor through the contract. Specifically, the contract requires the contractor to conduct work at the FSV ISFSI in compliance with all applicable:

- Human health and safety regulations,
- Environmental regulations,
- NRC regulations and license conditions, and
- Quality assurance requirements.

DOE-ID commits to providing a contractor with management and staff for routine operation and maintenance of the FSV ISFSI and support organizations to implement DOE's program commitments in quality assurance, security, training, radiological protection, environmental monitoring, and spent fuel accountability.

9.1.3.1. Onsite Organization.

The contractor corporate structure provides the necessary organizations for operating the FSV ISFSI. The contractor organization supports the missions at the INL, not all of which are applicable to the management and operation of the ISFSI. The following organizational descriptions document the organizations necessary to manage the FSV ISFSI.

The contractor's chief executive officer is responsible for overall management of contractor activities and is accountable for complying with the contract conditions. Authorities are delegated and resources are provided to manage the FSV ISFSI in the areas of emergency preparedness, engineering, environmental management, operations, maintenance, quality assurance, radiological control, safety and health, training, and transportation. In addition to the

interfaces shown on Figure 9.1-1 contractor personnel assigned to the above functions maintain interfaces with their functional counterparts at DOE-ID.

Reporting to the Manager of ISFSI Management are the FSV ISFSI Manager, the TMI-2 ISFSI Manager, and the Compliance Engineering Lead. Support staff for essential positions within the ISFSI Management department report to the FSV ISFSI Manager for services provided for the FSV ISFSI. The Manager of ISFSI Management also reports to the DOE-ID FSV Facility Director. This interface is the primary operations interface between DOE-ID and its contractor for the FSV ISFSI.

The Quality Assurance manager assigned to the FSV ISFSI reports to a level equal to or above the reporting level of the Manager of ISFSI Management. The Quality Assurance manager assigned to the FSV ISFSI also interfaces with the DOE-ID ISFSI QA Manager who is responsible for the FSV ISFSI QA Program (see Chapter 11).

9.1.3.1.1. ISFSI Safety Review Committee

Reporting to and chartered by a senior executive is the ISFSI Safety Review Committee. This committee is comprised of senior technical personnel and management personnel with extensive nuclear experience in various areas.

The purpose of this committee is to evaluate the performance of the staff level safety review committees, to review performance indicators (such as audit findings, reportable events and conditions, Technical Specification violations); to review 10 CFR 72.48 evaluations (and associated procedure or design changes); to review evaluations for the oil and gas program; to review evaluations in response to leaking FSCs; to review changes to the Technical Specification Bases, SAR, Emergency Response Plan, and Physical Protection Plan; to approve license amendment requests; and to review changes to the review preparations for major changes in operation (such as removing fuel from the ISFSI). The ISFSI Safety Review Committee shall also perform special reviews at the direction of the DOE-ID Facility Director.

Core members, appointed in writing by the chartering senior executive, provide the needed technical expertise in engineering, radiological control, criticality safety, nuclear facility operations and nuclear quality assurance; their technical qualifications are described in section 9.1.4.1 below. Other members may be appointed as considered appropriate by the chartering senior executive.

A quorum shall include 3 core members, the technical disciplines appropriate for the matters under review, and the DOE-ID FSV Facility Director

The DOE-ID FSV Facility Director is informed of all appointments to the Safety Review Committee.

9.1.3.2. Personnel Functions, Responsibilities, and Authorities.

The daily management of the ISFSI operation is provided by the FSV ISFSI Manager. The ISFSI Manager reports to the Manager of ISFSI Management. Assuring requirements are satisfied in the operation of the ISFSI is the responsibility of the ISFSI Manager.

Personnel on site at the FSV ISFSI report to the ISFSI Manager to ensure clear lines of authority. The ISFSI Manager, Facility Safety Officer (FSO), and the Security personnel are routinely stationed at the ISFSI. Other support personnel from the INL are periodically sent to the ISFSI and are either matrixed directly to the ISFSI Manager or the FSO while on site. The ISFSI Manager is responsible for maintaining the Operations log; this log will be used to note the performance of all significant on site activities and conditions not included in the Alarm Station log.

FSV staff-level committees include an ALARA Committee and staff level safety review committee(s) or board(s) responsible to review changes to license basis documents and any associated evaluations.

9.1.4. Personnel Qualification Requirements

The following DOE-ID positions require minimum qualifications and training for the management and oversight of the FSV ISFSI:

- ISFSI QA Manager
- FSV Facility Director and designated alternate

The following contractor positions require minimum qualifications and training for the operation of the FSV ISFSI:

- ISFSI Safety Review Committee members
- Manager of ISFSI Management
- FSV ISFSI Manager and designated alternate
- FSV Facility Safety Officer and designated alternate
- Security personnel
- Certified Fuel Handler
- Quality Assurance manager

9.1.4.1. Minimum Qualification Requirements.

In all of the positions below where an academic degree is required, the requirement for a degree may be replaced with an additional five years experience in the technical area (but not necessarily at supervisory level) specified for that position (for a total of ten years experience).

The ISFSI QA Manager shall have a minimum of a Baccalaureate degree in an engineering or physical science field and five years experience in nuclear quality assurance and certification as lead auditor. The minimum training for this position shall include 72.48 process, QA program indoctrination, NRC requirements, and the FSV ISFSI License Basis (consisting of the identification of and orientation to the license and design basis documents).

The FSV Facility Director shall have a minimum of a Baccalaureate degree in an engineering or physical science field and five years experience in nuclear facility operations. The minimum training for this position shall include 72.48 process, QA program indoctrination, Technical Specifications, NRC requirements, and the FSV ISFSI License Basis. The designated alternate for the FSV Facility Director shall meet the same minimum qualifications and training requirements.

The Chair, Members, and Alternates of the ISFSI Safety Review Committee (SRC) shall have a minimum of a Baccalaureate degree in an engineering or physical science field and five years experience in one or more of the following technical areas at nuclear facilities:

- Radiological Safety
- Nuclear Safety (with at least two years experience in criticality safety analysis)
- Nuclear Facility Operations
- Nuclear Quality Assurance
- Engineering

The minimum training for the Chair, Members, and Alternates of the ISFSI SRC shall include 72.48 process, QA program indoctrination, Technical Specifications, NRC requirements, and the FSV ISFSI License Basis.

The Manager of ISFSI Management shall have a minimum of a Baccalaureate degree in an engineering or physical science field and five years supervisory experience in nuclear facility operations. No minimum training requirements are associated with this position.

The FSV ISFSI Manager shall have a minimum of a Baccalaureate degree in an engineering or physical science field and five years supervisory experience in nuclear facility operations. The minimum training for this position shall include 72.48 Process, FSV ISFSI License Basis, Radiological Control Technician, Certified Protection Officer, Emergency Response, and Certified Fuel Handler. The designated alternate for the FSV ISFSI Manager shall meet the same minimum qualifications and training requirements.

The FSV Facility Safety Officer shall have a minimum of a Baccalaureate degree in an engineering or physical science field and five year supervisory experience in nuclear facility operations. The minimum training for this position shall include 72.48 Process, FSV ISFSI License Basis, Radiological Control Technician, Certified Protection Officer, Emergency Response, and Certified Fuel Handler. The designated alternate for the FSV Facility Safety Officer shall meet the same minimum qualifications and training requirements.

Security personnel shall meet the employment suitability and training requirements described in the FSV ISFSI Physical Protection Plan and its addendum, Security Training and Qualification Plan. Security personnel training includes implementation of emergency response duties.

The minimum qualifications for the position of Certified Fuel Handlers are a high school diploma and successful completion of the biennial medical examination. The position of Certified Fuel Handler requires training and certification in accordance with the requirements in section 9.3.

The minimum qualifications for the QA manager assigned to the FSV ISFSI are a Baccalaureate degree in an engineering or physical science field and five years experience in nuclear operations quality assurance. No minimum training requirements are associated with this position.

9.1.4.2. Qualifications of Personnel.

The resumes or other appropriate documentation of personnel occupying the positions listed in section 9.1.4.1 will be kept on file to demonstrate compliance with the minimum requirements described in section 9.1.4.1.

9.1.5. Liaison with Outside Organizations

Arrangements have been made with the following local agencies to provide support services related to ISFSI operations, security, environmental monitoring, and emergency response:

- Platteville Gilcrest Fire Protection District, Platteville, CO (Fire Protection/Ambulance Service)
- North Colorado Medical Center, Greeley, CO (Medical Treatment, Decontamination and Air Ambulance Service)
- Weld County Sheriff's Department, Greeley, CO (Security Assistance)
- Weld County Paramedic Service, Greeley, CO (Ambulance Service)

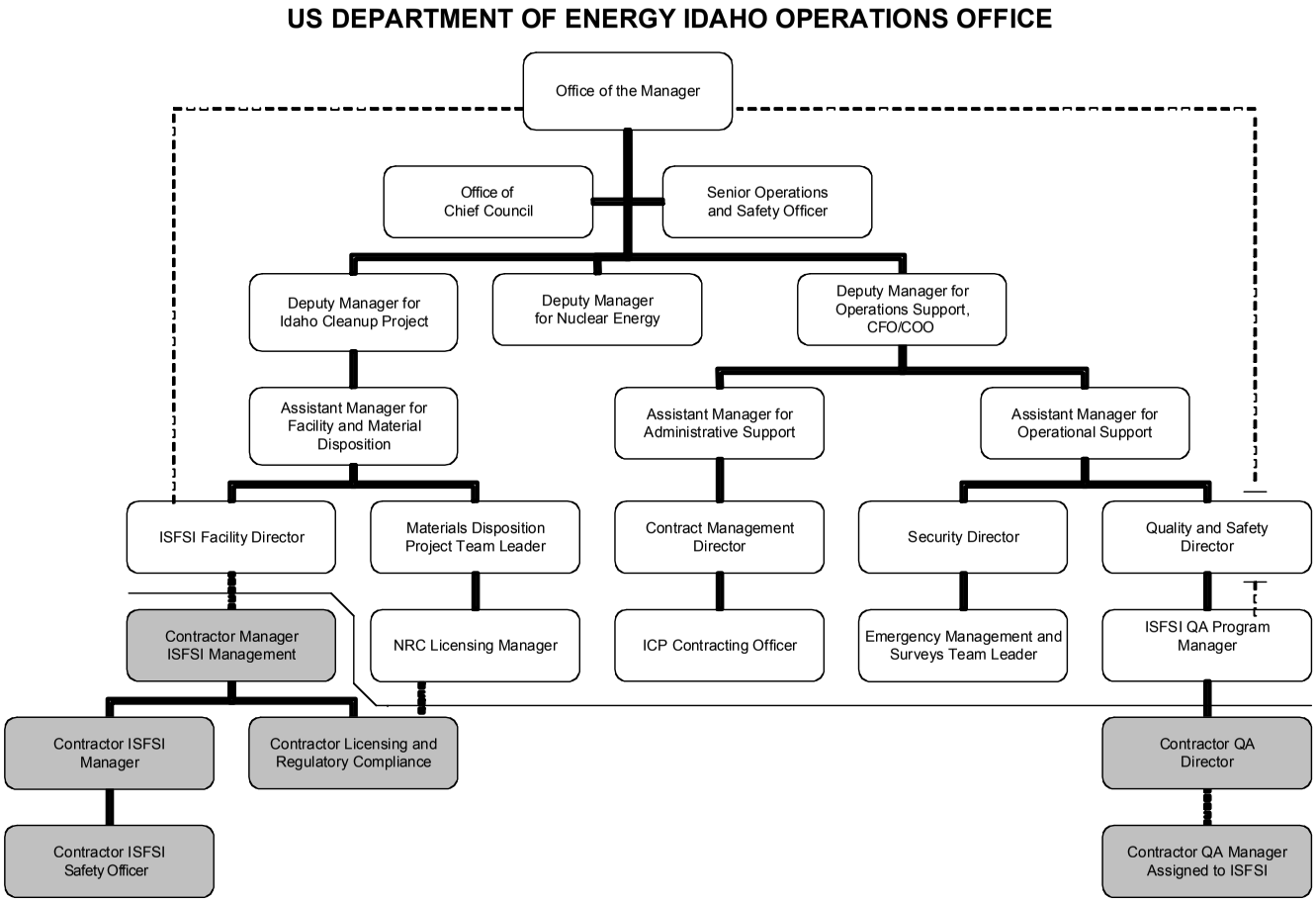

Figure 9.1-1 DOE-ID Organization

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9.2 Preoperational Testing Activities

For the existing, loaded FSV ISFSI, the only preoperatonal testing will be for the fuel movement.

9.2.1. Administrative Procedures for Conducting Fuel Movement

Training of selected INL personnel will be performed under the direction of FSV ISFSI staff as part of the FSV ISFSI fuel movement preparation program. Approval of procedures, performance of tests, evaluation of test results, and incorporation of any identified improvements (based on the results of the tests) will be performed by the FSV ISFSI contractor.

9.2.2. Fuel Movement Program Description

All maintenance and operations procedures will be used in the training effort to ensure assigned personnel are qualified to commence fuel movement operations. Table top exercises and drills will be used to ensure the technical staff and management are qualified to respond to credible emergencies and security events. An operational demonstration will be used to ensure the operability of FSV ISFSI equipment needed for responding to off-normal operations and accidents.

9.2.3. Fuel Movement Discussion

Implementation of the fuel movement program is discussed in the paragraphs which follow.

All routine maintenance and operation activities will be performed by assigned personnel under the direction of FSV ISFSI staff as a training exercise.

The FSV ISFSI staff will demonstrate spent fuel and container handling capabilities. A shipping cask will be used to remove an empty FSC. These demonstrations will require operation of the MVDS crane, the CHM, and other selected tools and fixtures

9.2.4. Component Operational Testing

To ensure continued operability of the FSV ISFSI MVDS and equipment, procedures describing inspections and functional checks have been developed and approved as procedures in accordance with the FSV ISFSI Quality Assurance Program. Procedures implementing FSV ISFSI Technical Specifications reference the appropriate Technical Specifications. Inspections and functional tests are performed by following these procedures.

Table 9.2-1 lists the component operational tests and when these tests are needed. The vendor specifications for testing of components, systems, and sequences are retained for future use as appropriate for equipment or components replaced. An operational test has been added for Fuel

Storage Container to list the requirement to purge and/or sample and analyze the air over the fuel for hydrogen before removing lids or before moving Fuel Storage Containers containing spent fuel.

Table 9.2-1 Component Operational Tests

Component	**Test**
MVDS Crane	Function check of controls and interlocks for long travel, cross travel, and hoist travel before each day of use.
	Weekly visual check of seismic restraint system to ensure engagement of restraint system.
Standby storage wells	Leak check of containment integrity before use.
SPHD 1	Function check of correct positioning on isolation valve before use.
SPHD 2	Function check of correct positioning on isolation valve before use.
CLUP and charge face isolation valve	Function check of controls and interlocks in conjunction with container handling machine and shield plug handling device before use.
Fuel storage container	Leak test of selected fuel storage containers when in storage position using special shield plug and MVDS leak test equipment every 5 years.
	Purge and/or sample/analyze the gas over the spent fuel to check the concentration of hydrogen before moving a fuel storage container or before removing a lid.

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9.3 Training Program

This section of the SAR comprises DOE's FSV ISFSI Training Program and is submitted pursuant to Subpart I of 10 CFR Part 72. The requirements of this FSV ISFSI Training Program are implemented by contractor procedures providing for the administration of training programs. A management assessment of the contractor's implementation of this training program shall be performed biennially. Changes which do not decrease the effectiveness of this program will be documented with annual SAR updates. Records will be retained for three years when changes are made to this training program without prior NRC approval.

The objective of this FSV ISFSI Training Program is to use a systematic approach to training to provide competent contractor personnel to perform all functions related to the operation and maintenance of the FSV ISFSI. The application of the systematic approach to training will use a graded approach, with the training of Certified Fuel Handlers subject to the most rigorous application.

This training program ensures that qualified individuals will be available to perform planned and unplanned tasks while protecting the health and safety of plant personnel and the public. DOE, through its contractor, commits to maintain additional training to support the emergency plan, physical protection plan, quality assurance plan, and administrative and safety requirements, as required. Procedures and lesson plans used to implement this training program will be developed and maintained by the contractor.

9.3.1. Administration

The Training Supervisor is responsible for the administration of training programs and for maintaining up-to-date records on the status of contractor trained personnel, training of new employees, and refresher or upgrade training of present personnel.

The FSV ISFSI Manager is responsible for ensuring that training requirements are specified for personnel assigned to support the FSV ISFSI. In this role, the ISFSI Manager or designee will approve all FSV specific lesson plans.

The FSV FSO is responsible for ensuring that training requirements have been satisfied for personnel assigned to the FSV ISFSI.

9.3.2. Records

The following records on the status of trained personnel will be maintained for a minimum of five years in accordance with Section 9.4.2 below:

- Results of each Certified Fuel Handler's (CFH) biennial medical examination.
- The completed records of certification.

9.3.3. Instructor Qualifications and Development

The contractor shall provide for and document the qualification and training of Training Staff.

9.3.4. Development of Training Material

The contractor shall maintain procedures providing for the analysis of jobs, design of initial and continuing training, development of instructional material, implementation (conduct of training), and evaluation (examinations, boards, performance demonstration, etc.) The development of training material shall be performed by qualified and trained staff. The contractor shall maintain all training materials, both academic lesson plans and On-the-Job training (OJT) guides, developed in accordance with this training program.

9.3.5. Training Improvement

The contractor shall provide for and document the evaluation of training programs in order to ensure the continued improvement of training material and the conduct of training.

9.3.6. Waivers of Training Requirements

Applications for waivers of training requirements shall be approved by the FSV ISFSI Manager or designee. Successful completion of equivalent training programs may be used as a basis for waiver from academic training requirements. This training should be comparable in content, performance criteria, and duration. Any information used in the evaluation for a waiver should be verified. Previous work experience may be used as a basis for waiver from OJT requirements.

9.3.7. Frequency of Training

Training requirements must be completed within the period specified in the sections below for General Employee Training and Certified Fuel Handlers Training; however, a grace period of 25% is allowed. Not completing the retraining requirements within the specified frequency will require completion of the initial training course in order to have qualification reinstated.

9.3.8. General Employee Training

General employee training will be provided to ISFSI certified fuel handlers and their direct supervision. Topics required for certified fuel handlers may be included in the generalized training.

The GET training program is composed of an initial training course and required annual retraining.

A score of <80% on the examination will require a retest. Individuals who write or review lesson plans or tests are excused from taking GET exams.

The GET course shall consist of material dealing with:

- Physical description of the FSV ISFSI (structural characteristics).
- Heat transfer design considerations, including engineering principles of passive cooling.
- Applicable regulations and standards.
- Radiological shielding.
- General FSV ISFSI information on building alarms, and access control.
- Emergency response.
- 10 CFR 19.12.

The annual retraining for GET will be composed of the topics covered in the Initial GET course. Additional topics may be added as needed.

9.3.9. Certified Fuel Handler Training

Detailed CFH and direct supervision training will be provided for the operations described in Section 5.1. CFH certifications are required for personnel performing and directly supervising fuel handling and transfers. (An exception is for uncertified personnel undergoing on-the-job training acting under the direct observation of certified personnel.)

The training for ISFSI personnel shall provide for initial testing of persons who operate equipment identified as Important to Safety and will also provide for retraining, proficiency testing, and requalification for ISFSI personnel as required. Certified Fuel Handlers will be actively maintained as necessary for the life of the ISFSI.

FSV ISFSI equipment and controls that have been identified as important to safety in this SAR and in the license shall be operated by either personnel who have been trained and certified in accordance with this section or who are under the direct visual supervision of a trained, certified individual.

Instructors designated to teach the CFH Certification Program shall possess a current CFH certification or sufficient subject matter expertise for a particular subject or topic. Instructors initially qualified will maintain qualifications by instructing classes, and administering or grading examinations and OJT guides, and preparing, reviewing, or revising CFH instructional material.

The CFH Training Program will consist of lesson plans and associated examinations in, but not limited to, the following topics, as applicable to personnel job functions:

- Fuel Characteristics
  - elementary nuclear theory
  - fuel element description/identification
  - fuel storage configuration
- Equipment, Component, and Design Description
  - crane
  - transfer cask load/unload port
  - isolation valves
  - shield plug handling devices
  - charge face/standby storage wells
  - container handling machine
  - fuel storage containers
  - utility supplies and systems ventilation system
  - equipment operational interlocks
  - shipping cask
- Regulations, Procedures, and Limitations
  - administrative control of CFH actions
  - description of events and sequence of fuel handling operations
  - identified applicable procedures and regulations including normal, emergency, and 10 CFR Part 72 related
  - Technical Specifications
- Accident Analysis, Emergency Systems, and Safety Devices
  - accident analysis from the FSV ISFSI SAR for off normal operations and accidents.
  - confinement barriers/systems

- FSV ISFSI cooling, equipment and instrumentation
- criticality prevention

- Radiological Protection
- General Organization

The CFH Training Program will include operational training (OJT) involving actual and/or mock control manipulations of the following:

- Container handling machine
- Isolation valves
- Shield plug handling devices
- Cask load/unload port
- Crane.

Manipulations will include CFH responses, instrumentation, indications, abnormal situations, corrective measures, alarms and annunciators, prerequisites, and procedures. Actual manipulation and operations are preferred to mock manipulations to the extent practicable based upon equipment availability.

The content of the recertification program will be determined prior to each annual recertification training. All OJT will be repeated biennially and approximately half of the total will be performed annually for recertification. The classroom material and written examinations associated with the OJT will be presented and completed prior to the OJT. Based on a job and task analysis, some parts of the training are identified as [pre-train] items. Training on pre-train items is only completed prior to doing the task. Additionally, classroom material will be presented as needed in order to convey pertinent modifications, procedure changes, regulatory changes, or other significant material in a timely manner.

Certification as a FSV ISFSI CFH is contingent upon meeting the following criteria: obtaining a score of $\geq$80% on all CFH academic examinations; and satisfactory performance of all OJT practical evaluations. A score of < 80% on any CFH academic examination will require retesting. A score of < 80% on the retest will constitute cause for dismissal from the CFH Training Program. A score of < 80% on any three initial academic examinations will constitute cause for dismissal from the CFH Training Program. Failure to demonstrate satisfactory performance of the OJT practical examinations will require retesting. Failure to demonstrate satisfactory performance of a second OJT practical examination will constitute cause for dismissal from the CFH Training Program.

The evaluation criterion for initial certification of CFHs shall not be waived; nor shall the evaluation criterion be waived for two or greater consecutive recertification cycles.

The physical condition and general health of certified personnel will be verified by physical examination before initial certification and biennially thereafter. These physical examinations consider conditions which might cause impaired judgement or motor coordination. In addition, if an employee's behavior or condition creates a hazard to health or safety, then stop work may be imposed.

9.3.10. Technical Support Positions

Training for the applicable support positions will include the administrative and management controls associated with ensuring compliance with the FSV ISFSI license conditions.

9.4 Normal Operations

9.4.1. Procedures

Detailed written procedures have been developed and maintained for the ISFSI operations, maintenance, surveillance, and testing described in Section 5.1. These procedures constitute the "procedures described in the SAR" associated with the requirements of 10 CFR 72.48.

The format and content of written procedures include

- purpose, scope, and applicability
- limitations and precautions
- prerequisites
- personnel (number and function) and equipment required
- detailed instructions (sequence, forms to be completed, acceptable conditions, actions if conditions aren't acceptable, records generated, approvals)

In addition, the periodic check of the metallic O-ring integrity incorporates the requirements of Section 11.11.

Maintenance of the written procedures is in accordance with Sections 11.5 and 11.6 as implemented by established INL management control procedures. The INL document control system provides written requirements for review, approval, revision, and controlled distribution of the written procedures.

9.4.2. Records

The following FSV ISFSI records are maintained:

- QA records relating to design, construction, testing, surveillance, operation, and maintenance of the ISFSI
- Decommissioning records
  - Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site.
  - As-built drawings and modifications of structures and equipment in restricted or inaccessible areas.
  - A list contained in a single document of all areas designated and formerly designated as restricted areas and all areas outside of restricted areas that require documentation due

to spread of contamination.

  - Records of the cost estimate performed for decommissioning.

- Security records
  - Records of changes to the Physical Protection Plan made without prior NRC approval
  - The Physical Protection Plan and the Safeguards Contingency Matrix
  - Other security records as specified in the Physical Protection Plan
- Training and certification/qualification records as specified by minimum training requirements in (Section 9.1.4.1 and 9.3)
- Changes, Tests and Experiments made without prior NRC approval, including the safety evaluations
- Spent fuel material records, including current inventory and material control and accountability procedures
- Emergency preparedness records as specified in the FSV ISFSI Emergency Response Plan
- ISFSI Safety Review Committee records
- Environmental monitoring records as specified in the FSV ISFSI Radiological Environmental Monitoring Program
- Records required by the operating, maintenance, and testing procedures described in Section 9.4.1

Copies of selected records are maintained at the FSV ISFSI Administration Building to facilitate interface with outside organizations. The records are maintained at the INL Idaho Falls Records Center in accordance with storage requirements

9.5 Emergency Planning

The FSV ISFSI Emergency Planning requirements are maintained in the FSV ISFSI Emergency Response Plan (ERP). The ERP does not cover detailed security related planning for the ISFSI. These events are accounted for in the FSV ISFSI Physical Protection Plan.

It has been determined that radiological consequences (see Section 8 for accident analyses) at the ISFSI will not exceed ALERT criteria. While no off-site emergency centers are necessary due to the projected radiological consequences, the following DOE resources are available in an emergency: (1) the INL WCC, (2) engineering and technical analysis personnel at the INL, and (3) radiation protection and dose assessment personnel from the INL or DOE Region 6 Radiological Assistance Program. Specific ISFSI emergency planning requirements have been identified in the ISFSI ERP.

Emergency plan exercises are conducted biennially at the FSV ISFSI, in accordance with the ERP.

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9.6 Decommissioning Plan

The proposed Decommissioning Plan, developed in accordance with NRC Regulatory Guide 3.65 (Ref. 2) and NUREG- 1757 (Ref. 3), describes the FSV Facility decommissioning activities and funding method to demonstrate that it can be safely and effectively decommissioned. The DOE will provide funding for decommissioning.

To facilitate decommissioning, the records required by 10 CFR 72.30(d)(l) through 72.30(d)(3) will be maintained as quality records until decommissioning is complete and the FSV Facility license is terminated.

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9.7 Physical Protection Plan

The purpose of the FSV ISFSI physical protection program is to establish and maintain a physical protection program that has the capabilities for the protection of spent fuel stored in the MVDS, in accordance with Subpart H, "Physical Protection," of 10 CFR Part 72 and applicable portions of 10 CFR Part 73.

The FSV ISFSI physical protection program is described in the Physical Protection Plan for the FSV ISFSI. This plan includes, as appendices, the FSV ISFSI Security Training and Qualification Plan, the Security Contingency Plan, and the Threat Analysis & Design for Physical Protection.

The FSV ISFSI Physical Protection Plan contains Safeguards Information, is controlled and protected in accordance with 10 CFR 73.21 (Ref. 4) and 10 CFR 2.790 (Ref. 5), and has been submitted for NRC review under separate cover.

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9.8 Aging Management Program

An assessment of the FSV ISFSI inspection and monitoring activities identified an existing activity necessary to provide reasonable assurance that a FSV ISFSI component within the scope of license renewal will continue to perform its intended functions consistent with the current licensing basis for the renewal period. The FSV ISFSI Aging Management Program involves monitoring the exterior surface of the MVDS concrete. It includes visual inspection of the accessible concrete (including below grade concrete, if exposed during excavation) and any exposed steel embedments and attachments. It also includes monitoring the area radiation and loose surface contamination levels at selected areas of the FSV ISFSI. Although this is primarily a condition monitoring program, it also includes preventive actions such as a weekly surveillance to ensure MVDS cooling inlet and outlet screens are not obstructed.

Subsequent to the aging management reviews conducted to support the license renewal application, a number of technical procedures used for the inspection and maintenance of several in-scope SSCs (FSC, SS, SSW, CHM Raise/Lower Mechanism, CHM FSC Grapple, CFS Structural Steel, CLUP, and MVDS Structural Concrete) have been enhanced to include more comprehensive inspection criteria, remote video inspection, tracking and trending of aging conditions, increased inspection frequencies, documentation, engineering evaluations and compliance with GEC Alsthom specifications. DOE-ID will implement all measures and enhanced procedures recommended in the aging management reviews and as committed in the response to the Request for Additional Information (RAI) following the license renewal application (Ref. 6). Additional commitments in the response to the RAI include repair and/or additional inspection of concrete and metal conditions exceeding second tier-criteria, as well as development of a concrete inspector training and qualification program in accordance with ACI 349.3R-02 (Ref. 7). These additional commitments will be completed prior to the next MVDS concrete inspection scheduled for June 2014.

A Time Limited Aging Analysis for the SSW indicates a wall thickness of 0.372 inches will remain after 50 years of atmospheric exposure. This thickness exceeds the minimum wall thickness of 0.0095 inches specified in the GEC Alsthom design calculation for SSW tube corrosion allowance. Although any further loss of material due to corrosion on the internal surfaces of the SSW is not an aging effect requiring management during the license renewal period, the seal integrity of the SSWs will be periodically tested.

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9.9 References

1. 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste."

2. US Nuclear Regulatory Commission (2008), Regulatory Guide 3.65, "Standard Format and Content of Decommissioning Plans for Materials Licensees"

3. US Nuclear Regulatory Commission (2006), NUREG-1757, "Consolidated Decommissioning Guidance: Decommissioning Process for Materials Licensees," Revision 2

4. 10 CFR Part 73, "Physical Protection of Plants and Materials."

5. 10 CFR Part 2, "Rules of Practice for Domestic Licensing and Issuance of Orders."

6. Docket No. 72-79 Response to Nuclear Regulatory Commission Request for Additional Information on the Fort St. Vrain Independent Spent Fuel Storage Installation Site Specific License (EM-FMDP-10-055), June 9, 2010

7. American Concrete Institute, 349.3R-02, Evaluation of Existing Nuclear Safety Related Concrete Structures, 2002

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