

Program Description Document

ISFSI Management Training and Administration Support

**Idaho
Cleanup
Project**

The Idaho Cleanup Project is operated for the
U.S. Department of Energy by CH2M ♦ WG Idaho, LLC

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NRC ISFSI	Program Description Document	For Additional Info: http://EDMS	Effective Date: 01/05/11
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Manual: INTEC NRC

Change Number: 331455

*The current revision can be verified on EDMS.

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1. PURPOSE

This Training Program Description Document (PDD) describes how the Department of Energy (DOE) contractor addresses the selection, qualification, and training requirements for contractor personnel for the Nuclear Regulatory Commission (NRC) Licensed TMI-2 and Fort St. Vrain (FSV) Independent Spent Fuel Storage Installations (ISFSI) and the Idaho Spent Fuel Facility (ISFF). This PDD is not applicable to training and qualification of DOE-ID personnel.

Training activities developed for this program uses a systematic approach to training to ensure job specific training is developed to provide competent contractor personnel to perform all functions related to the operation and maintenance of the TMI-2 and FSV ISFSIs and the ISFF. The application of the systematic approach to training will use a graded approach, with the training of certified positions subject to the most rigorous application.

The ISFSI and ISFF training programs ensures that qualified individuals will be available to perform planned and unplanned tasks while protecting the health and safety of facility personnel and the public. Additional training supports the emergency plan, physical protection plan, quality assurance plan, and administrative and safety requirements, as required.

2. INTERRELATIONSHIPS WITH CONTRACTOR PROCESSES

Procedures and lesson plans used to implement ISFSI and ISFF training programs are developed and maintained by the DOE contractor and are consistent with existing DOE contractor training procedures used for DOE operated facilities where applicable. However, use of existing contractor training procedures does not imply that the ISFSI and ISFF Training Programs are under the jurisdiction of the DOE. The ISFSIs and ISFF operate under the jurisdiction of the NRC and the training programs are implemented and conducted against the applicable ISFSI and ISFF license requirements. In circumstances where there is a conflict between NRC training program requirements and contractor training procedures (such as training exceptions and record storage requirements), the NRC requirements are implemented in accordance with Management Control Procedure (MCP)-3043, "ISFSI Management Department Training."

The contractor maintains 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.) Qualified and trained staff performs the development of training material. The contractor maintains all training materials, both academic lesson plans and On-the-Job training (OJT) guides, developed in accordance with ISFSI and ISFF training programs.

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3. TRAINING ADMINISTRATION

The training organization consists of a training coordinator, staff instructors, and utilizes contractor training administrative support personnel. The ISFSI and ISFF training coordinator primarily supports the ISFSI and ISFF operating organizations involved with storage operations.

The ISFSI and ISFF training coordinator is responsible to the Manager, ISFSI Management and to ISFSI and ISFF Managers 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 ISFSI and ISFF training coordinator is also responsible for implementing a systematic approach to training (SAT) methodology, which includes analyzing, designing, developing, implementing, and evaluating training programs.

The ISFSI and ISFF Managers are responsible for ensuring that training requirements are specified for personnel assigned to support their respective facilities. In this role, the ISFSI and ISFF Managers or designees will approve all ISFSI and ISFF specific lesson plans. The ISFSI and ISFF Managers are responsible to ensure that personnel indoctrination and training are completed prior to personnel performing work. At the FSV facility, the Facility Safety Officer is also responsible for ensuring that training requirements have been satisfied for personnel assigned to the FSV ISFSI.

All ISFSI and ISFF instructors are qualified in accordance with MCP-29, "Training Staff Qualification." Instructors are responsible for analyzing jobs/tasks, designing and developing courses, conducting classroom and practical training, and maintaining training programs for qualification, certification, requalification, recertification, and continuing training. Duties included ensure that:

- Training requirements for jobs and tasks are identified
- Training materials meet the minimum requirements for the job position
- Training materials are approved and up-to-date prior to use
- Training materials, equipment and facilities are adequately prepared to deliver training for initial and continuing training programs
- Examination/evaluation question banks are maintained and updated
- Examinations/evaluations are properly prepared and administered on time
- Qualification standards are developed and maintained.

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Instructors designated to teach the ISFSI and ISFF Certification Programs shall possess a current ISFSI/ISFF CFH or Operator certification or have sufficient subject matter expertise for a particular subject or topic. Instructors initially qualified will maintain qualifications by instructing classes, administering or grading examinations and performance evaluations, and preparing, reviewing, or revising certification program instructional material.

4. SUBCONTRACTOR PERSONNEL

Subcontractor personnel are typically used only at the Fort St. Vrain ISFSI in Colorado. The largest subcontractor workforce is the FSV security force. As the Subcontract Technical Representative, the FSV ISFSI manager ensures that subcontractor personnel are qualified to perform assigned tasks by documenting one of the following:

- The satisfactory result of an audit or assessment of subcontractor records which relate to qualification of the subcontractor personnel being considered for assignment.
- Previous verification (within two years) of the ability of the subcontractor employee to perform assigned tasks safely and efficiently.
- Successful completion by the subcontractor employee of those segments of the operating organization's qualification program that are considered pertinent to the accomplishment of the task to be performed.

5. PERSONNEL SELECTION

Personnel selection requirements are designed to establish minimum entry-level requirements to maintain and enhance the proficiency of personnel who perform functions associated with structures, systems, and components important to safety. ISFSI and ISFF training programs establish basic requirements for each position.

Employees are selected based on their ability to meet job performance requirements as demonstrated by required level of education and experience for each position.

Section 14.1 contains the education and experience requirements that address ISFSI and ISFF training programs for contractor positions listed in ISFSI and ISFF Safety Analysis Reports (SAR), Chapter 9, Conduct of Operations.

The resumes or other appropriate documentation of personnel occupying the positions listed in the ISFSI and ISFF SARs will be kept on file to demonstrate compliance with the minimum requirements associated with the position.

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6. QUALIFICATION/REQUALIFICATION PROCESS

Qualification/requalification requirements for operating organization personnel working at the TMI-2 and FSV ISFSIs and ISFF are established in this document and reflect the requirements of the ISFSI and ISFF Training Programs. Qualification is a program based on education, experience, training and any other requirements necessary for an individual to perform assigned responsibilities. Satisfactory completion of training and qualification programs enables operating organization personnel to perform job functions without supervision by another qualified operator.

Qualification is typically awarded for a maximum of two years. Personnel attend continuing training over a two-year period and are then reevaluated biennially to retain their qualification.

Managers and technical support staff personnel are considered qualified by virtue of meeting the entry-level requirements associated with the position and by completing applicable position-specific training. A comprehensive examination is not administered to determine their qualification. Continuing training programs are implemented as necessary to meet the needs of the individual and the position. Qualification of operators and supervisors includes examinations as applicable to the position.

Qualification is granted only after ensuring that all requirements (including training and examinations) have been satisfactorily completed.

Training requirements must be completed within the period specified for General Employee Training and Certified Fuel Handlers / Operator 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.

An operator or supervisor, who has been disqualified for any reason, is not permitted to fill that position until reinstatement is granted. The training coordinator and the ISFSI and ISFF Managers, or their designated alternates, jointly determine the amount of retraining and/or retesting required to reinstate the qualification.

A candidate's qualification(s) may be removed for any of the following reasons:

- Failure of a periodic or a comprehensive final written examination.
- Failure of a performance examination/walkthrough.
- Lapse or failure of a medical evaluation.
- Failure to complete requalification requirements.
- Other reasons determined by ISFSI/ISFF management.

The ISFSI/ISFF qualification process is implemented by MCP-3043.

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7. CERTIFICATION/RECERTIFICATION PROCESS

Certification or recertification is the process by which line management endorses and documents, in writing, the satisfactory achievement of qualification of a person for a position, including any applicable medical examination results.

Certification is valid for a period not to exceed two years unless revoked for cause (for example, medical disqualification or performance deficiencies).

Certification as an ISFSI Certified Fuel Handler (CFH) or ISFF operator is contingent upon meeting the following criteria:

- Obtaining a score of greater than 80% on all certified position academic examinations (a score of less than 80% on any Certified Position academic examination will require retesting); and
- Satisfactory performance of all practical evaluations (failure to demonstrate satisfactory performance of a practical examinations will require retesting).

A candidate's dismissal from the Certified Position Training Program or removal of certification(s) may be initiated for any of the following reasons:

- A score of less than 80% on any Certified Position academic examination retest.
- A score of less than 80% on any three initial academic examinations.
- Failure to demonstrate satisfactory performance of a practical examination retest.
- Lapse or failure of a medical evaluation.
- Failure to complete recertification requirements.
- Other reasons determined necessary by ISFSI/ISFF management.

Personnel who fail an examination will be removed from all duties associated with the applicable certification and placed in a remedial training program which includes reasonable opportunity and sufficient training to successfully pass the required examination to become (re)certified.

The certification process is implemented by MCP-3043.

8. CONDUCT OF TRAINING

Training to support qualification and certification programs is based on a systematic approach to training. This training may include topics on emergency plans, physical protection plans, quality assurance plans, position specific or specialized training, and administrative, radiation, and safety requirements. The process to determine the necessity for training is performed in accordance with MCP-48, "Training Analysis, Design,

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Development and Release.” Job analysis lists the identification of tasks necessary for successful performance of jobs. Job analysis also identifies the tasks and training setting (such as classroom or practical) selected for initial and continuing training and is conducted in accordance with MCP-48. The results of facility specific needs and job analyses are typically summarized in facility specific training design plans.

Training programs consist of classroom type and practical (hands-on) training, as applicable. Classroom training is developed and delivered in accordance with MCP-48 and MCP-57, Delivery of Training. Practical training is conducted and evaluated in accordance with MCP-64, Performance Examinations. Formal OJT, if identified in the training design plan, is developed in accordance with MCP-52, On-The-Job Training Materials Development, and delivered in accordance with MCP-61, Conduct and Evaluation of On-The-Job Training.

The programs are reviewed and maintained to reflect changes to the facility safety basis documents (for example, Safety Analysis Reports (SAR), Technical Specifications, and Standards) regulations, and applicable industry operating experience which impacts training program content. This is accomplished through the requirements specified in MCP-48, MCP-192, “Processing Lessons Learned and Operating Experience Information,” and the review and approval of lesson plans.

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. This evaluation may be conducted in accordance with requirements specified in MCP-68, Training Program Evaluation, or as part of the self-assessment process specified in MCP-8, Performing Management Assessments and Management Reviews.

Formal courses are administered in accordance with MCP-57. Courses use a variety of training techniques including lectures, videotapes, computer based training, self-study, and hands on training sessions to disseminate information. In the event formal classes are not practical, training may be completed through a combination of individual discussion and tutoring. ISFSI management and the training coordinator will agree upon the most practical method of accomplishing this training. Documentation and review and approval for each course is in accordance with MCP-3043.

The contractor commits to maintain additional training to support the emergency plan, physical protection plan, quality assurance plan, and administrative and safety requirements, as required.

8.1 Initial Training

Initial training programs provide a structured approach by which a candidate can participate in the learning activities necessary to achieve a specific qualification or certification goal. Training and indoctrination related to general criteria (including the QARD), implementing documents, and job responsibilities is contained in the contractor ESHQ/ISM/VPP Annual Awareness Training.

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Additional indoctrination training is contained in the contractor General Employee Training job code.

Initial training programs are modified to address the current operational status of the ISFSIs and ISFF. As facility status and/or program scope changes, modification to initial training programs is implemented in accordance with MCP-48 and MCP-192.

Initial qualification or certification programs may have minimum entry-level requirements associated with it. These requirements ensure an adequate educational and work experience background to meet or exceed the requirements of the ISFSI and ISFF training programs and to ensure a reasonable expectation that the candidate will successfully complete the training program.

Qualification of personnel performing special quality assurance functions (such as inspecting, examining, and testing) is implemented by MCP-535, NDE Personnel Certification. MCP-196, Qualification of Auditors and Lead Auditors, implements qualification of personnel performing auditor or lead auditor functions.

8.2 Continuing Training

Determination of continuing training content should be an ongoing effort at each ISFSI and ISFF. The major factor is providing training that will improve the performance of qualified/certified personnel. The topics and priorities of continuing training are determined by using job analysis, feedback from ISFSI and ISFF managers and supervisors, periodic evaluation of performance during ISFSI and ISFF operation, performance evaluations, industry operating experience, and results of quizzes and examinations. The short-term goal is to identify and correct weaknesses in the performance of personnel. The long-term goal is to provide refresher training to maintain knowledge of fundamental principles.

The continuing training program maintains and improves employee job performance. Whenever continuing training is conducted using material originally developed for initial training purposes, specific objectives are clearly defined.

To maintain and enhance the proficiency of facility personnel, a program with both a fixed and a flexible component is used. The fixed component maintains proficiency by providing a structured review of over-train topics over a two-year period. The flexible component corrects actual or potential weaknesses of personnel and provides training on operating experiences, modifications, procedure changes, and lessons learned.

Continuing training programs are documented in a management approved two-year continuing training plan. The continuing training plan is validated

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annually to ensure the training identified as “over-train” items are adequately addressed and meet the requirements of the ISFSI and ISFF SARs.

Facility-specific analysis data provides the basis for the continuing training program content to be covered, as well as an initial indication of the desired frequency at which they are covered. Various forms of analyses are used depending on the job position and the hazard level to determine continuing training program content.

When job analysis is performed, tasks are selected and validated as train, no-train, pre-train, or over-train. Those tasks identified as over-train tasks during the job analysis process are included in both initial and continuing training to maintain proficiency. Pre-train tasks are performed infrequently and allow adequate time to provide training on the task just prior to performance (“just in time” training).

Because of the design of the ISFSIs and ISFF, it is possible that none of the tasks would be selected as over-train tasks or the number of over-train tasks may be very small. In this case the fixed portion of the continuing training program may be based primarily on regulatory required retraining, and changes to the training program.

The content of the flexible component of a continuing training program is based on feedback from line management, training evaluations, industry operating events, and changes to the facility and procedures. The flexible portion of continuing training is a method for quickly updating personnel on changes to facility procedures, modifications to facility design, and recent industry or in-house operating experience. This information is provided in different settings (such as classroom, tailgate, and pre-job briefings) depending on the nature of the material. This portion of continuing training keeps personnel informed of changes to their jobs and related industry events.

Items that could have an immediate impact on facility safety or reliability are presented as soon as possible to appropriate personnel. This may require presenting the information during a pre-job briefing. All training provided is documented (such as training rosters, tailgate forms, or pre-job briefs attendance lists), and attendance is tracked to verify that all individuals receive the information. Shift supervisors guide personnel in interpreting the significant aspects of procedure changes, facility modifications, and operating experiences.

Continuing training on changes to company-wide procedures is implemented through the Contractor Training Review and Implementation Board process in accordance with CTR-16, ICP Site-wide Training Review and Implementation Board.

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Control manipulations include apparatus and mechanisms that, when manipulated could affect the chemical, physical, metallurgical, or nuclear process of the nuclear facility in such a manner as to affect the protection of health and safety.

The certified position training program will include operational training involving actual and/or mock control manipulation of specified equipment. Certified supervisors need only supervise or direct the performance of control manipulations.

Lists of control manipulations are developed from job or training needs analyses. Control manipulations are typically included as “Perform” or “Simulate” level tasks in OJT or Performance Demonstrations.

8.4 General Employee Training (GET)

ISFSI and ISFF certified personnel and their direct supervision are provided facility specific GET. In addition, permanent employees, visitors, contracted personnel, and temporary personnel are under continuous escort while at the ISFSI and ISFF unless they have successfully completed facility specific GET.

8.5 Operator and Supervisor Examinations/Reexaminations

Written examinations are used in the operator and supervisor qualification/certification programs in accordance with MCP-65, Written Examination. Performance demonstrations are conducted in accordance with MCP-64, Performance Examinations. Oral examinations (if given) are conducted in accordance with MCP-66, Oral Examinations. Examinations and examination banks are controlled in accordance with MCP-45, Examination Banks.

8.6 Technician and Maintenance Personnel Training

The verification of the training and qualification of technicians and maintenance personnel prior to assignment to the ISFSIs or ISFF is performed as part of the pre-job brief. The pre-job brief serves in part to ensure a satisfactory level of knowledge is attained in the areas of facility specific hazards, safety, and procedures.

8.7 Technical Support Training

The contractor technical support staff training program ensures technical support staff personnel have the knowledge to perform their day-to-day tasks applicable to the operation of the facility. Technical support staff positions may include component engineer, system engineer, technical development engineer, software engineer/technician, chemist, fire protection engineer, radiological engineer,

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quality engineer, safety analyst, hoisting and rigging engineers, and emergency preparedness. Contractor approved training programs include initial and continuing technical support staff training.

Technical support staff personnel are considered qualified by virtue of meeting the entry-level requirements associated with the position and by completing applicable facility-specific training identified in the individual technical support staff training plans. Training for the applicable support positions will include the administrative and management controls associated with ensuring compliance with the ISFSI and ISFF license conditions.

Continuing training is designed to reinforce, maintain, and improve skills and knowledge of technical support staff personnel. Contractor technical support staff and ISFSI/ISFF facility line management are responsible for providing topical input for the continuing training program.

9. WAIVERS (EXCEPTIONS) TO TRAINING

The ISFSI and ISFF Managers or designees shall approve applications for waivers of training requirements. 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.

The use of challenge examinations is not considered a waiver to the training and, as such, challenge examinations are excluded from the requirements for waivers.

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

An exception to completing specific training requirements is processed in accordance with MCP-3043.

10. EXTENSIONS

A grace period (extension) of 25% is allowed for General Employee Training and CFH or Certified Operator training. Not completing the retraining requirements within the specified frequency will require completion of the initial training course in order to have qualification reinstated.

Extensions of other training requirements, for programmatic or operational commitments, may be granted with proper approval. All ISFSI and ISFF related training extension requests are conducted in accordance with MCP-3043.

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The following should be considered in making the evaluation of an acceptable alternative to the educational requirements:

- General Education Development (GED) test for a high school diploma
- In all of the ISFSI positions 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).

12. RECORDS**12.1 Qualification and Certification Records**

Qualification and certification records are maintained in accordance with MCP-3043. The training coordinator maintains individual training records for each person seeking or maintaining an ISFSI or ISFF qualification/certification.

Individual training records contain the following items applicable to a particular certification or qualification:

1. Training programs completed and most current qualification/certification achieved
 - a. Completed OJT checklists
 - b. Graded written examinations
 - c. Completed performance demonstration checklist
 - d. Certification or qualification approvals (may be included as part of OJT/performance demonstration checklist).
2. Facility specific practical examination records
 - a. Copies of correspondence relating to:
 - Special, modified, or supplemental training programs
 - Formal training
 - Lapsed and/or reinstated qualification/certification
 - Limited or extended qualifications/certifications
 - Equivalency approvals.
3. Medical evaluation forms (electronic form)

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4. Any other items pertaining to the candidate's training and/or certification.

The training coordinator maintains attendance records for ISFSI and ISFF specific training. These records may include signed class rosters and instructional material case files.

The training coordinator maintains a candidate(s) training record containing all items relating to the candidate's initial qualification/certification and the most current requalification/recertification. Items not pertaining to the candidate's most current requalification/recertification are considered "inactive" and may be sent to NRC records storage. The results of each Certified Fuel Handler's (CFH) and Operator's biennial medical examination and completed certification document(s) are maintained by OMP for a minimum of five years as records.

12.2 Training Records and Information Network (TRAIN) system

Records Management serves as the centralized record organization for ISFSI and ISFF training programs. Regulatory/ICP Training maintains the Training Records Center and Training Records and Information Network (TRAIN) system. The TRAIN system includes databases containing job codes, qualification matrices, and Qualified Watchstander Lists (QWL).

Job Codes are a management tool that provides an efficient and consistent structure for the maintenance and assignment of training requirements. Functional/Program and Facility-Specific job codes contain the set of training requirements derived through job or task analysis for work processes. The assignment of these job codes to the work force enables planners and project personnel to resource load schedules early in the planning process. This is possible because the project will have a reasonable expectation that the majority of the associated work force will have completed the set of training associated with a job code associated with the job or task being scheduled. This is viewed as a best management practice as the use of job codes minimizes the occurrence of work interruptions due to the lack of training or Competency Commensurate with Responsibility (CCR) at the work force level.

However, CCR for individual tasks or jobs is embedded in the applicable work control processes (such as Job Safety Analysis, Job or Task Analysis, Needs Analysis, or other Program Documents). The assessment of task or job specific CCR status should entail the identification of the applicable work control process documents and the flow-down of training or qualification requirements from those documents. CCR status should then be determined on whether or not the individual has completed the identified training requirements, and should not be determined merely on whether or not all training requirements in an associated job code have been completed. An incomplete training item in a job code does not necessarily mean that an individual is not qualified to perform a task.

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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 judgment 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 in accordance with MCP-553, Step Back and Stop Work Authority.

The examining physician completes the Medical Evaluation, Electronic Form IDFA 5850, and a copy is forwarded to the ISFSI/ISFF training coordinator for filing in the candidate's training record.

Candidates must maintain a "current medical" as one element in maintaining certification. Lapse or failure of a medical examination may result in the removal of certification in affected areas. Medical examinations are "current" if completed successfully within the two-year interval.

14. ISFSI AND ISFF TRAINING PROGRAMS

The ISFSI and ISFF Training Programs are described in Chapter 9 of the ISFSI and ISFF SARs and are submitted pursuant to Subpart I of 10 CFR Part 72. The requirements of the ISFSI and ISFF Training Programs are implemented by contractor procedures providing for the administration of training programs. A management assessment of the contractor's implementation of this training program is performed biennially. Changes which do not decrease the effectiveness of these programs 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 the ISFSI and ISFF Training Programs 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 ISFSIs and ISFF. The application of the systematic approach to training will use a graded approach, with the training of certified personnel subject to the most rigorous application.

14.1 Contractor Position 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).

14.1.1 ISFSI Safety Review Committee Members

The Chair, Members, and Alternates of the ISFSI Safety Review Committee (SRC) shall have a minimum of a Baccalaureate degree in an

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engineering or physical science field and five years experience in one or more of the following technical areas at nuclear facilities:

- Radiological Safety,
- Criticality Safety,
- Nuclear Facility Operations,
- Nuclear Quality Assurance, and
- Engineering.

The minimum training for the Chair, Members, and Alternates of the ISFSI SRC is:

- 72.48 process,
- QA program indoctrination,
- Technical Specifications,
- NRC requirements, and
- ISFSI License Basis.

The SRC Chair is responsible for verifying and maintaining the resumes or other appropriate documentation of personnel occupying the SRC positions on file to demonstrate compliance with the minimum requirements associated with the position.

14.1.2 Manager of ISFSI Management

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.

14.1.3 FSV ISFSI Manager/Facility Safety Officer and Designated Alternate(s)

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 is:

- 72.48 Process,
- ISFSI License Basis,
- Radiation Monitor,

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- Certified Protection Officer,
- Emergency Response, and
- Certified Fuel Handler.

The designated alternate(s) for the FSV ISFSI Manager/Facility Safety Officer shall meet the same minimum qualifications and training requirements.

14.1.4 TMI-2 ISFSI Manager/Facility Safety Officer and Designated Alternate(s)

The TMI-2 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 is:

- 72.48 Process,
- ISFSI License Basis,
- Radiation Worker,
- Emergency Response,
- TMI-2 Facility Qualification Training, and
- ISFSI Radiation Protection Program.

The designated alternate(s) for the TMI ISFSI Manager/Facility Safety Officer shall meet the same minimum qualifications and training requirements.

14.1.5 ISFF Manager/Facility Safety Officer and Designated Alternate(s)

The ISFF 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 is:

- 72.48 Process, and
- ISFSI License Basis.

The designated alternate(s) for the ISFF Manager/Facility Safety Officer shall meet the same minimum qualifications and training requirements.

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Page: 18 of 28**14.1.6 FSV Security Personnel**

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 security subcontractor is responsible for the conduct and documentation of subcontractor employment suitability and training requirements.

14.1.7 FSV Certified Fuel Handler

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 identified by need and/or job analysis of the FSV CFH job function.

14.1.8 TMI-2 Certified Tech Lead

The minimum qualifications for the position of Certified Technical Lead are a high school diploma and successful completion of the biennial medical examination. The minimum training for this position is:

- 72.48 Process,
- ISFSI License Basis,
- Radiation Worker, and
- TMI-2 Facility Qualification Training.

14.1.9 TMI-2 Certified ISFSI Operator

The minimum qualifications for the position of Certified ISFSI Operators are a high school diploma and successful completion of the biennial medical examination. The position of Certified ISFSI Operator requires training identified by need and/or job analysis of the job function.

14.1.10 ISFF Certified Operator

The minimum qualifications for the position of ISFF Certified Operators are a high school diploma, successful completion of the biennial medical examination. The position of ISFF Certified Operator requires training identified by need and/or job analysis of the job function.

**ISFSI MANAGEMENT TRAINING AND
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Page: 19 of 28**14.1.11 Quality Assurance Manager**

The minimum qualifications for the QA manager assigned to the ISFSIs and ISFF 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.

14.2 FSV Certified Fuel Handler Training

Detailed CFH and direct supervision training will be provided for the MVDS defueling and monitoring (Fuel Storage Container seal leak check) operations. 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 FSV 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 the FSV 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.

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:

1. Fuel Characteristics
 - a. elementary nuclear theory
 - b. fuel element description/identification
 - c. fuel storage configuration
2. Equipment, Component, and Design Description
 - a. crane
 - b. transfer cask/load unload port
 - c. isolation valves
 - d. shield plug handling devices

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- e. charge face/standby storage wells
 - f. container handling machine
 - g. fuel storage containers
 - h. utility supplies and systems ventilation
 - i. equipment operational interlocks
 - j. shipping cask
3. Regulations, Procedures, and Limitations
 - a. administrative control of CFH actions
 - b. description of events and sequence of fuel handling operations
 - c. identified applicable procedures and regulations including normal, emergency and 10CFR72 related
 - d. Technical Specifications
 4. Accident Analysis, Emergency Systems and Safety Devices
 - a. accident analysis from the FSV ISFSI SAR for off normal operations and accidents
 - b. confinement barrier/systems
 - c. FSV ISFSI cooling, equipment and instrumentation
 - d. criticality prevention
 5. Radiological Protection
 6. General Organization

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

- container handling machine
- isolation valves
- shield plug handling devices
- cask load/unload port
- crane

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The content of the CFH recertification program will be determined prior to each annual recertification training. All operational training will be repeated biennially and associated classroom material and examinations completed prior to operational training.

14.3 FSV General Employee Training (GET)

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 less than 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 consists 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.

14.4 TMI-2 Certified Operator/Supervisor

The training for Certified ISFSI Operators and supervisor shall provide for initial training and testing of personnel who operate equipment identified as important to safety and will also provide for retraining, proficiency testing, and requalification as required. The Certified ISFSI Operator Training Program will consist of lesson plans and associated examination in, but not limited to, the following topics:

1. Fuel Characteristics
 - a. configuration of TMI-2 Canisters (2 types)
 - b. contents of TMI-2 Canisters
 - c. condition of TMI-2 core debris

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2. Equipment, Component, and Design Description
 - a. Dry Shielded Canister (DSC)
 - b. Horizontal Storage Module (HSM)
 - c. Transfer Cask (TC)
 - d. alignment of the cask skid with the HSM
 - e. assembly of the hydraulic ram system
 - f. normal and off-normal operation of the hydraulic ram system
 - g. maintenance of the vent and purge system
3. Major Licensed Operations
4. Regulations, Procedures, and Limitations
 - a. administrative control of Certified ISFSI Operator actions
 - b. description of events and sequence of operations (ISFSI Overview)
 - c. Technical Specifications
5. Safety Concepts
 - a. accident analysis from the TMI-2 ISFSI SAR for off normal operations and confinement barriers/systems
 - b. criticality prevention

The Certified ISFSI Operator Training Program will include operational training involving actual and /or mock control manipulations of the following, as applicable:

- transfer trailer
- hydraulic ram
- vent and purge system

Certified ISFSI Operators will be actively maintained during transport and HSM loading and unloading operations. During the extended storage period, qualifications will be required for HSM and DSC monitoring activities. During periods when Certified ISFSI Operators are not required, the appropriate lesson plans will be retained as records.

TMI-2 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

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the direct visual supervision of a trained, certified individual. Only qualified individuals will operate equipment, machinery, and cranes.

14.5 TMI-2 ISFSI General Employee Training

General employee training will be provided to all qualified or certified ISFSI operators and their direct supervision. Topics required for certified operators 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 less than 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 consists of material dealing with:

- physical description of the TMI-2 ISFSI (structural characteristics)
- heat transfer design considerations, including engineering principles of passive cooling
- applicable regulations and standards
- radiological shielding
- general TMI-2 ISFSI information on access control
- 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.

14.6 ISFF Certified Operator/Supervisor

The training for Certified ISFF Operators and supervisor shall provide for initial training and testing of personnel who operate equipment identified as important to safety and will also provide for retraining, proficiency testing, and requalification as required. The Certified ISFF Operator Training Program will consist of lesson plans and associated examination in topics determined after the decision is made to construct the facility.

14.7 ISFF General Employee Training

General employee training will be provided to all qualified or certified ISFF operators and their direct supervision. Topics required for certified operators may be included in the generalized training. The GET training program will be composed of an initial training course and required annual retraining. A score of less than 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 material content will be determined after the decision is made to construct the

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

15. PROFICIENCY

Proficiency of certified operators during storage operations at the ISFSIs and ISFF is maintained through participation in the certified operator continuing training program. There is no additional record keeping requirement (such as a proficiency log).

16. EQUIVALENT POSITION CROSS-REFERENCE

The following position cross-reference lists contractor position titles that match ISFSI and ISFF Training Program positions.

ISFSI/ISFF Training Program Positions	Equivalent Positions
Training Supervisor	Training Coordinator
Supervisor	Technical Lead Certified TMI-2 ISFSI Supervisor
Certified ISFSI/ISFF Operators	FSV ISFSI Certified Fuel Handler Certified TMI-2 ISFSI Operator Certified ISFF Operator
Qualified Operator	TMI-2 DSC Monitor TMI-2 ISFSI Operator
Instructor	Training Instructor Affiliate Instructor OJT Instructor / Evaluator Radiological Control Instructor

17. CONTRACTOR TRAINING PROCEDURES

Applicable contractor procedures, as referenced in this document, provide for the analysis of jobs, design of initial and continuing training, development of instructional material, implementation, evaluation, and administration of training as necessary to demonstrate compliance with the respective facility license basis documents.

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18. DOCUMENT BASIS

NOTE: *Procedure basis source documents applicable to both ISFSI and ISFF SARs shall simply refer to “SAR” and the appropriate section number.*

Step	Basis	Source	Citation
Entire Document	Written procedures must be established, implemented, and maintained for [the FSV/TMI] Essential Program Control (QA, REMP, Training)	FSV TS TMI TS	5.4.1.0 5.4.1.P
Entire Document	Written procedures must be established, implemented, and maintained for administrative controls.	TS	5.4.1.a
1	Training will use a systematic and graded approach, with the training of [certified positions] subject to the most rigorous application.	SAR	9.3
2	The contractor shall provide for and document the qualification and training of Training Staff.	SAR	9.3.3
2	The development of training material must be performed by qualified and trained staff.	SAR	9.3.4
2	The contractor shall maintain procedures for the development of training material.	SAR	9.3.4
3	Ensure indoctrination and training are completed prior to performing the work.	QARD	2.2.12.A.4
3	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.)	SAR	9.3.4
3	Instructors designated to teach the ISFSI certification programs must have a current ISFSI certifications or sufficient subject matter expertise for a particular subject or topic.	FSV SAR TMI-2 SAR ISFF SAR	9.3.9 9.3.9 9.3.3
3	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.	FSV SAR TMI-2 SAR ISFF SAR	9.3.9 9.39 9.3.3

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Step	Basis	Source	Citation
5	The resumes or other appropriate documentation of personnel occupying the positions listed in section 9.1.4.1 will be kept on file.	FSV SAR TMI-2 SAR ISFF SAR	9.1.4.2 9.1.4.2 9.1.3.2
6	Training requirements must be completed within the period specified. Not completing the retraining requirements within the specified frequency will require completion of the initial training course in order to have qualification reinstated.	FSV SAR TMI-2 SAR	9.3.7 9.3.7
8.1	For personnel who perform or manage design, scientific investigations, software development activities, and for personnel who verify or manage the verification of design, scientific investigation, software development activities, or items, affected organizations shall ensure that: <ul style="list-style-type: none"> A. Descriptions are established for the positions these personnel occupy. B. Minimum education and experience requirements are established for each position commensurate with the scope, complexity, and nature of the work or documented justification is provided for positions for which no specific minimum education and experience is required. C. Personnel have experience and education commensurate with the minimum requirements established. D. Minimum education and experience are verified or, when minimum education and experience cannot be verified, documented justification is provided for the personnel assignment. 	QARD	2.2.12.B
8.1	The contractor commits to maintain additional training to support the emergency plan, physical protection plan, quality assurance plan, and administrative and safety requirements, as required.	FSV SAR TMI-2 SAR ISFF SAR	9.3.1 9.3.1 9.3.9
8.2	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.	FSV SAR TMI-2 SAR	9.3.9 9.3.9

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Step	Basis	Source	Citation
8.3	The certified position training program will include operational training involving actual and/or mock control manipulation of specified equipment.	FSV SAR TMI-2 SAR	9.3.9 9.3.9
8.7	Training for the applicable support positions will include the administrative and management controls associated with ensuring compliance with the license conditions.	FSV SAR TMI-2 SAR	9.3.10 9.3.10
9	Applications for waivers of training requirements must be approved. 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.	FSV SAR TMI-2 SAR	9.3.6 9.3.6
13	The physical condition and general health of certified personnel will be verified by physical examination before initial certification and biennially thereafter.	FSV SAR TMI-2 SAR ISFF SAR	9.3.9 9.3.9 9.3.8
14.1	Each member of the facility staff shall meet the minimum qualifications specified in the Safety Analysis Report.	FSV TS TMI-2 TS	5.3.1 5.3.1
14.1	Minimum qualification requirements are required for: <ul style="list-style-type: none"> • ISFSI Safety Review Committee members • Manager of ISFSI Management • ISFSI Manager and designated alternate • Facility Safety Officer and designated alternate • Security Watch Personnel (FSV) • Certified Fuel Handler (FSV) • Certified ISFSI Operator (TMI-2) • Certified Operator (ISFF) • Quality Assurance Manager 	FSV SAR TMI-2 SAR ISFF SAR	9.1.4.1 9.1.4.1 9.1.3.1
14.1	The Fort St. Vrain Facility Manager and FSO are trained Emergency Coordinators.	PLN-143	Section 6.1

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Step	Basis	Source	Citation
14.2	The contractor will provide detailed fuel handler and direct supervision training for those performing the operations described in section 5.1. CFH certifications are required for personnel performing and directly supervising fuel handling and transfers. CFHs will be actively maintained as necessary for the life of ISFSI.	FSV SAR	9.3.9
14.2	The content of the recertification program will be determined prior to each annual recertification training. All operational training will be repeated biennially and associated classroom material and examinations completed prior to operational training.	FSV SAR TMI-2 SAR	9.3.9 9.3.9
14.2	The training for ISFSI personnel/certified ISFSI operators must provide for initial testing of personnel who operate equipment identified as Important to Safety and will also provide retraining, proficiency testing, and requalification as required.	FSV SAR TMI-2 SAR	9.3.9 9.3.9
14.2	Certification is contingent upon meeting specific criteria.	FSV SAR TMI-2 SAR ISFF SAR	9.3.9 9.3.9 9.3.8
14.5	General employee training [GET] will be provided to [certified personnel] and their direct supervision.	FSV SAR TMI-2 SAR	9.3.8 9.3.8
14.5	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 material content. The annual retraining for GET will be composed of the topics covered in the Initial GET course. Additional topics may be added as needed.	FSV SAR TMI-2 SAR	9.3.8 9.3.8