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TRAINING IMPLEMENTATION MATRIX

Spent Nuclear Fuel Project (SNFP)

Prepared for the U.S. Department of Energy
Assistant Secretary for Environment, Safety and Health

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

Fluor Hanford

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Richland, Washington

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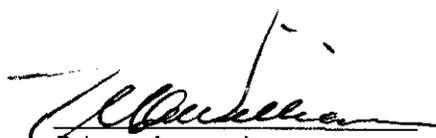
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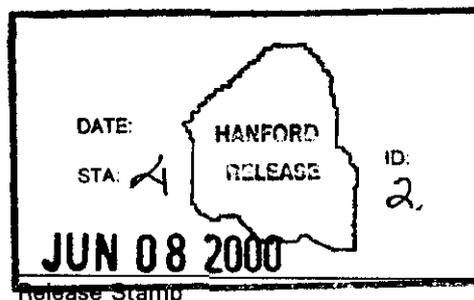
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TRAINING IMPLEMENTATION MATRIX

**REVISION 0
HNF-5441**

Spent Nuclear Fuel Project (SNFP)

(A NON-REACTOR NUCLEAR FACILITY PROJECT)

**PER
DOE Order 5480.20A**

**PERSONNEL SELECTION, QUALIFICATION,
AND TRAINING REQUIREMENTS FOR
DOE NON-REACTOR NUCLEAR FACILITIES**

February 2000

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TABLES

Compliance matrix

TABLE 1 - GENERAL

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

ACRONYMS

ALARA	As Low As Reasonably Achievable
AB	Authorization Basis
BED	Building Emergency Director
DOE-RL	U.S. Department of Energy, Richland Operations Office
EP	Emergency Preparedness
EP/APC	Emergency Procedures/Abnormal Plant Conditions
FDH	Fluor Daniel Hanford
GET	General Employee Training
HEHF	Hanford Environmental Health Foundation
HGET	Hanford General Employee Training
HPT	Health Physics Technician
HSRCM	<i>Hanford Site Radiological Control Manual</i>
MIS	Management Information Systems
NCO	Nuclear Chemical Operator
NEC	National Electrical Code
OJT	On-the-job Training
PHMC	Project Hanford Management Contractor
PIC	Person-in-Charge
RCT	Radiological Control Technician
SAT	Systematic approach to training
SME	Subject matter expert
SNFP	Spent Nuclear Fuel Project
TIM	Training Implementation Matrix
TMX	Training Matrix
TPD	Training Program Description
USQ	Unreviewed safety question

I. INTRODUCTION

A. PURPOSE

This Training Implementation Matrix (TIM) describes how the Spent Nuclear Fuel Project (SNFP) implements the requirements of DOE Order 5480.20A, *Personnel Selection, Qualification, and Training Requirements for Reactor and Non-Reactor Nuclear Facilities*. The TIM defines the application of the selection, qualification, and training requirements in DOE Order 5480.20A at the SNFP. The TIM also describes the organization, planning, and administration of the SNFP training and qualification program(s) for which DOE Order 5480.20A applies. Also included is suitable justification for exceptions taken to any requirements contained in DOE Order 5480.20A.

B. STRATEGIC GOALS AND OBJECTIVES

The goal of the SNFP training and qualification program is to ensure employees are capable of performing their jobs safely and efficiently.

The objectives of the program are as follows:

1. Use a graded systematic approach to training process that supports the SNFP mission.
2. Maintain a training staff that possesses the requisite technical knowledge, experience, and instructional skills.
3. Establish the minimum entry level education and experience for positions.
4. Develop and maintain initial and continuing training programs that support the knowledge and skills needed to perform tasks (or functions) selected for training.
5. Ensure formal training is conducted in a suitable setting using approved training materials.
6. Ensure trainees are evaluated according to facility procedures, to ensure that learning is taking place and job performance is met.
7. Training effectiveness and its relation to on-the-job performance is evaluated by line management.
8. Systematic evaluations of training programs are conducted.

C. BACKGROUND

Metallic uranium spent nuclear fuel (SNF) is currently stored in the 105 K East (KE) Basin and the 105 K West (KW) Basin, at the U.S. Department of Energy (DOE) Hanford Site in southeastern Washington. The SNF Project is responsible for operation of these fuel storage facilities. The SNF Project mission includes safe removal, processing, and transportation of SNF from these storage basins to a new storage facility in the 200 East Area. Its mission includes modifying the existing KE Basin and KW Basin facilities and constructing two new facilities: the 100K Area Cold Vacuum Drying (CVD) Facility, and the 200 East Area Canister Storage Building (CSB).

D. ORGANIZATION OF THE TRAINING IMPLEMENTATION MATRIX

- Section I.E provides a background and description of the Spent Nuclear Fuel Project.
- Section II briefly describes the operations, radiological control, training, and support organizations, lists the responsibilities and authorities of key positions as they relate to staff qualification and training, and addresses external training support and subcontractor personnel who perform job functions at the facility.

- Section III describes the qualification programs for positions affecting nuclear safety using a graded approach in the operating organization, and describes the planning, administration, and evaluation of training and qualification programs.
- Sections IV and V include a statement of facility compliance, and a list of references, respectively. The appendices contain a list of positions that are subject to DOE 5480.20A and the associated position training requirements.
- Tables 1 and 2 list the requirements of DOE Order 5480.20A that pertain to SNFP and the status of compliance with each requirement.

E. FACILITY DESCRIPTION

K Basins

The fuel storage pools are rectangular, reinforced concrete basins. These storage basins were used to store spent fuel awaiting shipment to the Plutonium Uranium Extraction (PUREX) processing facility. The KW Reactor was shut down in February 1970. The KE Reactor was shut down one year later.

The KE Basin was reactivated and modified to provide interim storage of N Reactor fuel, beginning in June 1975. These modifications included:

- installation of canister storage racks on the basin floor.
- addition of basin water recirculation equipment, with in-line cartridge style filters and heat exchangers.
- addition of instrumentation with a remote alarm system, to monitor radiation levels and basin water level fluctuations.

The modifications were completed and the basin was placed into service in 1975. In 1978, ion exchange columns and a backwashable sandfilter were added to the water recirculation equipment to reduce radionuclide concentration within the pool.

The KW Basin was reactivated in 1981. In addition to the modifications that were installed at KE Basin, the KW Basin pool walls and floor were decontaminated and coated with epoxy to prevent the spread of contamination.

Cold Vacuum Drying Facility (CVD)

The CVD is a new facility designated as Building 142K. It consists of a two story, tornado hardened, process building, with an attached single story administrative support annex on the south end, and a single story process water handling annex on the north end.

The process building has five high-bay areas (four anticipated "process bays" and one spare bay to be used to loadout the Process Water), support equipment areas, and personnel entry/egress support areas. The process bays provide a confinement boundary via High Efficiency Particulate Air (HEPA) filtered exhausters.

The administrative support annex provides general office space and contains an electrical and telecommunications equipment room, a fire system equipment room, and the CVD process control room.

Canister Storage Building (CSB)

The CSB contains three, equally sized, concrete vaults that are located below-grade, covered by a concrete operating deck, and provided with an above-grade steel operating area structure. Support functions and equipment are housed in an annex at the north side of the operations building.

The below-grade construction is reinforced concrete that forms the interior and exterior vault walls, the intake plenum and exhaust stack, and the base slab. The storage vaults are cooled by natural convection. Each vault is isolated from the adjacent vault, and is provided with its own cool air inlet plenum and hot air exhaust stack. Only the northern-most vault (Vault 1) is equipped with Multi-Canister Overpack (MCO) storage tubes, with an estimated 220 needed. Each storage tube has an impact absorber to mitigate the consequences of a dropped MCO.

II. FACILITY ORGANIZATION

A. OPERATING ORGANIZATION

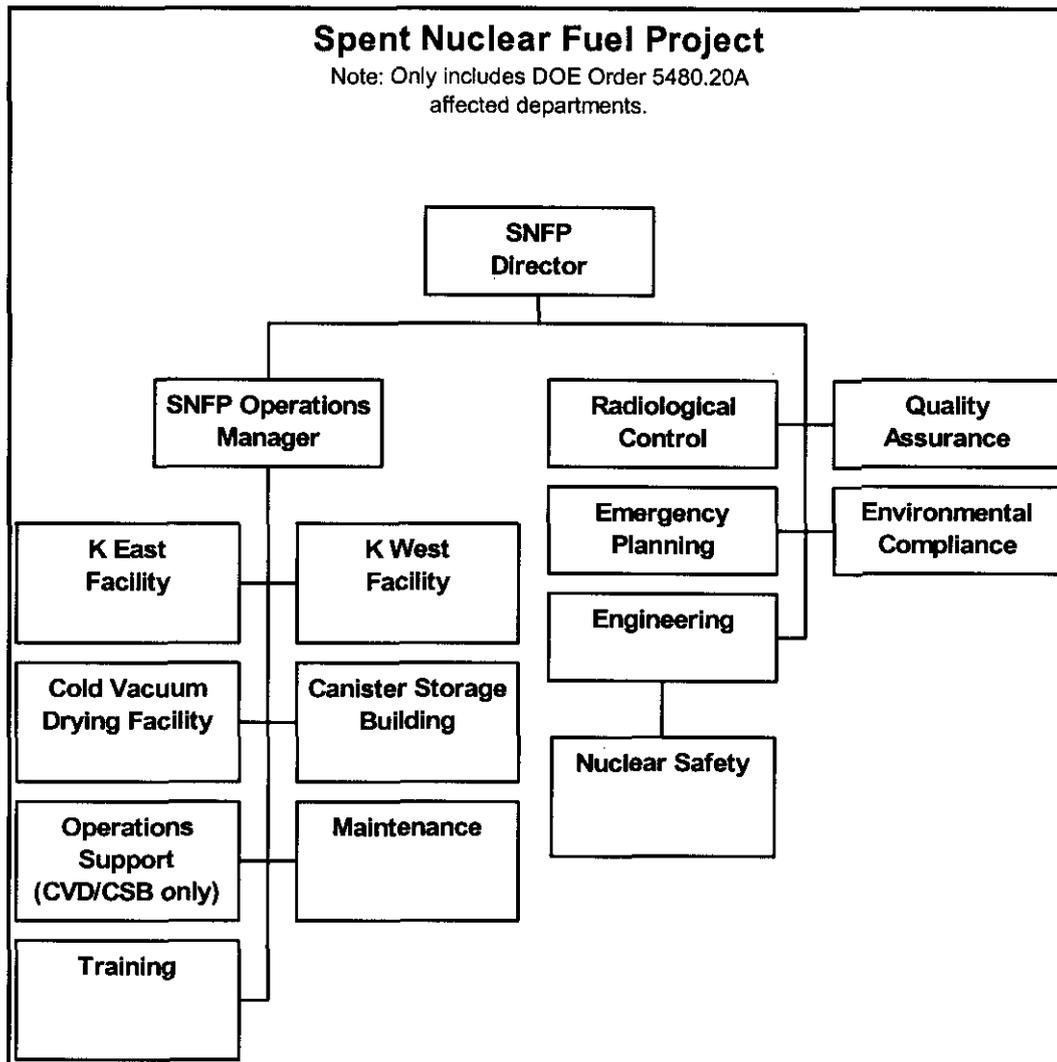
The operating organization for SNFP is comprised of four facility operations teams and nine support organizations, as follows:

Facility Operations Organizations

- K East
- K West
- Cold Vacuum Drying
- Canister Storage Building

Support Organizations

- Operations Support
- Radiological Control
- Training
- Nuclear Safety
- Emergency Planning
- Engineering
- Quality Assurance
- Maintenance
- Environmental Compliance



B. RADIOLOGICAL CONTROL ORGANIZATION

Radiological control services are provided by an organization that reports to the SNFP Director and is matrixed to support all SNFP facilities. The Radiological Control Manager is responsible for ensuring that personnel in this organization are properly trained and qualified to perform their assigned duties.

C. TRAINING RESPONSIBILITIES

The following are the primary training program responsibilities documented in SNFP administrative procedure TN-8-001, *General Training Administration*.

1. SNFP Operations Manager

The SNFP Operations Manager reports to the SNFP Director and has overall responsibility for ensuring that a properly trained, fully qualified staff is maintained in the operating organizations of the four nuclear facilities. Responsibilities of this position include:

- Establish Facility Manager entry level requirements and select management personnel who meet them.
- Ensure line management demonstrates a strong ownership of nuclear facility training programs.
- Approve or appoint a delegate to approve extensions of facility-specific training qualifications.
- Assure periodic training program evaluations are conducted.

2. SNFP Management Team

A management team is in place that possesses necessary qualifications to ensure safe and compliant operation. The qualification of the management team is based on the entry-level requirements specified in Chapter IV, Section 2 and topics specified in DOE Order 5480.20A, Chapter 1, Sections 5 and 7, as applicable to the position. The level of training required and specific topics is based on the assigned responsibilities of each position.

The SNFP management team consists of the following:

- Facility Managers (K East, K West, Cold Vacuum Drying, and Canister Storage Building)
- Chief Engineer
- Engineering Management
- Nuclear Safety Manager
- Radiological Control Management
- Maintenance Management
- Quality Assurance Program Manager
- Environmental Manager
- Emergency Planning Manager

Members of the line management team are responsible for ownership of their respective training programs by ensuring they control the content, implementation and effectiveness of training. The following are the primary responsibilities of the line organizations, as applicable to their area of cognizance:

- Establish entry level requirements and select personnel who meet them.
- Assure that personnel performing work under their cognizance are trained and qualified for their assigned tasks
- Authorize approval of personnel qualifications.
- Serve as the delegated qualifying official for facility-specific operator Certifications (applies only to Operations Managers that oversee Nuclear Chemical Operators who handle fissionable material).
- Ensure visitors, contracted personnel, and temporary personnel are trained and qualified to safely perform their duties.
- Maintain a close interface with the training organization.
- Determine training program content and ensure the training process meets the requirements of DOE Order 5480.20A.
- Determine the appropriate training needed to meet regulatory and safety requirements for inclusion in the Training Matrix (TMX) system.
- Ensure that vendor provided training content meets the department's performance standards.
- Approve actions recommended by a training review board, as applicable.
- Perform and/or participate in periodic self-assessments of the training program.
- Monitor workforce performance and provide feedback to the Training Department related to the effectiveness of their respective training program.
- Direct changes to training programs when job positions change or from observing training activities and monitoring work performance.
- Recommend training exceptions and extensions.
- Ensure effective conduct of classroom, on-the-job (OJT), mock up, and other types of training.
- Ensure personnel complete continuing training requirements establishes by the line organization.

3. Training Manager

The Training Manager is primarily responsible for application of a graded systematic approach to training for development and administration of DOE Order 5480.20A training programs within the SNFP, which includes the following:

- Establish instructor entry level requirements and select personnel who meet them.
- Ensure instructional staff is qualified to perform their duties.
- Administer facility-specific training programs that have a direct impact on nuclear and environmental safety to meet the requirements of DOE Order 5480.20A.
- Maintain procedures that control and administer training programs to meet the requirements of DOE Order 5480.20A.

- Ensure training materials are developed and maintained using a graded systematic approach to training.
- Ensure that training course materials supplied by vendors meet DOE Order 5480.20A program standards.
- Evaluate training programs for effectiveness and programmatic efficiency.
- Provide support to maintain TMX.

4. Instructional Staff

Instructors are qualified in accordance with the requirements of HNF-PRO-118, *Instructional Staff Qualification*. In addition to conducting training, instructors are primarily responsible for the following:

- Develop, revise, and/or maintain classroom, OJT, and self-study training materials using a graded systematic approach to training.
- Prepare, administer, and evaluate training.
- Ensure examinations and evaluations are properly prepared, controlled, and administered according to facility procedures.
- Prepare and maintain qualification guides and qualification cards.

D. VENDOR TRAINING SUPPORT

1. Training courses and materials supplied by vendors for DOE Order 5480.20A programs must meet the standards set by the affected line organization and training organization as applicable by HNF-PROs and SNFP administrative procedures.
2. Facility specific technical training provided by vendors will be periodically monitored to ensure that the training meets the line organizations expectations.
3. Vendors will be contracted on an as needed basis when technical content or cost effectiveness is better served.

E. SUBCONTRACTOR PERSONNEL

Subcontractor personnel who perform DOE Order 5480.20A job functions as a "purchased service" at the facility must be qualified to perform that job function. Qualification is determined in accordance with DOE 5480.20A, Chapter I, Section 3.

The SNFP line management is responsible for ensuring that subcontractor personnel are qualified to perform their assigned tasks by requiring verification of qualifications prior to beginning work. The need for additional job- and facility-specific training will be determined by the responsible line manager and communicated to SNFP training personnel for scheduling. HNF-1184, *Training Requirements*, is used as a tool by line management to identify specific course requirements.

For subcontractor personnel who do not meet the qualification requirements, work activities on engineered safety features identified in the Authorization Basis must be supervised by a person who meets the qualification criteria established by the operating organization for conduct of the activities.

III. QUALIFICATION PROGRAM, PLANNING, & ADMINISTRATION

A. GENERAL EMPLOYEE TRAINING

Personnel are required to complete Hanford General Employee Training (HGET) prior to being issued a site access badge. An employee must be escorted while on site until HGET training is completed.

The HGET program includes a core set of subjects that are applicable to all Hanford Site employees, supplemented with specialized lessons structured to meet the needs of each employee on the basis of facility and job classification.

Examinations or quizzes are administered following completion of most segments of the HGET program, and refresher training on changes to the HGET program are completed annually. Persons who change job classifications complete the HGET program for the new classification as part of the annual refresher training.

SNFP personnel complete the SNFP Facility Orientation, a Facility Emergency and Hazards Information Checklist, and a Job Specific Employee Orientation.

Visitors, contracted personnel, and temporary personnel must be under continuous escort while at the facility unless they have completed necessary training in appropriate areas from the below bulleted list to the extent necessary to ensure safe execution of their duties.

A combination of the above activities ensures that personnel receive the following subject areas as required by DOE Order 5480.20A.

- General facility description
- Quality assurance
- Radiological health and safety
- Facility emergency plans
- Industrial safety/hygiene
- Fire protection
- Security
- Personnel and computer security
- Criticality safety
- Job related policies, procedures, and instructions

B. INITIAL TRAINING

Initial training programs are established to ensure that personnel are able to perform their duties in a safe and efficient manner. This is achieved by using a graded systematic approach to training as defined in HNF-PRO-167, *Using the SAT Model for Training*, and as implemented via SNFP administrative training procedures. Initial training program content for individual positions is contained in Appendix 2.

Training methods for personnel within the SNFP consist of a combination of classroom, self-study, and/or on-the-job training. Classroom training includes lectures, seminars, case studies, computer aided instruction, or other forms as determined appropriate for the subject matter. Self-study includes the use of training manuals and self-study guides. Examinations, oral questioning, OJT, and performance demonstrations are used to evaluate the student's mastery of learning objectives.

Using a graded approach, Training Program Descriptions define whether evaluation methods are administered periodically during training or comprehensive method is administered at the completion of classroom training and self-study, as applicable to the position.

C. CONTINUING TRAINING

Continuing training programs are established to maintain and enhance the performance of the operating organization. Continuing training may include, but is not limited to, training on facility systems, facility drills, component changes, hazard communication, lessons learned, conduct of operations, applicable procedure changes, and selected fundamentals. The content of continuing training sessions varies based on identified needs, facility and industry changes, or operating experience.

Designated persons in the operating organization are required to attend continuing training program sessions during each two-year cycle. The schedule of continuing training is normally set on a quarterly basis, but is dependent on the content need and the balance of facility and department priorities.

D. DRILL PROGRAM

The SNFP drill program is used to train new personnel and maintains the emergency response proficiency of qualified personnel in the use of applicable procedures. The program is implemented in accordance with HNF-PRO-424, *Emergency Preparedness Program Policy* and DOE/RL-94-02, *Hanford Emergency Response Plan*.

The SNFP Facility Managers are responsible for overall administration and implementation of the emergency preparedness and drill programs. The Emergency Planning Manager is assigned to develop, administer and conduct the operational and emergency preparedness drill programs.

All drills are approved and conducted in accordance with a written drill scenario. A post-drill critique analyzes the drill and identifies deficiencies. Records of drill scenarios and drill critiques are maintained by the Emergency Planning Manager.

E. PROGRAM PLANNING AND DEVELOPMENT

All DOE Order 5480.20A required qualification programs are developed using a systematic approach to training. A graded approach is applied in the development of training materials, based on identified hazards and risk associated with operation of SNF Project.

As a minimum, an analysis of the job or job position is performed when planning a qualification program for operators, radiological control, maintenance, and engineering personnel when tasks involve nuclear safety and/or the authorization basis of the facility. Following a job analysis, tasks are screened for importance and complexity. Those tasks that have a high degree of importance and complexity are then further analyzed to determine the associated knowledge and skills of the task or function. Training methods and material are then developed for tasks that are selected for training. A graded functional or topic analysis of training needs is performed to identify the training program content for technical support personnel. Training instructor job requirements are consistent with the qualification standard specified in HNF-PRO-118, *Instructional Staff Qualification*.

F. PROGRAM ADMINISTRATION

1. Position Determination

Persons entering a qualification program for a specific job position must meet the entry-level requirements for that position unless a specific exception is granted. Personnel entry-level requirements are specified in administrative procedure TN-8-001, *General Training Administration*. Alternatives to education and experience requirements are considered on a case-by-case basis in accordance with paragraph 13 of DOE 5480.20A and HNF-PRO-179, *Obtaining Training Equivalencies, Waivers, and Extensions*.

2. Facility-Specific Qualifications

Qualification is the formal line management statement that an employee is capable of performing their job. Each qualification requires completion of training as specified in the respective Training Program Description.

Qualification requirements apply only to tasks selected for training associated for that job position. Additional safety training may be required by regulation or DOE Orders, but is not considered a part of the specific position (or task) qualification. Example: An RCT may need confined space training to enter an area in the facility to perform a radiation survey, but the qualification for the "RCT position" is only related to the skill to perform the radiation survey.

Certification is the management tool used to ensure each person completing a qualification program has met all program requirements. The positions that are certified for the K Basins are fissionable material handlers and shift managers who oversee fissionable material handling.

A graded probabilistic risk assessment was applied to a limited number of components or processes. The pertinent information associated with these assessments is included in the Final Safety Analysis Report (FSAR). Because pertinent information in the FSAR is included in training material for selected tasks, probabilistic risk assessment training requirements are not applicable.

On-the-job training (OJT) is conducted by instructors who are technically competent or by qualified incumbents who have successfully completed OJT instructor training. Many of the activities of the SNFP are related to new facilities and there are no currently qualified personnel. To ensure a safe operation, an instructor may assist the line organization with the conduct of OJTs for the first set of line personnel. After which, the line organization would complete the remaining OJTs. A qualified task performance evaluator (TPE) or job performance measure (JPM) evaluator conducts the performance demonstration, as applicable. To complete certain qualifications, an oral board may be required.

Re-qualification is normally conducted on a two-year cycle and is accomplished by successful completion of an appropriate combination of classroom training, comprehensive written/oral examinations and/or performance demonstrations, as required by the respective program. Re-qualification on facility abnormal and emergency procedures is conducted annually for required positions.

3. Changes to the Training Program

Changes to the training program may be initiated as a result of facility modifications, safety or environmental analyses, administrative changes, operating experience, internal and external evaluations, and lessons learned from industry experience. Any person who identifies a need for changes to training materials or courses may submit a written request to the Training Manager that defines the scope of the proposed modification. After the line owner has authorized the change, the request is assigned to the appropriate SNFP training person for processing. Revisions to training programs are subject to the same review and approval as a new program.

4. Training Equivalencies and Waivers

Exception from certain portions of the training program may be granted on the basis of an employee's experience, education, and training that is related to a particular job. Requests for training equivalencies and waivers are processed in accordance with HNF-PRO-179, *Obtaining Training Equivalencies, Waivers, and Extensions*. Suitable justification must accompany all requests for exception, and must include signature concurrence of the candidate's immediate manager before records are submitted to FDH Training Records. The DOE-RL program office has approved HNF-PRO-179.

5. Extensions of Qualification

HNF-PRO-179 establishes the policy, responsibilities, and authority for extending SNFP qualifications beyond the normal expiration date. Facility management grants extensions of facility specific qualifications. Extensions of certified positions shall be approved in accordance with HNF-PRO-179, *Obtaining Training Equivalencies, Waivers, and Extensions*.

6. Examination/Re-examination

Examinations are prepared and administered in accordance with SNFP administrative procedures. The SNFP training organization performs examination development, approval, security, administration, and maintenance of examination question banks.

a. Written Examinations

Written examinations required for specified qualification programs are developed, administered, and graded by the SNFP training staff or qualified line organization personnel.

b. Performance Demonstrations

Performance demonstrations are administered for facility-specific qualifications as required by the specific Training Program Description. Performance demonstrations are conducted by having students perform tasks, simulate the performance of tasks, or discuss the performance of tasks. Which method of performance is determined by the complexity of the task, equipment availability, facility impacts, etc.

Candidates must satisfactorily demonstrate performance of the following types of functions as applicable to the position such as:

- (1) Perform surveillance, including monitoring critical parameters and alarm status;

- (2) Manipulate the controls as required;
- (3) Identify annunciators and alarm conditions and perform appropriate response actions;
- (4) Identify instrumentation systems and the significance of associated instrument readings;
- (5) Safely operate auxiliary and emergency systems associated with the qualification;
- (6) Demonstrate or describe the use and function of radiation monitoring systems, including fixed radiation monitors and alarms, portable survey instruments, and personnel monitoring systems;
- (7) Demonstrate the ability to follow procedures and adhere to the safety basis.

c. Oral Examinations

Oral examinations are conducted by a board of personnel identified by facility management or as part of performance demonstrations for specified job positions as determined in the specific Training Program Description. The oral examinations evaluate the candidate's knowledge and organizational awareness to determine how the individual will function in an operating environment under normal and abnormal conditions.

6. Proficiency

Certified personnel maintain proficiency in accordance with the respective Training Program Description or SNFP administrative procedures.

7. Control Manipulations

Certified personnel must demonstrate satisfactory performance of control manipulations, which meet the specifications of DOE Order 5480.20A.

8. Training and Qualification Records

Training and qualification records are maintained in accordance with HNF-PRO-249, *Training Course Administration, Registration, and Records*, and SNFP administrative procedures. Personnel education, experience, and employment histories are on file with Human Resources in each individual's employment record. Official records of training and qualification are delivered to the FDH Central Records department for disposition. Recent health evaluation records are maintained by HEHF.

"Non-Quality" copies of training records and program documentation may be maintained by the SNFP training and/or line organizations.

G. TRAINING PROGRAM EVALUATIONS

The SNFP training organization and/or line management performs periodic evaluations the SNFP training program(s). Feedback is acquired from students, line managers, training personnel, and DOE personnel. As a minimum, evaluation will include the following:

1. Student feedback collected using evaluation forms at the completion of selected classes. These forms include feedback on the student's overall satisfaction with the course, overall satisfaction with the instructor's presentation, and includes a comments section.

Comments provided (both positive and negative) that are deemed important to the quality of the training program are used as a basis to modify training programs by the instructor.

2. Facility training programs directly related to DOE Order 5480.20A are evaluated as part of the SNFP Management Assessment Program using DOE STD 1070-94, *Guidelines for Evaluation of Nuclear Facility Training*.
3. Other course and program evaluations are conducted as needed based on department performance reviews.

IV. APPLICATION OF REQUIREMENTS

SNFP complies with the requirements of DOE 5480.20A in areas and positions to which the Order applies. Where necessary, SNFP procedures and requirements have been modified to meet the requirements of the Order. Tables 1 and 2 represent the overall compliance status for current SNFP programs.

V. REFERENCES

DOE 5480.20A, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*, U.S. Department of Energy, Washington, D.C.

DOE/RL-94-02, *Hanford Emergency Response Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE-STD-1070-94, *Guidelines for Evaluation of Nuclear Facility Training*, U.S. Department of Energy, Washington, D.C.

HNF-1184, *Training Requirements*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-118, *Instructional Staff Qualification*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-167, *Using the SAT Model for Training*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-170, *Analyzing Training Requirements*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-171, *Designing Training*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-172, *Developing Training*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-173, *Implementing Training*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-174, *Evaluating Training*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-179, *Obtaining Training Equivalencies, Waivers, and Extensions*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-249, *Training Course Administration, Registration, and Records*, Fluor Daniel Hanford, Richland, Washington.

HNF-PRO-424, *Emergency Preparedness Program Policy*, Fluor Daniel Hanford, Richland, Washington.

TN-8-001, *General Training Administration*

APPENDIX 1 POSITION LISTING

CERTIFIED POSITIONS

Listed below are the positions within the operating organization at the SNFP that correspond to positions in DOE 5480.20A, and for which there are specific, documented certification requirements:

1. Fissionable Material Handlers
2. Shift Managers (who oversee Fissionable Material Handlers)

QUALIFIED POSITIONS

Listed below are the positions within the operating organization at the SNFP that correspond to positions in DOE 5480.20A:

OPERATORS

1. Nuclear Chemical Operator
2. Process Crane Operator
3. Stationary Operating Engineer (CVD and CSB only)

TECHNICIANS AND MAINTENANCE PERSONNEL

1. Radiological Control Technician
2. Instrument Technician
3. Millwright
4. Pipefitter
5. Electrician

TECHNICAL SUPPORT AND TRAINING PERSONNEL

1. Cognizant Engineer
2. Design Authority
3. Quality Assurance Engineer
4. Nuclear Safety Engineer
5. Environmental Engineer
6. Person In Charge
7. Training Instructor
8. Radiological Control Analysts

MANAGEMENT/SUPERVISORY PERSONNEL

1. SNFP Operations Manager
2. Facility Managers
3. Operations Shift Managers
4. Operations Engineers
5. Environmental Compliance Manager
6. Emergency Planning Manager
7. Training Manager
8. Radiological Control Manager
9. Radiological Control Technician Supervisors
10. Maintenance Manager
11. Maintenance Supervisors

APPENDIX 2 POSITION QUALIFICATION

GENERAL EMPLOYEES

Upon initial employment, and annually thereafter, all employees in the SNFP operating organization complete Hanford General Employee Training. Personnel in some positions are considered qualified by virtue of meeting entry level education and experience requirements, completing the general employee training, and completing a job specific orientation. This applies to Facility Managers, Department Managers, Engineers, Planners, and Schedulers. It also applies to general employees who do not affect nuclear safety (i.e. positions not specifically identified in the TIM). However, specific job assignments may require additional training for performance of specialized tasks or to meet regulatory requirements.

General Safety and Regulatory Training Matrix

Many safety and regulatory training courses are provided as needed to safely and efficiently perform work. These courses are not necessarily required to be qualified in specific position. Example: An RCT would need confined space training to perform a radiological survey in a confined space, but confined space training is not a qualification requirement for an RCT. The below matrix identifies safety or regulatory training courses that may apply to the associated positions, but they would only apply if needed to perform specific tasks requiring them.

Course Title	Course Number	Nuclear Chemical Operator	Stationary Operating Engineer (CVD and CSB only)	Radiological Control Technician	Radiological Control Technician Supervisors	Instrument Technician	Millwright	Pipefitter	Electrician	Operations Shift Managers	Person In Charge	Engineering	Quality Assurance Engineer	Training Instructor	Maintenance Supervisors
Aerial Lift Operator	042720	X								X				X	X
ALARA Training for Tech Support Personnel	020900										X	X			
Asbestos Awareness	02006L	X		X	X					X					X
Asbestos Worker Certified	170055							X							
Audit Methodology/Lead Auditor	170022												X		
Basic Crane & Rigging Safety	040784						X	X			X			X	X
Basic Medic First Aid	170500										X				
Basic Inspection	170340												X		
Bloodborne Pathogens	170648			X	X										
Building Emergency Director	02028B									X					
Condensation Induced Water Hammer Safety	060760		X								X				
Confined Space Entry	020130	X	X	X	X	X	X	X	X	X	X	X		X	X
Fall Protection	020140	X	X	X	X	X	X	X	X	X	X	X	X	X	X
High Risk Electrical Safety	043870					X					X	X		X	X
Lock & Tag Authorized Worker	003034			X	X	X	X	X	X		X	X	X	X	X

NCO K Basin Training	
Course Topic	Course Topic
NCO Core Chemistry	NCO Core Instrumentation
NCO Core Electrical	NCO Core Mathematics
NCO Core Mechanical	Hands-On Fire Extinguisher
Basic Crane & Rigging Safety	Medium Risk Electrical Safety
Criticality Safety	Lock & Tag Controlling Org.
K Basin Systems	Basic Medic First Aid
K Basin Routines	Criticality Safety JSO
^{1,2} Cask Loadout System	² K Basin Fuel Handling
¹ To apply after modification of K East Facility. ² Certification required.	

NCO Cold Vacuum Drying Facility Training	
Course Topic	Course Topic
NCO Core Chemistry	NCO Core Instrumentation
NCO Core Electrical	NCO Core Mathematics
NCO Core Mechanical	Hands-On Fire Extinguisher
Basic Crane & Rigging Safety	Medium Risk Electrical Safety
Basic Medic First Aid	Lock & Tag Controlling Org.
¹ CVD Bay Operations	¹ CVD Monitoring and Control System Operations
CVD Routines	CVD Systems
¹ Certification required.	

NCO Canister Storage Building Training	
Course Topic	Course Topic
NCO Core Chemistry	NCO Core Instrumentation
NCO Core Electrical	NCO Core Mathematics
NCO Core Mechanical	Hands-On Fire Extinguisher
Basic Crane & Rigging Safety	Medium Risk Electrical Safety
Basic Medic First Aid	Lock & Tag Controlling Org.
CSB Service Station	¹ CSB Multi-Canister Handling Machine
CSB Multi-Canister Overpack Handling Operations	CSB Systems Training
¹ CSB Cask Receiving Crane	
¹ Certification required.	

Process Crane Operator (PCO) Canister Storage Building Training	
Course Topic	Course Topic
NCO Core Chemistry	NCO Core Instrumentation
NCO Core Electrical	NCO Core Mathematics
NCO Core Mechanical	Basic Crane & Rigging Safety
¹ CSB Multi-Canister Handling Machine	¹ CSB Cask Receiving Crane
¹ Certification required.	

NCO Cask Transport Training	
Course Topic	Course Topic
NCO Core Chemistry	NCO Core Instrumentation
NCO Core Electrical	NCO Core Mathematics
NCO Core Mechanical	Hands-On Fire Extinguisher
Basic Crane & Rigging Safety	Lock & Tag Controlling Org.
Basic Medic First Aid	CSB Service Station
CVD Cask Connect and Disconnect Operations	Cask Transportation
¹ Multi-Canister Overpack Loadout System	
¹ Certification required.	

SNFP Operations Shift Managers Training	
Course Topic	Course Topic
Operations Shift Managers complete the same facility specific courses as the Nuclear Chemical Operators and in addition, complete the below listed courses.	
Initial Supervisor Training	SNFP Shift Manager Training

Stationary Operating Engineer Training (CVD and CSB only)	
Course Topic	Course Topic
Basic Crane & Rigging Safety	Hands-On Fire Extinguisher
Lock & Tag Controlling Org.	Medium Risk Electrical Safety

Radiological Control Technician Training	
Course Topic	Course Topic
DOE RCT Site Academic	DOE RCT Fundamentals
HPT Oral Exam Board	HPT Site Generic OJT
RCT Biennial Requalification	Radiological Worker II
¹ K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview	² CVD Systems Overview
³ CSB Systems Overview	
¹ Only applies to personnel who are assigned tasks related to the K Basin Facility systems. ² Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility systems. ³ Only applies to personnel who are assigned tasks related to the Canister Storage Building systems.	

Radiological Control Supervisors	
Course Topic	Course Topic
DOE RCT Site Academic	DOE RCT Fundamentals
HPT Oral Exam Board	HPT Site Generic OJT
RCT Biennial Requalification	Radiological Worker II
HP 1st Line Manager Oral Board	Source Custodian
¹ K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview	² CVD Systems Overview
³ CSB Systems Overview	Initial Supervisor Training
¹ Only applies to personnel who are assigned tasks related to the K Basin Facility systems. ² Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility systems. ³ Only applies to personnel who are assigned tasks related to the Canister Storage Building systems.	

Radiological Control Technical Support	
Course Topic	Course Topic
Radiological Control Technical Support personnel are qualified by meeting entry level education/experience and completing the Spent Nuclear Fuel Project Job Specific Orientation.	

Instrument and Control Technician Training	
Course Topic	Course Topic
¹ K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview	² CVD Systems Overview
³ CSB Systems Overview	
¹ Only applies to personnel who are assigned tasks related to the K Basin Facility safety systems. ² Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility safety systems. ³ Only applies to personnel who are assigned tasks related to the Canister Storage Building safety systems.	

Millwright Training	
Course Topic	Course Topic
¹ K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview	² CVD Systems Overview
³ CSB Systems Overview	
¹ Only applies to personnel who are assigned tasks related to the K Basin Facility safety systems. ² Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility safety systems. ³ Only applies to personnel who are assigned tasks related to the Canister Storage Building safety systems.	

Pipefitter Training	
Course Topic	Course Topic
¹ K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview	² CVD Systems Overview
³ CSB Systems Overview	
¹ Only applies to personnel who are assigned tasks related to the K Basin Facility safety systems. ² Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility safety systems. ³ Only applies to personnel who are assigned tasks related to the Canister Storage Building safety systems.	

Electrician Training	
Course Topic	Course Topic
High Risk Electrical Safety	National Electric Code-Grounding Overhead Crane Insp. Electrical
¹ K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview	² CVD Systems Overview
³ CSB Systems Overview	
¹ Only applies to personnel who are assigned tasks related to the K Basin Facility safety systems. ² Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility safety systems. ³ Only applies to personnel who are assigned tasks related to the Canister Storage Building safety systems.	

Maintenance Supervisors	
Course Topic	Course Topic
Initial Supervisor Training	¹ K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview
² CVD Systems Overview	³ CSB Systems Overview
¹ Only applies to personnel who are assigned tasks related to the K Basin Facility safety systems. ² Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility safety systems. ³ Only applies to personnel who are assigned tasks related to the Canister Storage Building safety systems.	

Person In Charge Training	
Course Topic	Course Topic
Integrated Safety Management System (ISMS) Overview	Field Work Supervisor
Pre-Job Briefing Training	SNF Project Lock and Tag Hands On
Conduct Of Operations	Radiological Worker II Training
Users Scaffold Safety	Work Management and JCS Overview
Medium Risk Electrical Safety or High Risk Electrical Safety	Authorization Basis Training or Unresolved Safety Question Training

Field Work Supervisors	
Course Topic	Course Topic
Field Work Supervisor	Integrated Safety Management System (ISMS) Overview
Pre-Job Briefing Training	Authorization Basis Training or Unresolved Safety Question Training

Emergency Preparedness Training	
Position	Course Topic(s)
Building Emergency Director	Qualified Shift Manager
Incident Command Post Communicator	Emergency Procedures/Abnormal Plant Conditions
Emergency Response Team Member	Emergency Procedures/Abnormal Plant Conditions First Aid Cardiopulmonary Resuscitation Bloodborne Pathogens
Hazard Assessor	Qualified Radiological Control Supervisor
Hazard Communicator	Qualified Radiological Control Staff

Training Instructor/Specialist	
Course Topic	Course Topic
Instructors/Specialist must be technically competent in each area of instruction or have a subject matter expert present.	
Trainer's Training (or equivalent)	

Engineering Personnel	
Course Topic	Course Topic
Engineering personnel are qualified by meeting entry level education/experience and completing the Spent Nuclear Fuel Project Job Specific Orientation.	

Managers			
Course Topic		Course Topic	
Managers are qualified by meeting entry level education/experience and completing the Spent Nuclear Fuel Project Job Specific Orientation. The specific DOE Order 5480.20A positions are listed below.			
SNFP Operations Manager	Facility Operations Manager	Chief Engineer	Engineering Management
Radiological Control Manager	Maintenance Manager	Quality Assurance Manager	Nuclear Safety Manager
Emergency Planning Manager	Training Manager	Environmental Manager	

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
GENERIC REQUIREMENTS			
CONTRACTOR REQUIREMENTS DOCUMENT			
6. Perform periodic systematic evaluations of training and qualification programs.	YES	NO	TN 8-001-07, General Training Administration
CHAPTER I GENERAL REQUIREMENTS			
2. TRAINING ORGANIZATION			
One or more organizations are established to be responsible for the training of operating organization personnel.	YES	NO	HNF-PRO-168, Rev 0, Employee Training
This organization(s) is held accountable for providing facility line management with the support necessary to ensure that personnel in the operating organization are qualified to safely and effectively meet job requirements.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-168, Rev 0, Employee Training
The responsibilities, qualifications, and authority of training organization personnel (including subcontractors) are documented, and managerial responsibilities and authority clearly defined.	YES	NO	HNF-PRO-168, Rev 0, Employee Training TN 8-001-07, General Training Administration
3. SUBCONTRACTOR PERSONNEL QUALIFICATION			
Subcontractor personnel meet the qualification requirements for the job function to be performed.	YES	NO	HNF-PRO-168, Rev 0, Employee Training
The operating organization ensures that subcontractor and temporary personnel who perform specialized activities such as radiation protection, maintenance, in-service inspection, radiography, and welding are qualified to perform their assigned tasks by properly documenting one of the following:	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-168, Rev 0, Employee Training TN 8-001-07, General Training Administration
a. The satisfactory result of an audit of subcontractor records which relate to qualification of the subcontractor personnel being considered for assignment by the operating organization; or			
b. Previous verification (within 2 years) of the ability of the subcontractor employee to perform assigned tasks safely and efficiently; or			
c. Successful completion by the subcontractor employee of those segments of the operating organization's qualification program which are considered pertinent to the accomplishment of the task to be performed.			
Subcontractor personnel who do not meet the requirements, for work activities on engineered safety	YES	NO	HNF-PRO-168, Rev 0, Employee Training

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
features identified in the final Safety Analysis Report are supervised by a person who meets the qualification criteria established by the operating organization for conduct of such activities.			TN 8-001-07, General Training Administration
4. PERSONNEL SELECTION			
a. A process for selecting and assigning personnel into the operating organization is established.	YES	NO	HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
b. DOE approval is required on a case-by-case basis for individuals who do not meet experience requirements for a position but are assigned to the position based on a determination that the overall operating organization is balanced and strong.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
5. QUALIFICATION PROCESS			
a. Qualification requirements for personnel in each functional level are defined based on the criteria in DOE 5480.20A.	YES	NO	HNF-PRO-168, Rev 0, Employee Training
c. Technician and maintenance personnel qualification includes demonstrated performance capabilities (performance demonstrations) to ascertain their ability to adequately perform assigned tasks.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-071, Rev 1, Radiological Control Technician, Training
Participation in continuing training programs is required to maintain and improve their abilities to continue to function safely in the operating organization.	YES	NO	TN 8-016-01, Radiological Control Training Administration Program HNF-PRO-071, Rev 1, Radiological Control Technician, Training
			TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-016-01, Radiological Control Training Administration Program

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
d. The successful completion of the requalification program and formal requalification of an individual is indicated by signature.	YES	NO	TN 8-001-07, General Training Administration
e. Qualification may be granted only after assuring that all requirements (including training and examinations as required) and other specified requirements (e.g., medical examination) have been satisfactorily completed.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-016-01, Radiological Control Training Administration Program TN 8-001-07, General Training Administration
f. Qualification of operators and their immediate supervisors is valid for a period not to exceed two years unless revoked for cause (e.g., medical disqualification, performance deficiencies).	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
6. CERTIFICATION PROCESS			
a. Certification is governed by written procedures which include requirements for documented assessment of a person's qualifications through examinations and operational evaluations.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
b. Certification may be granted only after assuring that all qualification requirements (including written and oral examinations and operational evaluations) and other specified requirements (e.g., medical examinations) have been satisfactorily completed, and management has assured that the person is capable of safely performing all functions of the position.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
Certification is verified by a person or group other than the person or group that provided the training or the candidate's immediate supervisor.	YES	NO	TN 8-001-07, General Training Administration
Certification is valid for a period not to exceed two years.	YES	NO	TN 8-001-07, General Training Administration
c. Certification is required of positions equivalent to positions listed in DOE 5480.20A.1.6.c.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-005-07, Facility Operations Personnel Training Requirements

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
All other operator or immediate supervisor positions to be certified are identified in the Training Implementation Matrix.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements
7. TRAINING			
Training to support qualification and certification programs is based on a systematic approach to training.	YES	NO	HNF-PRO-167, Rev 0, Using the SAT Model for Training
A graded approach is used to establish the systematic approach to training for operations personnel, maintenance personnel, technicians, and the technical staff.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-167, Rev 0, Using the SAT Model for Training TN 8-001-07, General Training Administration
a. GENERAL			
Training programs consist of a combination of classroom-type and on-the-job training, including simulator and laboratory training as applicable.	YES	NO	TN 8-001-07, General Training Administration
(1)(a) Personnel who are appointed to positions in the operating organization subsequent to approval of the Training Implementation Matrix required by DOE 5480.20 of 2-20-91 meet the education and experience requirements of DOE 5480.20A.	YES	NO	TN 8-001-07, General Training Administration
(1)(b) Personnel who are appointed to positions in the operating organization prior to the approval of the TIM are required to participate in job-specific training and qualification/certification programs and subsequent continuing training programs.	YES	NO	TN 8-001-07, General Training Administration
(3) Qualification and certification programs are reviewed by facility management and kept up to date to reflect changes to the facility, Safety Analysis Reports, Technical Safety Requirements, procedures, regulations, and applicable industry operating experience.	YES	NO	TN 8-001-07, General Training Administration
Team training is incorporated into the training program if job functions require team solutions and activities.	YES	NO	HNF-PRO-424, Rev 2, Emergency Preparedness Program TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
b. Training Process			
A systematic approach to training is used to establish initial and continuing training programs to ensure operating organization personnel are qualified to perform job requirements.	YES	NO	HNF-PRO-167, Rev 0, Using the SAT Model for Training TN 8-001-07, General Training Administration

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
<p>c. Initial Training Initial training programs are established for operating organization personnel at operable nuclear facilities to develop or enhance their knowledge and skills to perform job assignments. Examinations (written, oral, operational evaluations, performance demonstrations) on material included in the training programs are administered and documented as appropriate.</p>	YES	NO	TN 8-001-07, General Training Administration
<p>Operational use of trainees is in accordance with (IAW) DOE 5480.20A.1.7.c.</p>	YES	NO	TN 8-001-07, General Training Administration TN 8-002-03, Oral Examination and Operational Evaluation Program TN 8-003-05, Written Examination Program TN 8-009-04, Operations On-The-Job Training TN 8-001-07, General Training Administration TN 8-009-04, Operations On-The-Job Training
<p>d. Continuing Training Continuing training programs are established for operating organization personnel who perform functions associated with engineered safety features as identified in the Final Safety Analysis Report.</p>	YES	NO	TN 8-001-07, General Training Administration
<p>(1) Continuing training is structured commensurate with specific position needs.</p>	YES	NO	TN 8-001-07, General Training Administration
<p>Continuing training is administered on a cycle not to exceed two years.</p>	YES	NO	TN 8-001-07, General Training Administration
<p>Continuing training includes, at a minimum, training in significant facility system and component changes, applicable procedure changes, applicable industry operating experience, selected fundamentals with emphasis on seldom used knowledge and skills necessary to assure safety, and other training as needed to correct identified performance problems.</p>	YES	NO	TN 8-001-07, General Training Administration
<p>(2) Periodic examinations (written, oral, operational evaluations, performance demonstrations, as applicable to the position) are administered and documented throughout the cycle on material included in the operator (operators and their immediate supervisors) training programs.</p>	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
<p>(3) Continuing training programs for certified operators include preplanned classroom-type training, on-the-job training, and operational evaluations on a regular and continuing basis.</p>	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
Continuing training programs for certified operations personnel include, at a minimum, the following training items as related to job performance:			
(a) Training and examination covering abnormal facility procedures and emergencies at least annually for certified operators and certified supervisors.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements
(b) Training drills conducted in the facility or on a simulator to enable personnel and operating teams to maintain their ability to respond to abnormal and accident situations.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements
(c) Training drills conducted in the facility do not lead to or have the potential for safety concerns. Instruction in the use of facility systems to control or mitigate accidents, including both classroom and training conducted in the facility.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements
(d) Training on the subjects indicated in DOE 5480.20A.1.7.d.(4), (d) 1 through g as applicable to the position, whenever examinations and experience (Industry and nuclear facility specific) or evidence indicates a need for emphasis.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements
e. General Employee Training (GET)			
A GET program is in place and all persons are trained in the subjects specified in DOE 5480.20A.1.7.e.(1) commensurate with their job duties.	YES	NO	HNF-PRO-057, Rev 0, Hanford General Employee Training
(2) Visitors, contracted personnel, and temporary personnel are under continuous escort while at the facility unless they have been trained in appropriate areas from the subjects specified above to the extent necessary to ensure safe execution of their duties.	YES	NO	Course #000001, Hanford General Employee Training (HGET) TN 8-001-07, General Training Administration HNF-PRO-168, Rev 0, Employee Training
(3) A written examination covering the areas specified in DOE 5480.20A.1.7.e.(3) is required for all personnel except short-term visitors.	YES	NO	HNF-PRO-057, Rev 0, Hanford General Employee Training
Persons who do not pass this examination are not permitted access without a continuous escort.	YES	NO	HNF-PRO-168, Rev 0, Employee Training
(4) Changes in GET areas identified in 1.7e(1) of the Order are included in continuing training programs for all facility personnel.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-057, Rev 0, Hanford General Employee Training

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
f. Probabilistic Risk Assessment (PRA) Training			
For those facilities for which a PRA HAS BEEN PERFORMED, PRA results are included in initial and continuing training programs for operations and technical support personnel IAW DOE 5480.20A.1.7.f.	N/A	YES	No formal Probabilistic Risk Assessment has been completed for the SNF Project.
g. Technician and Maintenance Personnel Training			
(1) Personnel in this category are qualified to perform tasks associated with their job specialty, or are directly supervised.	YES	NO	TN 8-001-07, General Training Administration
(2) Training is provided on engineered safety features identified in the Final Safety Analysis Report and includes the systems (as applicable) and elements specified in 5480.20A.1.7.g.(2).	YES	NO	TN 8-006-03, Maintenance and Work Control Training Requirements TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-007-04, Technical Staff Training Requirements
(3) Training program content for radiological control technicians (RCT) is in accordance with the requirements contained in 10 CFR 835, Occupational Radiation Protection, and DOE/EH-0256T, DOE Radiological Control Manual.	YES	NO	HNF-PRO-071, Rev 1, Radiological Control Technician, Training TN 8-001-07, General Training Administration TN 8-016-01, Radiological Control Training Administration Program
RCT training program elements (i.e., selection, training process, continuing training, qualification) are in accordance with the requirements of this Order.	YES	NO	HNF-PRO-071, Rev 1, Radiological Control Technician, Training TN 8-001-07, General Training Administration TN 8-016-01, Radiological Control Training Administration Program
h. Technical Staff Training			
(1) A list of specific technical support personnel positions that have a direct impact on employee, facility, or public safety is developed.	YES	NO	TN 8-007-04, Technical Staff Training Requirements
(2) A training program is established for entry-level technical support personnel.	YES	NO	TN 8-007-04, Technical Staff Training Requirements
Subject areas (as appropriate to the position) specified in 5480.20A.1.7.h.(2) are included in the training program.	YES	NO	TN 8-007-04, Technical Staff Training Requirements
i. Management and Supervisory Training			
The topics listed in paragraph 1.7.h.(2) are included as appropriate.	YES	NO	TN 8-007-04, Technical Staff Training Requirements
Training programs for managers and first line supervisors are established and contain the topics listed in 5480.20.1.7.i.(1)&(2) as appropriate.	YES	NO	TN 8-007-04, Technical Staff Training Requirements

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
8. OPERATOR AND SUPERVISOR EXAMINATIONS			
Comprehensive written and oral examinations and operational evaluations are prepared and administered for initial certification of certified operators and supervisors.	YES	NO	TN 8-001-07, General Training Administration
Comprehensive written examinations and individual performance demonstrations are prepared and administered for the initial qualification of other operators and supervisors.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements
Separate oral examinations and operational evaluations are administered to Category A personnel (they may be combined for Category B and non-reactor nuclear facilities).	N/A	N/A	TN 8-001-07, General Training Administration
These examinations contain a representative sampling of the knowledge and skills identified in and derived from the learning objectives resulting from the systematic analysis of the position, and from information in Safety Analysis Reports, Technical Safety Requirements, system description manuals and operating procedures, lessons learned from Occurrence Reports, and other applicable sources.	YES	NO	TN 8-001-07, General Training Administration
a. Written procedures which address examination/evaluation development, approval, security, and administration are in place to administer examinations and operational evaluations.	YES	NO	TN 8-002-03, Oral Examination and Operational Evaluation Program
Written procedures are in place to establish and maintain examination question banks.	YES	NO	TN 8-003-05, Written Examination Program
b. The oral examination content is tailored to evaluate the candidate's operational knowledge (initial/continuing training program subjects) and organizational awareness to determine how the individual will function in an operating environment.	YES	NO	TN 8-009-04, Operations On-The-Job Training
			TN 8-002-03, Oral Examination and Operational Evaluation Program
			TN 8-003-05, Written Examination Program
			TN 8-002-03, Oral Examination and Operational Evaluation Program
			TN 8-003-05, Written Examination Program
9. OPERATOR AND SUPERVISOR REEXAMINATIONS			
Reexaminations for certified and qualified operators and supervisors include subjects in which the person is expected to be knowledgeable and emphasize those subjects covered by the continuing training program.	YES	NO	TN 8-001-07, General Training Administration
Comprehensive biennial examinations or periodic examinations throughout the continuing training cycle are administered.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements
Written examinations and performance demonstrations are administered to requalify operators and supervisors.	YES	NO	TN 8-001-07, General Training Administration
			TN 8-005-07, Facility Operations Personnel Training Requirements

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
Written and oral examinations and operational evaluations are administered to <u>recertify</u> operators and supervisors.	YES	NO	TN 8-001-07, General Training Administration
Separate biennial oral examinations and operational evaluations are administered to Category A <u>certified</u> personnel (they may be combined for Category B and non-reactor nuclear facility certified personnel).	N/A	N/A	TN 8-005-07, Facility Operations Personnel Training Requirements Non-Reactor Nuclear Facility
10. REQUALIFICATION			
Operators and their supervisors are not allowed to continue to function in qualified or certified positions if they have not completed all of the requalification or recertification program elements (continuing training and associated examinations) within the two year continuing training cycle.	YES	NO	TN 8-001-07, General Training Administration
If a qualified or certified operator or supervisor fails a requalification or recertification examination, or shows serious job performance deficiencies which indicate that he or she may perform in an unsafe manner, the individual is removed from activities requiring requalification or certification.	YES	NO	TN 8-001-07, General Training Administration
a. Qualification or certification is regained only after completing remedial training designed to correct the deficiency(ies) and satisfactory completion of a reexamination.	YES	NO	TN 8-001-07, General Training Administration
(1) Recertification includes a review of individual operating performance during the past certification period by either line management, by a committee, or by a person designated by management and a current medical examination.	YES	NO	TN 8-001-07, General Training Administration
b. When a <u>certified</u> operator or supervisor has been absent from certification duties for greater than 3 months, but less than 12 months, selected retraining (including written and oral examinations and operational evaluations) is provided as deemed necessary prior to reassignment to certification duties.	YES	NO	TN 8-001-07, General Training Administration
if the absence is greater than 12 months, comprehensive written and oral examinations and operational evaluations (as required of initial candidates) are given to determine weak areas.	YES	NO	TN 8-001-07, General Training Administration
Retraining and reexamination are required in areas of weakness.	YES	NO	TN 8-001-07, General Training Administration
11. EXCEPTIONS TO TRAINING			
			TN 8-005-07, Facility Operations Personnel Training Requirements

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
In all cases, the requisite examinations (as described in 1.8) to establish qualification are completed.	YES	NO	TN 8-001-07, General Training Administration
a. Written procedures and criteria are in place for taking and documenting exceptions to the initial training program requirements of 5480.20A.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
The name of the person, the specific subject for which the exception is requested, and the justification are included as part of the documentation for each exception.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
The operating organization ensures that sufficient facility-specific instruction is provided to enable the candidate to perform job requirements.	YES	NO	HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
Exception procedures are submitted to and approved by the DOE Operations Office Manager.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
Individual exceptions are approved by contractor management after approval of the exception procedure by the Operations Office Manager.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
If challenge examinations are administered, they are sufficiently comprehensive to adequately test the learning objective(s) that are stated in the training program.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
12. EXTENSIONS			
a. Written procedures which include the elements contained in DOE 5480.20A.1.12.a.(1) through (3) are in place to control extensions of qualification and certification.	YES	NO	HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
Extension of certification is approved by the Operations Office Manager.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
Extension of qualification is approved by contractor management.	YES	NO	TN 8-001-07, General Training Administration HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
13. ALTERNATIVES TO EDUCATION AND EXPERIENCE			
a. Alternatives to the education requirements specified are considered on a case-by-case basis and approved and documented by the operating organization.	YES	NO	HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions TN 8-001-07, General Training Administration

TABLE 1 - GENERAL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
A system or written procedure is in place for determining alternatives to educational requirements using the guidelines provided in DOE 5480.20A.	YES	NO	HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
(4) Related experience may substitute for education at the rate of six semester credit hours for each year of experience up to a maximum of 60 credit hours.	YES	NO	TN 8-001-07, General Training Administration
b. A system or written procedure is in place for determining alternatives to experience requirements using the guidelines provided in DOE 5480.20A.	YES	NO	HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
(1) Formal education is not allowed to substitute for more than 50 percent of the experience requirement unless otherwise stated in DOE 5480.20A requirements.	YES	NO	TN 8-001-07, General Training Administration
(2) Job-related training in the position sought may qualify as equivalent to nuclear experience on a one-for-one basis for up to a maximum of two years.	YES	NO	HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions
15. RECORDS			TN 8-001-07, General Training Administration
Written procedures are in place that specify requirements for the maintenance of training, qualification, and certification records for operating organization personnel.	YES	NO	TN 8-001-07, General Training Administration
a. Qualification and certification of personnel is documented in an easily auditable format.	YES	NO	TN 8-008-06, Training Records
Individual qualification and certification records include all items specified in DOE 5480.20A.I.15.a.(1) through (7).	YES	NO	TN 8-001-07, General Training Administration
b. A historical record that documents initial qualification or certification, and applicable information from a. above, that verifies the most recent qualification or certification is retained in individual records.	YES	NO	TN 8-008-06, Training Records

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
CHAPTER IV NON-REACTOR NUCLEAR FACILITY PERSONNEL			
2. ENTRY LEVEL			
a. MANAGERS			
Meets the following prior to assuming the position.			
(1) Has a BS in engineering or related science.	YES	NO	TN 8-001-07, General Training Administration
(2) Experience; 4 years nuclear. (3)(a) A degree may fulfill 3 years experience (job related education or experience may substitute for a degree on a case-by-case basis).	YES	NO	TN 8-001-07, General Training Administration
(3)(b) Establish facility-specific training based upon comparison of person's background and abilities with position requirements.	YES	NO	TN 8-001-07, General Training Administration
(3)(c) The Training Manager has a Baccalaureate that includes courses in education and technical subjects.	YES	NO	TN 8-001-07, General Training Administration Meets requirement through equivalency process.
b. SUPERVISORS			
Meets the following prior to assuming the position.			
(1) Has a High School Diploma.	YES	NO	TN 8-001-07, General Training Administration
(2)(3) Experience; 3 years nuclear of which full-time academic training may fulfill 2 years.	YES	NO	TN 8-007-04, Technical Staff Training Requirements TN 8-001-07, General Training Administration
c. OPERATORS			
(1) Has a High School Diploma.	YES	NO	TN 8-001-07, General Training Administration
d. TECHNICIANS			
(1) Experience; 1 year job related.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements
e. MAINTENANCE PERSONNEL			
(1) Experience; 1 year maintenance related.	YES	NO	TN 8-001-07, General Training Administration TN 8-016-01, Radiological Control Training Administration Program
f. TECHNICAL SUPPORT PERSONNEL			
(1) Baccalaureate in engineering or related science	YES	NO	TN 8-001-07, General Training Administration TN 8-006-03, Maintenance and Work Control Training Requirements
(2) Experience: 2 years Job related and 1 year Nuclear	YES	NO	TN 8-001-07, General Training Administration TN 8-007-04, Technical Staff Training Requirements

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
g. TRAINING ORGANIZATION PERSONNEL			
(1) Training Coordinators			
(a) High School Diploma	YES	NO	TN 8-001-07, General Training Administration
(b) 2 years nuclear and 6 months on site	YES	NO	TN 8-004-03 Training Organization Training Requirements TN 8-001-07, General Training Administration TN 8-004-03 Training Organization Training Requirements
(2) Training Instructors			
(a) High School Diploma	YES	NO	TN 8-001-07, General Training Administration
(b) Experience: Consistent with the material being presented.	YES	NO	TN 8-004-03 Training Organization Training Requirements TN 8-001-07, General Training Administration TN 8-004-03 Training Organization Training Requirements
Special Requirements:			
Instructors who are responsible for instruction on subjects such as Technical Safety Requirements have received training on facility operating characteristics and principles, and operating limits and their bases	YES	NO	TN 8-001-07, General Training Administration
Instructors have demonstrated knowledge of instructional techniques through training or experience and are qualified by the Training Manager (or equivalent) for the material being presented.	YES	NO	TN 8-001-07, General Training Administration TN 8-004-03 Training Organization Training Requirements
3. MEDICAL EXAMINATIONS			
The physical demands imposed upon personnel for both routine and emergency functions are determined.	YES	NO	HNF-PRO-111, Rev 0, Occupational Medical Qualification and Monitoring
An initial medical examination is administered to candidates.	YES	NO	HNF-PRO-021, Rev 0, Employment & Personnel Placement
Certified operators, fissionable material handlers, and certified supervisors are reexamined at least every two years.	YES	NO	TN 8-001-07, General Training Administration
Certified operators, fissionable material handlers, and certified supervisors are medically cleared prior to returning to work following any sickness or injury that keeps the person from performing duties for a period exceeding one month.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-001-07, General Training Administration
Medical examination requirements for other operating organization personnel are established by contractor procedures.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
4. SPECIFIC TRAINING			
The depth and scope of training and qualification programs are commensurate with the hazard level and complexity of the operations.	YES	NO	TN 8-001-07, General Training Administration
a. OPERATORS			
Training is sufficiently comprehensive to cover areas that are fundamental to the job duties.	YES	NO	TN 8-001-07, General Training Administration
(1) A core of subjects such as industrial safety, instrumentation and control, basic physics, chemistry, industry operating experience, and major facility systems as applicable to the position and the facility is established.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-001-07, General Training Administration
(2) Training programs include on-the-job and classroom-type training on the topics identified in IV.4.a.(2)	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
b. FISSIONABLE MATERIAL HANDLERS			
Training includes the same categories specified for Operators, and additional categories listed in IV.4.b. to the extent applicable to the position.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
c. SUPERVISORS			
Training includes the categories and on-the-job training specified for Operators and Fissionable Material Handlers to the extent to which they apply, and is of increased depth to reflect the added responsibility of the supervisor position.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
d. CERTIFIED OPERATOR WRITTEN EXAMINATION CONTENTS			
The examination includes a representative sampling from the items listed in IV.4.d, in addition to the items listed in paragraph 4a, as appropriate to the position and to the facility.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
e. CERTIFIED SUPERVISOR WRITTEN EXAMINATION CONTENTS.			
The examination includes a representative sampling from the items listed in IV.4.e, in addition to the items listed in paragraph IV.4.d, as appropriate to the position and to the facility.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
f. OPERATIONAL EVALUATIONS			
The operational evaluations administered to certified operator, fissionable material handler, and certified supervisor candidates are generally similar in scope. The evaluation contains questions and operational exercises and includes a facility walk-through, and may include system and/or component operation.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

ORDER REQUIREMENTS	REQ. MET YES/NO	EXCEPTION TAKEN TO REQ. YES/NO	COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION
Operational evaluations, to the extent applicable to the facility, require the candidate to demonstrate an understanding of, and the ability to perform the actions necessary to accomplish a representative sampling from the items listed in IV.4.f.(1)-(12).	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
9. CONTROL MANIPULATIONS			
A list of control manipulations that is based on an analysis of the job is established.	YES	NO	TN 8-001-07, General Training Administration
Certified operator, fissionable material handler, and certified supervisor candidates perform control manipulations for initial certification and	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-001-07, General Training Administration
On a biennial basis as part of the continuing training program after certification is achieved.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
5. OPERATOR, FISSIONABLE MATERIAL HANDLER, AND SUPERVISOR PROFICIENCY			
Certified operators, fissionable material handlers, and certified supervisors actively participate in the job functions associated with their certification.	YES	NO	TN 8-001-07, General Training Administration
a. Procedures are established by the operating organization which define requirements and frequency necessary to maintain an active status.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-001-07, General Training Administration
b. If active status (proficiency) is not maintained, certification is suspended.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements
Prior to resuming duties associated with certification, the operating contractor ensures that:			
(1) Certification is otherwise current and valid; and	YES	NO	TN 8-001-07, General Training Administration
(2) The certified operator, fissionable material handler, or certified supervisor performs certification duties under the direct supervision of a certified person, as appropriate to the position, for a specific period of time.	YES	NO	TN 8-005-07, Facility Operations Personnel Training Requirements TN 8-001-07, General Training Administration
c. If the facility is not operated frequently enough to meet normal proficiency requirements certification is reinstated prior to facility operation.	YES	NO	TN 8-001-07, General Training Administration TN 8-005-07, Facility Operations Personnel Training Requirements