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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

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P.O. Box 1000  
Richland, Washington

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G. L. Eaton  
Fluor Hanford, Inc.

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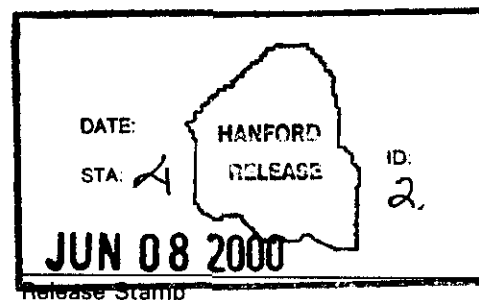
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# **TRAINING IMPLEMENTATION MATRIX**

**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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### Compliance matrix

TABLE 1 - GENERAL

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## 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**

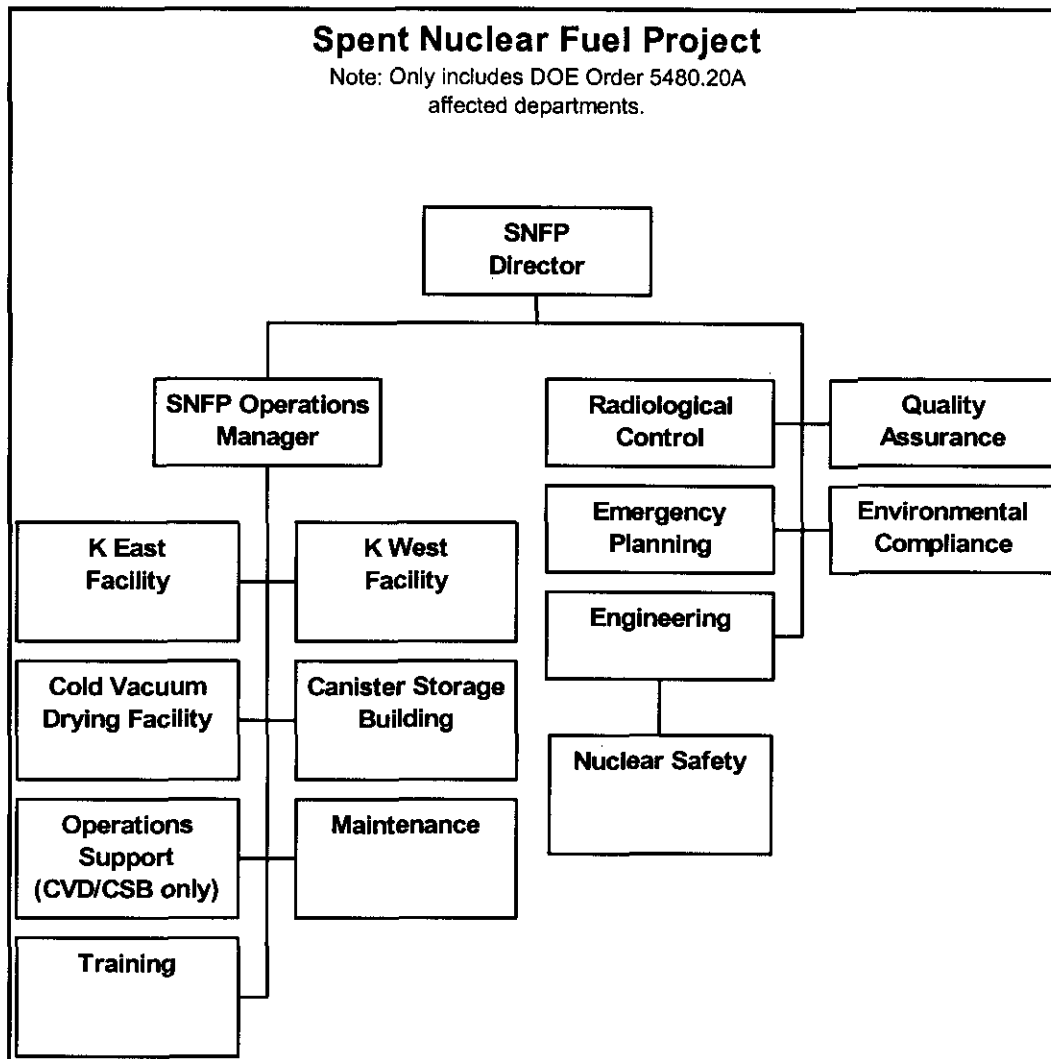
The operating organization for SNFP is comprised of four facility operations teams and nine support organizations, as follows:

#### 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   | ▪ Fire protection                                    |
| ▪ Quality assurance              | ▪ Security   |
| ▪ Radiological health and safety | ▪ Personnel and computer security                    |
| ▪ Facility emergency plans       | ▪ Criticality safety                                 |
| ▪ Industrial safety/hygiene      | ▪ 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                       |

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| 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             |
| <sup>1,2</sup> Cask Loadout System   | <sup>2</sup> K Basin Fuel Handling |
| <sup>1</sup> To apply after modification of K East Facility.<br><sup>2</sup> 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.                               |
| <sup>1</sup> CVD Bay Operations          | <sup>1</sup> CVD Monitoring and Control System Operations |
| CVD Routines                             | CVD Systems   |
| <sup>1</sup> 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                             | <sup>1</sup> CSB Multi-Canister Handling Machine |
| CSB Multi-Canister Overpack Handling Operations | CSB Systems Training                             |
| <sup>1</sup> CSB Cask Receiving Crane           |  |
| <sup>1</sup> 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          |
| <sup>1</sup> CSB Multi-Canister Handling Machine                | <sup>1</sup> CSB Cask Receiving Crane |
| <sup>1</sup> 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         |
| <sup>1</sup> Multi-Canister Overpack Loadout System |                             |
| <sup>1</sup> 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 |

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

| <b>Radiological Control Supervisors</b>  |                                   |
|--|-----------------------------------|
| <b>Course Topic</b>  | <b>Course Topic</b>               |
| 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                  |
| <sup>1</sup> K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview   | <sup>2</sup> CVD Systems Overview |
| <sup>3</sup> CSB Systems Overview  | Initial Supervisor Training       |
| <sup>1</sup> Only applies to personnel who are assigned tasks related to the K Basin Facility systems.<br><sup>2</sup> Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility systems.<br><sup>3</sup> Only applies to personnel who are assigned tasks related to the Canister Storage Building systems. |                                   |

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

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

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

| Pipefitter Training   |                                   |
|---|-----------------------------------|
| Course Topic  | Course Topic                      |
| <sup>1</sup> K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview  | <sup>2</sup> CVD Systems Overview |
| <sup>3</sup> CSB Systems Overview   |                                   |
| <sup>1</sup> Only applies to personnel who are assigned tasks related to the K Basin Facility safety systems.<br><sup>2</sup> Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility safety systems.<br><sup>3</sup> 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   |
| <sup>1</sup> K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview  | <sup>2</sup> CVD Systems Overview |
| <sup>3</sup> CSB Systems Overview   |                                   |
| <sup>1</sup> Only applies to personnel who are assigned tasks related to the K Basin Facility safety systems.<br><sup>2</sup> Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility safety systems.<br><sup>3</sup> 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   | <sup>1</sup> K Basin Fuel Retrieval System/ Integrated Water Treatment System Overview |
| <sup>2</sup> CVD Systems Overview   | <sup>3</sup> CSB Systems Overview  |
| <sup>1</sup> Only applies to personnel who are assigned tasks related to the K Basin Facility safety systems.<br><sup>2</sup> Only applies to personnel who are assigned tasks related to the Cold Vacuum Drying Facility safety systems.<br><sup>3</sup> 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<br>First Aid<br>Cardiopulmonary Resuscitation<br>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<br>YES/NO | EXCEPTION<br>TAKEN TO<br>REQ. YES/NO | COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION                             |
|---|--------------------|--------------------------------------|---|
| <b>GENERIC REQUIREMENTS</b>   |                    |                                      |   |
| <b>CONTRACTOR REQUIREMENTS DOCUMENT</b>   |                    |                                      |   |
| 6. Perform periodic systematic evaluations of training and qualification programs.  | YES                | NO                                   | TN 8-001-07, General Training Administration  |
| <b>CHAPTER I GENERAL REQUIREMENTS</b>   |                    |                                      |   |
| <b>2. TRAINING ORGANIZATION</b>   |                    |                                      |   |
| 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<br>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                                   | TN 8-001-07, General Training Administration<br>HNF-PRO-168, Rev 0, Employee Training |
| <b>3. SUBCONTRACTOR PERSONNEL QUALIFICATION</b>   |                    |                                      |   |
| 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<br>HNF-PRO-168, Rev 0, Employee Training |
| 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<br>YES/NO | EXCEPTION<br>TAKEN TO<br>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  |
| <b>4. PERSONNEL SELECTION</b>   |   |                    |                                      |   |
| 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<br>HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions   |
| <b>5. QUALIFICATION PROCESS</b>   |   |                    |                                      |   |
| 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<br>TN 8-016-01, Radiological Control Training Administration Program<br>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 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements<br>TN 8-016-01, Radiological Control Training Administration Program |



TABLE 1 - GENERAL

| ORDER REQUIREMENTS  | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>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<br>TN 8-005-07, Facility Operations Personnel Training Requirements  |
| 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 8-016-01, Radiological Control Training Administration Program<br>TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| 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 8-016-01, Radiological Control Training Administration Program<br>TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| <b>6. CERTIFICATION PROCESS</b>   |                    |                                      |   |
| 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<br>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<br>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<br>TN 8-005-07, Facility Operations Personnel Training Requirements  |

TABLE 1 - GENERAL

| ORDER REQUIREMENTS  | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>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   |
| <b>7. TRAINING</b>  |                    |                                      |  |
| 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<br>HNF-PRO-167, Rev 0, Using the SAT Model for Training<br>TN 8-001-07, General Training Administration                   |
| <b>a. GENERAL</b>   |                    |                                      |  |
| 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<br>TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| <b>b. Training Process</b>  |                    |                                      |  |
| 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<br>TN 8-001-07, General Training Administration   |

**Spent Nuclear Fuel Project  
Training Implementation Matrix Rev. 0**

**HNF-5441**

**February 2000**

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**TABLE 1 - GENERAL**

| ORDER REQUIREMENTS  |  | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>REQ. YES/NO | COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION  |
|---|--|--------------------|--------------------------------------|--|
| <b>c. Initial Training</b>  |  |                    |                                      |  |
| 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.  |  | YES                | NO                                   | TN 8-001-07, General Training Administration   |
| Examinations (written, oral, operational evaluations, performance demonstrations) on material included in the training programs are administered and documented as appropriate.   |  | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-002-03, Oral Examination and Operational Evaluation Program<br>TN 8-003-05, Written Examination Program |
| Operational use of trainees is in accordance with (IAW) DOE 5480.20A.1.7.c.   |  | YES                | NO                                   | TN 8-009-04, Operations On-The-Job Training<br>TN 8-001-07, General Training Administration  |
| <b>d. Continuing Training</b>   |  |                    |                                      |  |
| 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.   |  | YES                | NO                                   | TN 8-001-07, General Training Administration   |
| (1) Continuing training is structured commensurate with specific position needs.  |  | YES                | NO                                   | TN 8-001-07, General Training Administration   |
| Continuing training is administered on a cycle not to exceed two years.   |  | YES                | NO                                   | TN 8-001-07, General Training Administration   |
| 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. |  | YES                | NO                                   | TN 8-001-07, General Training Administration   |
| (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.  |  | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |
| (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.  |  | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |

TABLE 1 - GENERAL

| ORDER REQUIREMENTS   | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>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  |
| Training drills conducted in the facility do not lead to or have the potential for safety concerns.  | YES                | NO                                   | TN 8-005-07, Facility Operations Personnel Training Requirements  |
| (c) 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  |
| <b>e. General Employee Training (GET)</b>  |                    |                                      |   |
| 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)<br>TN 8-001-07, General Training Administration<br>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<br>HNF-PRO-057, Rev 0, Hanford General Employee Training   |

TABLE 1 - GENERAL

| ORDER REQUIREMENTS   |   | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>REQ. YES/NO | COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION  |
|--|---|--------------------|--------------------------------------|--|
| <b>f. Probabilistic Risk Assessment (PRA) Training</b><br>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. |   |                    |                                      |  |
| <b>g. Technician and Maintenance Personnel Training</b>  |   |                    |                                      |  |
| (1)  | Personnel in this category are qualified to perform tasks associated with their job specialty, or are directly supervised.  | YES                | NO                                   | <b>TN 8-001-07, General Training Administration</b><br><br>TN 8-006-03, Maintenance and Work Control Training Requirements<br>TN 8-005-07, Facility Operations Personnel Training Requirements<br>TN 8-007-04, Technical Staff Training Requirements |
| (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                                   |  |
| (3)  | Training program content for radiological control technicians (RCT) is in accordance with the requirements contained in 10 CFR 835, <i>Occupational Radiation Protection</i> , and DOE/EH-0256T, <i>DOE Radiological Control Manual</i> . | YES                | NO                                   |  |
|  | 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<br>TN 8-001-07, General Training Administration<br>TN 8-016-01, Radiological Control Training Administration Program   |
| <b>h. Technical Staff Training</b>   |   |                    |                                      |  |
| (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   |
| <b>i. Management and Supervisory Training</b>  |   |                    |                                      |  |
|  | 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<br>YES/NO | EXCEPTION<br>TAKEN TO<br>REQ. YES/NO | COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION        |
|---|--------------------|--------------------------------------|--|
| <b>8. OPERATOR AND SUPERVISOR EXAMINATIONS</b>  |                    |                                      |  |
| 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                         |
| <b>9. OPERATOR AND SUPERVISOR REEXAMINATIONS</b>  |                    |                                      |  |
| 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<br>YES/NO | EXCEPTION<br>TAKEN TO<br>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<br>Non-Reactor Nuclear Facility                 |
| <b>10. REQUALIFICATION</b>   |                    |                                      |  |
| 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 qualification 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<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| (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<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| 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<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| 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<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| Retraining and reexamination are required in areas of weakness.  | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| <b>11. EXCEPTIONS TO TRAINING</b>  |                    |                                      |  |

TABLE 1 - GENERAL

| ORDER REQUIREMENTS   | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>REQ. YES/NO | COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION   |
|--|--------------------|--------------------------------------|---|
| In all cases, the requisite examinations (as described in I.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<br>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<br>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                                   | TN 8-001-07, General Training Administration<br>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<br>HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions                     |
| c. 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<br>HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions                     |
| d. 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<br>HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions                     |
| <b>12. EXTENSIONS</b>  |                    |                                      |   |
| a. Written procedures which include the elements contained in DOE 5480.20A.I.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   |
| b. Extension of certification is approved by the Operations Office Manager.  | YES                | NO                                   | TN 8-001-07, General Training Administration<br>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<br>HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions                     |
| <b>13. ALTERNATIVES TO EDUCATION AND EXPERIENCE</b>  |                    |                                      |   |
| 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<br>TN 8-001-07, General Training Administration                     |



TABLE 1 - GENERAL

| ORDER REQUIREMENTS  | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>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<br>HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions |
| 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                                   | TN 8-001-07, General Training Administration<br>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<br>HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions |
| (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                                   | TN 8-001-07, General Training Administration<br>HNF-PRO-179, Rev 2, Obtaining Training Equivalencies, Waivers, and Extensions |
| <b>15. RECORDS</b>  |                    |                                      | 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<br>TN 8-001-07, General Training Administration   |
| Individual qualification and certification records include all items specified in DOE 5480.20A.I.15.a.(1) through (7).  | YES                | NO                                   | TN 8-008-06, Training Records<br>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<br>TN 8-001-07, General Training Administration   |

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

| ORDER REQUIREMENTS                                       |  | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>REQ. YES/NO | COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION  |
|--|--|--------------------|--------------------------------------|--|
| <b>CHAPTER IV NON-REACTOR NUCLEAR FACILITY PERSONNEL</b> |  |                    |                                      |  |
| <b>2. ENTRY LEVEL</b>                                    |  |                    |                                      |  |
| <b>a. MANAGERS</b>                                       |  |                    |                                      |  |
| 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<br>Meets requirement through equivalency process.   |
| <b>b. SUPERVISORS</b>                                    |  |                    |                                      |  |
| 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<br>TN 8-001-07, General Training Administration<br>TN 8-007-04, Technical Staff Training Requirements |
| <b>c. OPERATORS</b>                                      |  |                    |                                      |  |
| (1)  | Has a High School Diploma.   | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |
| <b>d. TECHNICIANS</b>                                    |  |                    |                                      |  |
| (1)  | Experience; 1 year job related.  | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-016-01, Radiological Control Training Administration Program  |
| <b>e. MAINTENANCE PERSONNEL</b>                          |  |                    |                                      |  |
| (1)  | Experience; 1 year maintenance related.  | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-006-03, Maintenance and Work Control Training Requirements  |
| <b>f. TECHNICAL SUPPORT PERSONNEL</b>                    |  |                    |                                      |  |
| (1)  | Baccalaureate in engineering or related science  | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-007-04, Technical Staff Training Requirements<br>TN 8-001-07, General Training Administration       |
| (2)  | Experience: 2 years Job related and 1 year Nuclear   | YES                | NO                                   | TN 8-007-04, Technical Staff Training Requirements   |

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

| ORDER REQUIREMENTS   |   | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>REQ. YES/NO | COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION  |
|--|---|--------------------|--------------------------------------|--|
| <b>g. TRAINING ORGANIZATION PERSONNEL</b>  |   |                    |                                      |  |
| <b>(1) Training Coordinators</b>   |   |                    |                                      |  |
| (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<br>TN 8-001-07, General Training Administration<br>TN 8-004-03 Training Organization Training Requirements                   |
| <b>(2) Training Instructors</b>  |   |                    |                                      |  |
| (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<br>TN 8-001-07, General Training Administration<br>TN 8-004-03 Training Organization Training Requirements                   |
| <b>Special Requirements:</b>   |   |                    |                                      |  |
| 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<br>TN 8-004-03 Training Organization Training Requirements  |
| 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<br>TN 8-004-03 Training Organization Training Requirements  |
| <b>3. MEDICAL EXAMINATIONS</b>   |   |                    |                                      |  |
| 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<br>TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| Medical examination requirements for other operating organization personnel are established by contractor procedures.  |   | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

| ORDER REQUIREMENTS  | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>REQ. YES/NO | COMPLIANCE REFERENCE, CORRECTIVE ACTION, OR JUSTIFICATION  |
|---|--------------------|--------------------------------------|--|
| <b>4. SPECIFIC TRAINING</b>   |                    |                                      |  |
| 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   |
| <b>a. OPERATORS</b>   |                    |                                      |  |
| 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<br>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<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |
| <b>b. FISSIONABLE MATERIAL HANDLERS</b>   |                    |                                      |  |
| 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<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |
| <b>c. SUPERVISORS</b>   |                    |                                      |  |
| 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<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |
| <b>d. CERTIFIED OPERATOR WRITTEN EXAMINATION CONTENTS</b>   |                    |                                      |  |
| 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<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |
| <b>e. CERTIFIED SUPERVISOR WRITTEN EXAMINATION CONTENTS.</b>  |                    |                                      |  |
| 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<br>TN 8-005-07, Facility Operations Personnel Training Requirements   |
| <b>f. OPERATIONAL EVALUATIONS</b>   |                    |                                      |  |
| The operational evaluations administered to <u>certified</u> operator, fissionable material handler, and <u>certified</u> supervisor candidates are generally similar in scope.   | YES                | NO                                   | TN 8-001-07, General Training Administration<br>TN 8-005-07, Facility Operations Personnel Training Requirements<br>TN 8-001-07, General Training Administration |
| The evaluation contains questions and operational exercises and includes a facility walk-through, and may include system and/or component operation.  | YES                | NO                                   | TN 8-005-07, Facility Operations Personnel Training Requirements   |

TABLE 2 - NON-REACTOR NUCLEAR FACILITY PERSONNEL

| ORDER REQUIREMENTS  | REQ. MET<br>YES/NO | EXCEPTION<br>TAKEN TO<br>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<br>TN 8-005-07, Facility Operations Personnel Training Requirements |
| <b>9. CONTROL MANIPULATIONS</b>   |                    |                                      |  |
| 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<br>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<br>TN 8-001-07, General Training Administration |
| <b>5. OPERATOR, FISSIONABLE MATERIAL HANDLER, AND SUPERVISOR PROFICIENCY</b>  |                    |                                      |  |
| 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<br>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   |
| 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<br>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<br>TN 8-005-07, Facility Operations Personnel Training Requirements |