

# FEDERAL TECHNICAL CAPABILITY MANUAL

*Supporting the Improvement and Maintenance of Technical Capability  
in the Department of Energy's Defense Nuclear Programs*

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**U.S. DEPARTMENT OF ENERGY**  
**Office of Human Resources Management**

## FEDERAL TECHNICAL CAPABILITY MANUAL

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1. PURPOSE. The Department of Energy (DOE) is committed to developing and maintaining a technically competent workforce to accomplish its missions in a safe and efficient manner through the Federal Technical Capability Program (FTCP). It is DOE policy that the program and functions described in this Manual be used to recruit, deploy, develop, and retain a workforce that can ensure this occurs. The Department will strive to recruit and hire technically capable people; continuously develop the technical expertise of its existing workforce; and, within the limitations of executive policy and Federal law, retain critical technical capabilities within the Department at all times.

The program and processes described in this Manual support requirements established in DOE P 426.1, *Federal Technical Capability Policy For Defense Nuclear Facilities*, dated 12-10-98, and DOE O 360.1B, *Federal Employee Training*, dated 10-11-01.

2. CANCELLATIONS. DOE M 426.1-1, *Federal Technical Capability Program Manual*, dated 6-5-00. Cancellation of a Directive does not, by itself, modify or otherwise affect any contractual obligation to comply with such a Directive. Cancelled Directives that are incorporated by reference in a contract remain in effect until the contract is modified to delete the references to the requirements in the cancelled Directives.

3. APPLICABILITY.

- a. Primary DOE Organizations, including National Nuclear Security Administration (NNSA) Organizations. Except for the exclusions in paragraph 3c, this Manual applies to any of those Primary DOE Organizations that are performing functions related to the safe operation of defense nuclear facilities. Other organizations within the Department may also apply elements of the program on an optional basis. (See Attachment 1 for a complete list of Primary DOE Organizations. This list automatically includes Primary DOE Organizations created after the Manual is issued.)

Note that only the NNSA Administrator can direct NNSA employees. Wherever this Manual gives direction to NNSA employees, it should be understood that this direction is provided only for the convenience of the Administrator and is not intended to assume or replace the authority of the Administrator's direction.

- b. Contractors. This Manual does not apply to contractors.
- c. Exclusions. None.
4. SUMMARY. This Manual is composed of four chapters that outline FTCP requirements and responsibilities. Chapter I broadly describes the program, requirements, and responsibilities; Chapter II defines recruitment and retention programs; Chapter III

describes the technical qualification program in detail; and Chapter IV describes continuous improvement and reporting requirements.

5. CONTACT. Questions concerning this Manual should be directed to the Office of Training and Human Resource Development at 202-287-1687.

BY ORDER OF THE SECRETARY OF ENERGY:



KYLE E. McSLARROW  
Deputy Secretary

CANCELED

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## CHAPTER I. THE FEDERAL TECHNICAL CAPABILITY PROGRAM

### 1. OVERVIEW.

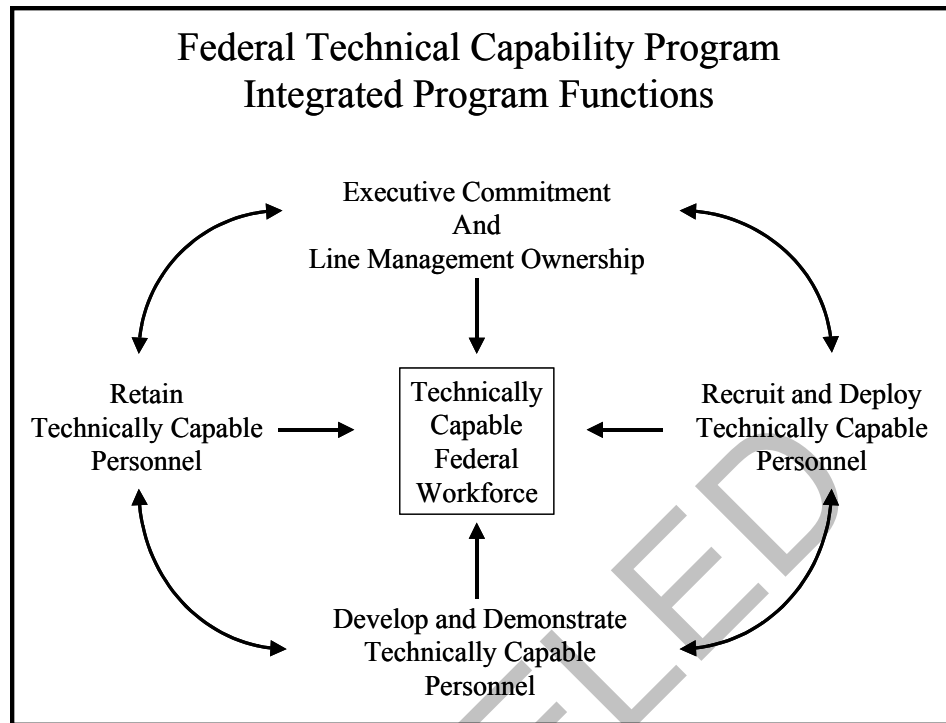
The Department of Energy (DOE) is committed to ensuring that employees are trained and technically capable of performing their duties. In pursuit of this objective, the Secretary of Energy issued DOE P 426.1, *Federal Technical Capability Policy for Defense Nuclear Facilities*, dated 12-10-98, to institutionalize the Federal Technical Capability Program (FTCP). This program specifically applies to those offices and organizations performing functions related to the safe operation of defense nuclear facilities, including the National Nuclear Security Administration (NNSA). It applies to all aspects of recruitment, deployment, development, and retention of Federal employees in these organizations.

The Secretary of Energy has delegated authority for implementing and maintaining the FTCP to the Deputy Secretary of Energy. Other DOE offices and organizations must ensure their Federal employees are appropriately trained and technically capable when carrying out their responsibilities. When appropriate, these offices and organizations should implement applicable portions of the FTCP.

The objective of the FTCP is to recruit, deploy, develop, and retain Federal employees with the necessary technical capabilities to safely accomplish the Department's missions and responsibilities. The Department has identified guiding principles to accomplish that objective and identified four general functions of the FTCP. As stated in the Department's Integrated Safety Management Guiding Principles—

- Federal personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their safety responsibilities;
- line managers are accountable and have the responsibility, authority, and flexibility to achieve and maintain technical excellence;
- supporting organizations (personnel, training, contracts, finance, etc.) recognize line managers as customers and effectively support them in achieving and maintaining technical capabilities; and
- an integrated corporate approach is required to ensure that necessary technical capabilities and resources are available to meet the overall needs of the Department's defense nuclear facility missions.

The conceptual model incorporating the FTCP functions stemming from these guiding principles is illustrated below. This shows the interrelationship and interdependence among the functions; for the FTCP to succeed, *all* functions must succeed.



**Figure I-1 Federal Technical Capability Program**

2. FEDERAL TECHNICAL CAPABILITY PANEL.

The Department developed the FTCP for Federal technical employees with safety responsibilities at defense nuclear facilities, including NNSA. The Federal Technical Capability Panel (the Panel) was formed recognizing that corporate leadership and line management ownership are essential to successfully implementing a program to recruit, develop, deploy, and retain technical capability at defense nuclear facilities.

The Panel consists of senior managers designated as agents to represent Headquarters and field elements with defense nuclear facility responsibilities, including the NNSA. The Panel reports to the Deputy Secretary and is responsible for overseeing issues affecting the DOE FTCP. This includes overseeing the Technical Qualification Program (TQP), which includes the Safety System Oversight (SSO) Program, the facility representative (FR) Program, and the Senior Technical Safety Manager (STSM) Program; conducting periodic assessments of the effectiveness of the FTCP using internal and independent experts; and providing recommendations to senior Departmental officials regarding DOE technical capability.

a. Panel Membership.

The Manager/Assistant Secretary/NNSA Deputy Administrator of each office listed below designates a senior manager to serve as the office representative (the agent) on the Panel. With the exception of the Office of Management, Budget

and Evaluation, these agents must be qualified as STSMs. To maintain consistency on the Panel, agents must serve for a minimum of 1 year.

Office of Management, Budget and Evaluation

Office of Science

Oak Ridge Operations Office

Office of Environment, Safety and Health

Office of Defense Programs

Office of Nuclear Energy

Idaho Operations Office

National Nuclear Security Administration:

NNSA Service Center

Livermore Site Office

Los Alamos Site Office

Nevada Site Office

Sandia Site Office

Kansas City Site Office

Pantex Site Office

Savannah River Site Office

Y-12 Site Office

Office of Environmental Management:

Carlsbad Field Office

Ohio Field Office

Office of River Protection

Richland Operations Office

Rocky Flats Field Office

Savannah River Operations Office

Additionally, the Office of the Chief Financial Officer, the Office of the Departmental Representative to the Defense Nuclear Facilities Safety Board, and the Office of Congressional and Intergovernmental Affairs have senior representation at each meeting, as required. The Panel receives advice and support from the Office of the Deputy Secretary and other supporting organizations, as appropriate.

b. Panel Logistics.

- (1) The Panel reports to the Deputy Secretary.
- (2) The Panel selects one of its members to serve as the chair of the Panel. The chair serves for at least 1 year and no more than 2 consecutive years.
- (3) The Office of Management, Budget and Evaluation agent serves as, or designates, the executive secretary for the Panel.
- (4) The Panel meets at least once a quarter and more often as the need arises. The Panel may meet via teleconferences and video conferences. Typically, the Panel will have two face-to-face meetings per year.



- (5) The panel reviews DOE G 426.1-1, Recruiting, Hiring, and Retaining High-Quality Technical Staff: A Manager's Guide to Administrative Flexibilities, dated 12-10-98, every 3 years and revises it, as appropriate, to provide current options and guidance to field element managers (FEMs) for Federal employment actions supporting recruitment, hiring, and retention of high-quality staff.
- (6) The Panel submits an annual report to the Secretary of Energy that includes an assessment of the state of technical capability within DOE, with recommendations to address deficiencies, and summarizes the status, issues, and actions taken to improve and preserve the Department's critical technical capabilities.

c. Responsibilities.

(1) Deputy Secretary.

- (a) Provides leadership, direction, and resources to recruit, deploy, develop, and retain a workforce to accomplish DOE's missions in a safe and efficient manner.
- (b) Institutionalizes the FTCP through DOE policy to establish the program's objective, guiding principles, and functions.
- (c) Resolves key FTCP issues which require the authority of the Deputy Secretary.
- (d) Approves the FTCP Annual Action Plan.

(2) Field Element Managers (including Operations Offices, Field Offices, Site Offices and Service Centers); Principal Secretarial Officers (PSOs); and the Administrator, National Nuclear Security Administration.

- (a) Designate the positions and/or individuals in their respective organizations required to participate in the TQP and the technical qualification standards that apply to them.
- (b) Designate the positions and/or individuals in their respective organizations that provide oversight of safety management programs identified in the respective facility documented safety analysis (DSA).
- (c) Implement formal training and qualification programs, based on the appropriate functional area qualification standards (FAQS), for employees who provide management direction or oversight of contractor technical activities that could impact the safe operation of a defense nuclear facility.

- (d) Identify the STSM positions for their respective offices.
  - (e) Ensure individuals filling STSM positions, whether incumbents or candidates for new or vacant positions, meet the technical competency criteria (only in rare cases may compensatory measures be relied upon).
  - (f) Establish processes to recruit, screen, and hire competent technical personnel to fill STSM positions.
  - (g) Develop processes to determine needed detailed office-/ facility-specific technical competencies for each of the STSM positions in their respective organizations.
  - (h) Establish and implement an SSO qualification program as part of the TQP.
  - (i) Define SSO requirements and ensure SSO staffing needs are filled.
  - (j) Clearly define the functions, responsibilities, and authorities of employees assigned to perform SSO and their interface/support of FRs.
  - (k) Ensure affected DOE and contractor managers understand their roles and relationships to FRs and the contractor's cognizant system engineers, and provide the necessary access to resources and support to address identified issues.
  - (l) Assign qualifying officials to sign site-specific qualification cards after verifying that the TQP candidate possesses the required level of knowledge or skills.
  - (m) Verify competency of employees in technical positions, and approve qualification of such employees following demonstrations of competency.
  - (n) Approve the annual workforce analysis and staffing plan for their organizations.
  - (o) Develop and implement staffing plan performance indicators to be monitored on a quarterly basis.
  - (p) Resolve FTCP issues identified in their organizations through FTCP internal and external assessments.
- (3) Chair of the Federal Technical Capability Panel Responsibilities.
- (a) Oversees issues affecting the FTCP.

- (b) Develops and implements the FTCP policy for the Department.
  - (c) Oversees implementation of the Department's TQP, which includes the SSO, FR, and STSM elements, as described in this Manual.
  - (d) Reviews and approves technical qualification standards for use throughout the Department as guides.
  - (e) Reviews and assesses TQP plans.
  - (f) Maintains a list of the designated STSM positions and incumbents in DOE.
  - (g) Oversees the process for evaluating the qualification of employees filling STSM positions.
  - (h) Provides policy input, guidance, and assistance for the scientific and engineering tracks for the Career Intern Program (CIP).
  - (i) Performs or oversees periodic assessments of the effectiveness of the FTCP using internal and external experts.
  - (j) Develops and implements FTCP performance indicators to be monitored on a quarterly basis.
  - (k) Conducts periodic briefings for the Defense Nuclear Facilities Safety Board and its staff to communicate issues and expectations regarding execution of the FTCP.
  - (l) Provides recommendations to senior Departmental officials regarding the improvement of DOE technical capability, including issuing an annual report to the Secretary of Energy.
  - (m) Oversees the development of the FTCP Annual Action Plan.
- (4) Agents.
- (a) Coordinate development of the annual workforce analysis and staffing plan for their organizations.
  - (b) Assist FEMs/PSOs/lead program Secretarial Officers (LPSOs) in developing and implementing staffing plan performance indicators and submitting them to the Panel.
  - (c) Oversee implementation of the TQP for their organizations.

- (d) Assist FEMs/PSOs/LPSOs in establishing or maintaining formal STSM programs for their organizations.
  - (e) Facilitate recruitment to fill open STSM positions with technically competent individuals.
  - (f) Concur with STSM vacancy announcements to ensure the inclusion of adequate selection criteria.
  - (g) Concur with competitive selections for STSM positions where the individual has not previously qualified as an STSM.
  - (h) Participate in or overseeing FTCP assessments and TQP assessments within their organizations.
  - (i) Solicit information and feedback from people in their organizations regarding the improvement of technical capability of the Department's workforce.
  - (j) Keep people in their organizations informed of the progress/problems associated with execution of the FTCP, and seek support from senior officials regarding successful implementation.
  - (k) Assist with the development of the FTCP Annual Action Plan.
- (5) Supervisors with Responsibilities for Safety System Oversight Personnel.
- (a) Maintain STSM qualification.
  - (b) Develop site-specific SSO qualification standards and cards for safety systems.
  - (c) Identify and approve candidate selection.
  - (d) Implement SSO personnel qualification schedules.
  - (e) Facilitate SSO qualification (e.g., ensure sufficient time and training is provided to complete qualification tasks).
  - (f) Train and qualify SSO candidates so they are capable of performing assigned duties.
  - (g) Ensure SSO responsibilities are included and maintained in Individual Performance Plans.
  - (h) Ensure SSO qualifications are maintained current by training and assignments planned in individual development plans (IDPs).

- (i) Periodically evaluate program effectiveness and serve as a management advocate within the field element to resolve programmatic issues.
- (6) Office of Management, Budget and Evaluation.
  - (a) Coordinates the development, revision, and approval of Department-wide FAQs.
  - (b) Coordinates the development and revision of training and qualification programs throughout DOE for employees who provide management direction or oversight of contractor technical activities that could affect the safe operation of a defense nuclear facility.

## CHAPTER II. DOE RECRUITMENT AND RETENTION PROGRAMS

1. OVERVIEW. Recruitment, hiring, and retention of high-quality employees are essential in performing the DOE mission. Hiring and retaining high-quality employees are often major challenges confronting line managers.

Several tools, collectively referred to as administrative flexibilities, are available to provide options in Federal employment actions supporting recruitment, hiring, and retention of high-quality employees. Some of these tools are described in DOE G 426.1-1. Line managers and servicing personnel offices should reference this Guide for information about recruitment, hiring, and retention.

2. CAREER INTERN PROGRAM. DOE's CIP is a 2-year program designed to provide a continuing source of highly competent technical staff members with the skills and knowledge to meet the Department's current and future technical and business staffing needs while also nurturing their potential as future leaders and managers within the Department. The CIP is designed to attract recent college graduates (entry level), current employees, and private-sector candidates with 3 to 5 years of experience. The program consists of general and specific training tracks (e.g., technical and business), management and development activities, and rotational work experience in a variety of functional programs and program support areas (at various Headquarters offices, field or area offices, laboratories, and/or contractor organizations). After completion of the 2-year program, participants may be converted to permanent status and placed in positions necessary to fulfill mission needs.

The Panel collaborates with the Office of Training and Human Resource Development to provide policy oversight and guidance for the CIP. The Panel will make decisions relative to the direction of the CIP. Panel oversight includes, but is not limited to, evaluating the overall effectiveness of the program, course curricula, learning activities, and other program objectives. Panel agents are also charged with promoting management support and resource availability to achieve program goals within their home organizations.

3. EXCEPTED SERVICE. Two Excepted Service appointment authorities, the National Defense Authorization Act for 1995 and the Department of Energy Organization Act, are available as important tools for Headquarters and field organizations to recruit and retain high-quality technical staff. Use of the Excepted Service authorities can expedite the hiring process and provide pay flexibilities to enhance recruitment and retention of key technical staff. The Excepted Service authorities may be particularly useful to organizations undergoing restructuring and associated skills mix concerns.

The National Defense Authorization Act for 1995 includes the authority to fill up to 200 scientific, engineering, and technical positions relating to the safety of DOE defense nuclear facilities and operations. This authority can only be used to hire people for

scientific, engineering, or technical defense positions related to the safety of nuclear facilities.

The Excepted Service appointment authority found in Section 621(d) of the Department of Energy Organization Act is available for use in hiring up to 200 high-quality individuals who may otherwise be difficult to attract and retain under current competitive service rules and procedures. Although primarily intended for scientific, engineering, and technical positions, this authority may also be used for professional and administrative positions and positions in operations not related to defense nuclear facilities safety.

Pay under both Excepted Service personnel authorities may be established up to an amount provided for by Executive Level III. Broad salary bands in contrast to pay ranges established under the more traditional General Schedule (GS)/Senior Level (SL)/Senior Executive Service (SES) systems govern pay administration in the Excepted Service.

Further guidance on the appropriate use of Excepted Service authorities may be obtained from your local personnel office or the Division of Executive and Technical Resources at Headquarters. Actions to fill positions under these authorities are subject to review and approval by the Department's Executive Resources Board. DOE G 426.1-1 also provides guidance on implementing the Excepted Service appointments.

4. **BONUSES AND INCENTIVES.** Bonuses and incentives are available to assist in both hiring and retaining highly competent technical employees; several of these are described below. Line managers and servicing personnel office staffs should work together closely to determine the applicable bonuses and incentives to consider and to ensure that the proper authorization and approval are obtained before offering these to potential candidates.
  - a. **Recruitment Bonuses.** Recruitment bonuses of up to 25 percent of basic pay may be paid to high-quality candidates who would otherwise be lost because the normal entry salary is noncompetitive with others in the labor market. The recruitment bonus must be justified by demonstrating difficulties encountered in filling the position with a high-quality candidate, including information about the success or failure in recent recruitment efforts. (Such justification may include offer acceptance rates, proportions of positions filled, length of time required to fill similar positions, etc.) The justification must also consider how the bonus might affect the morale of current employees. The amount of the bonus is based on the candidate's current salary and salary history, current benefits in comparison to those offered by the Federal government, other earned income, and salary increases already scheduled. The bonus amount can also reflect other bona fide job offers the candidate has received, salaries offered to others for the same or similar positions in the local commuting area, and special skills and qualifications required to meet a specific need. A service agreement of not less than 6 months is required. The recruitment bonus may be combined with critical pay, dual

compensation restriction waivers, superior qualifications appointments above the minimum rate, and special salary rates.

- b. Relocation Bonus. Relocation bonuses of up to 25 percent of basic pay may be paid to attract high-quality candidates or employees to positions that are difficult to fill or keep filled. The relocation bonus may be used for Federal employees who must relocate to different commuting areas and who are appointed to positions without time limitations or to temporary appointments of at least 2 years. The amount of the bonus is based on the comparison between the existing and new areas, whether the position is in a shortage category, special qualifications of the employee, and special DOE need. A service agreement is required at the new duty station. The bonus cannot exceed 25 percent of basic pay. The relocation bonus may be combined with critical pay, dual compensation restriction waivers, retention allowances, and special salary rates.
- c. Retention Allowances. Retention allowances of up to 25 percent of basic pay may be paid to high-quality employees who would otherwise leave the Federal Government. Retention allowances may be used for current employees who are likely to leave Federal service and whose services the Department considers essential. The need for retention allowances is shown by the determination that the employee is likely to leave Federal service, how the employee's leaving would affect the Department's ability to conduct essential activities/functions, and data on the success or failure to recruit and retain high-quality candidates for the position or a similar position. The amount of the allowance is based on whether a special need exists within the Department and whether the allowance is cost effective, funds are available, and the allowance is sensible in terms of overall organizational goals and staffing allocations. The retention allowance may be combined with critical pay, dual compensation restriction waivers, recruitment and relocation bonuses (provided no service agreements are in effect), and special salary rates.

5. POTENTIAL CAREER PROGRESSION FOR QUALIFIED TECHNICAL PERSONNEL.

The following discussion does not replace Office of Personnel Management (OPM) qualifications standards or other Departmental personnel standards, rules, plans, or processes. The primary purpose is to provide information and guidance from the Panel to technical personnel seeking professional growth and advancement in DOE defense nuclear facilities. Complying with recommendations in this section does not guarantee any change in job assignment, compensation, or location, nor does it imply such changes will take place. (Specific information on actual job requirements may be obtained from your local human resources department.

- a. Introduction. A critical component to recruiting, developing, and retaining technically well-qualified staff is establishing a career progression that identifies the potential paths that technically qualified candidates may follow to positions of



higher responsibility, authority, and compensation. The DOE TQP focuses on developing technical expertise in the functional areas for defense nuclear facilities. The program supports all aspects of technical operations at the Department's sites and facilities. Upon completing the TQP, staff members understand engineering fundamentals; DOE technology and Directives associated with their functional areas; integrated safety management (ISM); and the systems, equipment, programs, and procedures associated with the sites and facilities to which they are assigned.

Technical knowledge and skill developed through the TQP, combined with years of operating, engineering, and program/project experience at DOE defense nuclear facilities and/or other related industries, is valued throughout the DOE organization. FEMs understand that technical personnel assigned to these facilities play a critical role in ensuring that the DOE facilities fulfill their missions while operating within their safety and authorization bases. Employees gain this type of technical expertise through years of training, qualification, and experience and are invaluable to the continued, safe operation of DOE facilities.

FEMs also understand that strong technical expertise in DOE sites and facilities is valuable to many types of site and facility organizations and to many levels of site and facility management. A key concept in the continued growth of technical staff members is rotation through different job positions and different facilities and sites. This concept applies both to people who choose to remain in job positions for extended periods of time or for their entire careers and to people who desire to move into management, pursuing ever-increasing responsibility and authority.

- b. Potential Career Path for Technical Personnel Completing the Nonmanagement TQP (GS-13 to 14). Figure II-1 depicts the potential career path for technical personnel and line management organizations.
- c. Initial and Subsequent Nonmanagement Assignments and Opportunities. Technical personnel completing the TQP are typically assigned to one of three types of defense nuclear facility organizations based on the appropriate functional area of qualification: site and facility operations, site and facility engineering/authorization basis (AB), or a project or program. Technical personnel assigned to these types of organizations should generally expect to remain in the initial assignment for 2 to 5 years. After 2 to 5 years in the initial assignment, an employee should seek to be reassigned to one of the remaining two types of organizations at this level to broaden his/her knowledge of and experience with DOE facilities. Such employees should seek to serve in at least two of the three types of organizations at this level, and ideally all three, with between 2 and 5 years in each organization, before seeking a first-level

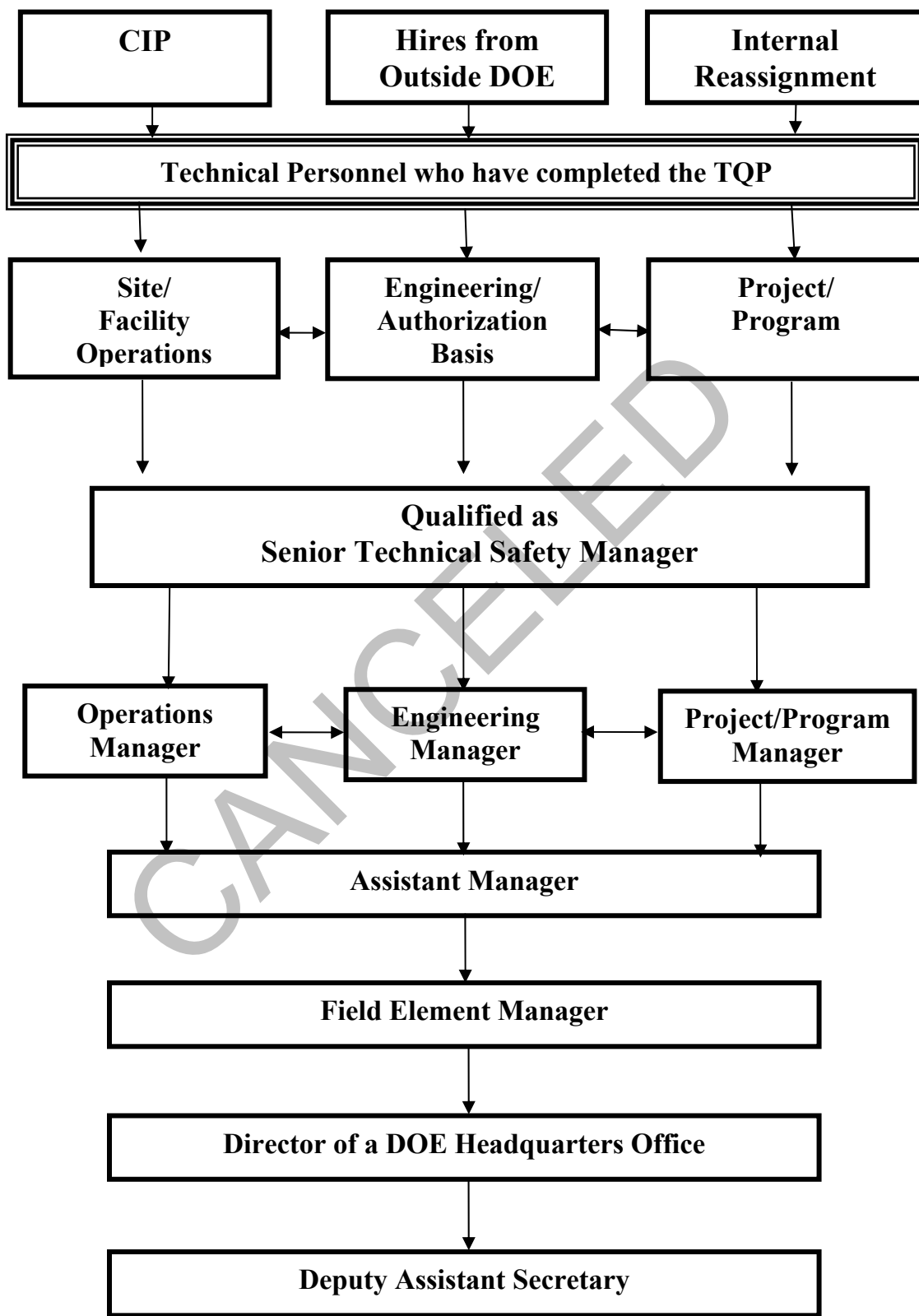


Figure II-1. Potential Career Progression for Qualified Personnel

management position (GS-15). Assignments in these organizations need not be at the same facility or site. Opportunities for professional growth and promotion are generally expanded with a diversity of experience in different programs, projects, facilities, and/or sites.

Employees who choose to remain at the nonmanagement level (GS-14 and below) should still seek to spend no more than 5 years in any position at any facility/site. The FTCP recommends that technical personnel with more than 5 years in an assignment pursue opportunities for rotation through other job positions, facilities and/or sites. This type of rotation among positions, facilities, and sites provides the best opportunity for continued professional growth, based on the greatest diversity of experience with, and knowledge of, DOE defense nuclear facilities.

- d. Excepted Service for Experienced and Uniquely Qualified Technical Nonmanagement Personnel. Nonmanagement key technical personnel with many years of technical experience in a variety of positions and facilities/sites, and/or uniquely qualified technical personnel, may seek positions as senior technical advisors to DOE management through the Excepted Service Program. This program, as described in this Manual, allows for continued professional growth and compensation for key technical personnel based on extraordinary knowledge and experience at unique and aging DOE defense nuclear facilities.
- e. Initial Management Assignments and Opportunities (GS-15). To move into first-level management positions at defense nuclear facilities, personnel must typically qualify as STSMs. Qualification in this functional area supports the required knowledge and skills for DOE managers who provide assistance, direction, guidance, oversight, or evaluation of contractor technical activities impacting the safe operation of defense nuclear facilities.

Employees completing the STSM functional area are typically assigned as first-level managers in one of three types of organizations: site and facility operations, site and facility engineering, or projects or programs. Managers initially assigned to these types of organizations should generally expect to remain in the initial assignment for 3 to 5 years. Following the initial assignment, managers should seek to be reassigned to one of the remaining two types of organizations at this level, or potentially to a larger or more complex facility in the same organization, to broaden the management knowledge of, and experience with, DOE facilities and sites. Managers should typically expect to serve in at least two of the three types of organizations at this level, and ideally all three, with between 3 and 5 years in each organization, before seeking positions in the next higher level of management. Management assignments in these organizations need not be at the same facility or site. Technical managers should also consider seeking rotations through DOE Headquarters assignments and may want to consider available staff management positions to further expand their knowledge and experience in the DOE organization. Opportunities for continued professional growth and promotion are generally enhanced by acquiring a

diversity of management experience in different DOE, commercial, or military programs, projects, facilities, and/or sites. Pursuit and acquisition of advanced degrees in related areas may also enhance opportunities for advancement

Managers may choose to remain in a first-level management position, or may be limited to a first-level management position for some time, due to limited opportunities for continued advancement. First-level managers should still seek to spend no more than 5 years in any management position at any facility/site. The FTCP recommends that technical managers with more than 5 years in an assignment pursue opportunities for rotation through other job positions, DOE Headquarters and facilities and/or sites. All other factors equal, rotation of first-level technical managers between job assignments, DOE Headquarters, and facilities/sites may provide the greatest opportunity for professional growth and promotion, based on the greatest diversity of management experience with, and knowledge of, DOE defense nuclear facilities.

- f. Senior Management Assignments and Opportunities (Senior Executive Service). There are a limited number of senior management positions within the Department and there is strong competition for each of these positions. Technical managers who seek a senior management position must develop a broad range of knowledge, skills, and abilities to demonstrate leadership capability in addition to technical management expertise. The knowledge, skills, and abilities for senior management positions are developed and demonstrated through multiple assignments in increasingly more complex and challenging environments.

Candidates for senior management positions should consider progressive assignments at multiple sites that provide learning opportunities to support a fundamental transition from technical management to organizational leadership. Key abilities to be developed as part of these progressive assignments include (1) the ability to develop and implement an organizational vision which integrates key national and program goals, priorities, values, and other factors; (2) the ability to design and implement strategies which maximize employee potential and foster high ethical standards in meeting the organization's vision, mission, and goals; (3) the ability to stress accountability and continuous improvement, to make timely and effective decisions, and to produce results through strategic planning and the implementation and evaluation of programs and policies; (4) the ability to acquire and administer human, financial, material, and information resources in a manner which instills public trust and accomplishes the organization's mission, and to use new technology to enhance decision making; (5) the ability to explain, advocate, and express facts and ideas in a convincing manner, and negotiate with individuals and groups internally and externally; and (6) the ability to develop systems to more effectively and efficiently complete assigned missions.

## CHAPTER III. TECHNICAL QUALIFICATION PROGRAM

### 1. OVERVIEW.

Training, education, and experience combine to provide a workforce that ensures safe operation of defense nuclear facilities. The TQP establishes a process to objectively determine that individuals performing activities related to the technical support, management, oversight, or operation of defense nuclear facilities possess the necessary knowledge, skills, and abilities to perform their assigned duties and responsibilities.

The TQP specifically applies to DOE technical employees whose duties and responsibilities require them to provide assistance, guidance, direction, oversight, or evaluation of contractor activities that could impact the safe operation of a defense nuclear facility. This includes employees designated as SSO personnel, FRs, and STSMs and employees on detail or temporary assignment.

### 2. OBJECTIVES AND PRINCIPLES.

a. The objectives of the TQP are as follows.

- Identify and document the functional competencies that individual employees must possess to ensure that DOE defense nuclear facilities and programs are operated in accordance with applicable safety, health, and environmental requirements.
- Establish a program that clearly identifies and documents the process used by senior line management to demonstrate employee technical competence, consistent with applicable industry standards for similar occupations.
- Ensure that employees maintain their technical competencies.
- Maintain a cycle of continuous performance improvement through structured, individualized training and development programs and through review and assessment of Headquarters and field element programs.

b. Each Headquarters and field element with defense nuclear facilities responsibility, including NNSA, is required to establish a TQP for its organization. This will allow a flexible approach to upgrade the technical capabilities of employees to achieve the site's mission. Although the programs may be designed to meet the unique needs and responsibilities of each organization, the following principles will be used as the basis for all TQPs.

- Demonstration of Competence. The program must clearly identify and document the process used to demonstrate employee technical competence

(e.g., professional certifications, qualification cards, background and experience).

- Competency Levels. The competency levels within the program must be clearly defined and consistent with applicable industry standards for similar occupations.
- Plans and Procedures. Plans and procedures must be developed and implemented to govern the administration of the program.
- Qualification Tailored to Work Activities. The program must clearly identify unique Department and position-specific work activities and the knowledge and skills necessary to accomplish the work.
- Credit for Existing Technical Qualification Programs. The program should be structured to allow credit, where appropriate, for other TQP accomplishments to date.
- Transportability. Competency requirements identified as having Department-wide applicability must be transferable. For ease of transportability of qualifications between DOE elements, the DOE General Technical Base Qualification Standard and the various DOE FAQS must be used without modification or additions. Needed additional office-/ site-/facility-specific technical competencies for the individual should be handled separately.
- Measurable. The program must contain sufficient rigor to demonstrate compliance to the objectives and principles of the TQP as stated above.

3. TECHNICAL QUALIFICATION PROGRAM PLANS. Each organization must document its TQP requirements in a TQP plan. The plans must be approved by the head of the element and include the process and requirements for—

- identifying employees and/or positions required to participate in the TQP;
- identifying employees and/or positions participating in the TQP responsible for oversight of safety management programs as identified in the respective facility DSA;
- identifying employees and/or positions that can serve as qualifying officials to verify and certify qualifications, including overall duties and responsibilities;
- identifying, developing, approving, revising, and updating individual qualification requirements, as appropriate;
- evaluating employees against technical qualification standards, determining when to use oral review boards (protocol, questioning procedures, pass/not pass criteria,

quorum requirements, reexamination requirements, etc.), and documenting the approval of equivalencies for required competencies;

- determining final qualification requirements, which should consist of a comprehensive written examination, oral examination, or site/facility walk-through or some combination thereof;
- dealing with oral or written examination failures or other qualification failures, reexamination requirements, and work area or position reassignments;
- establishing and/or updating IDPs, training plans, qualification cards, or related records to document the learning activities that an individual must accomplish to satisfy established competencies for his/her position;
- establishing interim limitations or compensatory measures, if needed to support field office or program requirements, for candidates who have not achieved full qualification;
- demonstrating full qualification and achieving full qualification in new assignments;
- implementing continuing professional development and requalification programs; and
- maintaining training and qualification records.

#### 4. TECHNICAL QUALIFICATION PROGRAM REQUIREMENTS.

- a. Each organizational element must use technical qualification standards or other appropriate means to document technical qualification requirements for the position. These requirements must be established using the systematic approach to training methodology and include the following.
  - Basic Technical Knowledge. Basic information about topics such as radiation protection, occupational safety, chemical safety, nuclear safety, and environmental regulations. This area is covered through completion of the DOE General Technical Base Qualification Standard.
  - Technical Discipline Competency. Competency in a technical discipline (e.g., mechanical engineering, chemical engineering), which can be demonstrated by education, professional certification, or examination. In addition to meeting OPM requirements for the position, current expertise and DOE specific competencies are demonstrated through completion of the respective FAQs.
  - Position Knowledge, Skills, and Abilities. Competencies specific to the position, facility, or program, and the office.

- b. Headquarters and field element managers, including NNSA, must designate the positions and/or individuals in their respective organizations required to participate in the TQP and the qualification requirements that apply to them. A senior training official and/or an STSM must be designated as responsible for program direction and performance. TQP employees must satisfy the qualification requirements assigned to them in accordance with a defined schedule established by line management.
- c. Employees responsible for technical oversight of safety management programs identified in the respective facility DSA must complete the general technical base qualification standard and the functional area qualification standard related to the safety management program they are assigned to oversee. In addition, these employees must satisfy the site and facility qualification requirements for oversight of the respective safety management programs.
- d. Attainment of individual competencies in the technical qualification standards should be evaluated and documented by a qualifying official or the immediate supervisor using one or a combination of the following methods:
  - satisfactory completion of a written examination,
  - satisfactory completion of an oral evaluation,
  - satisfactory completion of an observed task or activity related to a competency, or
  - documented evaluation of equivalencies.
- e. Equivalencies may be granted to employees who satisfy competencies indicated in technical qualification standards based upon objective evidence of previous education, training, certification, or experience. Objective evidence includes a combination of transcripts; certifications; and, in some cases, a knowledge sampling demonstrated through a written and/or oral examination. Equivalencies should be used with the utmost rigor and scrutiny to maintain the spirit and intent of the TQP.
- f. FEMs will qualify candidates as possessing the basic technical knowledge; technical discipline competency; and position-specific knowledge, skills, and abilities required for their positions. Final qualification should be performed using one or a combination of the following methods—
  - satisfactory completion of a comprehensive written examination with a minimum passing score of 80 percent,
  - satisfactory completion of an oral examination by a qualified STSM or a qualification board of technically qualified personnel that includes at least one STSM, or



- satisfactory completion of a walk-through of a facility with a qualifying official for verifying a candidate's knowledge of and practical skills related to selected key elements.
  - g. FEMs or designees should develop formal guidance for walk-through and oral examinations that includes—
    - standards for qualification,
    - use of technical advisors by a board,
    - questioning procedures or protocol,
    - pass/fail criteria,
    - board deliberation and voting authorization procedures, and
    - documentation process.
  - h. Staff members who complete applicable qualification requirements must continue their professional development and maintain proficiency through participation in continuing training, education, and other developmental activities.
  - i. The duties and responsibilities contained in an individual position description drive participation in the TQP. They determine which functional area standards and individual competencies in the TQP are appropriate for that position. Individual performance standards should reflect and note an individual's particular requirements under the TQP.
  - j. Workforce deployment, including reorganizations, must recognize the performance requirements of covered positions and maintain the safety, health, and environmental management technical competency requirements of the workforce.
5. DEVELOPMENT AND REVISION OF TECHNICAL QUALIFICATION STANDARDS. A key element of the TQP is a set of common FAQs. These standards are developed for various functional areas of responsibility in the Department, including oversight of safety management programs identified as hazard controls in DSAs. For each functional area, the FAQs identify the minimum technical competencies and supporting knowledge and skills for a typical qualified individual working in the area. Organizations across the Department must use the FAQs as written in developing their TQPs. The TQPs will not have a specific standard for project management. Individuals with assigned project management responsibilities that are identified for inclusion in TQPs will be qualified through a combination of the Project Manager Career Development Program and the General Technical Base Standard.

- a. General. Each functional area qualification standard has a sponsor organization, which is usually a Headquarters or field office. The executive secretary of the Panel maintains the list of sponsor organizations for the Panel. Sponsor organizations are responsible for coordinating the development, update, and revision of their respective FAQs in accordance with the guidance contained in this Manual.

The executive secretary of the Panel also maintains a list of recognized experts for the FAQs. Each Headquarters and field office participating in the TQP can submit the names of two recognized experts for each functional area qualification standard. If an office does not have a recognized expert for a particular standard, it doesn't have to submit a name. The names and contact information for the recognized experts are provided to the sponsor organizations to help them develop, revise, and/or review FAQs. Maintaining an up-to-date and valid list of recognized experts is essential to ensuring technically adequate and accurate FAQs.

Technical qualification standards will be reviewed, approved, and issued through the Department's Technical Standards Program in accordance with the requirements of that program. Technical qualification standards will not be issued without final approval by the Panel.

- b. Process for Developing or Revising a Functional Area Qualification Standard.

- (1) The sponsor organization coordinates a face-to-face working group session with recognized experts at a location readily accessible by all participants to gather data. (Note: At the sponsor's discretion, this step is optional for revising an existing functional area qualification standard.) The purpose of the session is to establish the following for a typical qualified individual working in the functional area.

- Minimum technical competencies required to perform as a qualified individual in the subject matter of the functional area qualification standard.
- Knowledge and skills associated with the competencies.
- Appropriate continuing education or proficiency opportunities.
- Applicable continuing education and/or proficiency requirements.

Approximately five recognized experts or more from across the complex should participate in this session. The sponsor solicits volunteers from the list of recognized experts maintained by the Panel. The preferred make-up of the group is three recognized experts from the field and two from Headquarters, with all the recognized experts from different organizations.

- (2) Develop a draft functional area qualification standard using data from the recognized expert working group session. (Note: This step may be done as part of the working group session described above, if time allows.) The sponsor develops the draft standard in the format described in this Manual and using the standard template approved by the Panel. The sponsor does research as necessary to expand upon the information obtained in the working group session to ensure that competency statements and supporting knowledge and skills are technically adequate and accurate.
  - (3) The sponsor sends the draft functional area qualification standard to the list of DOE recognized experts for the standard for review and comment. The sponsor revises the standard as applicable based on the recognized experts' comments.
  - (4) The sponsor transmits the draft functional area qualification standard to the Technical Standards Organization for formal review and comment using the process established by that program.
  - (5) The sponsor will work with the Technical Standards Organization to resolve comments in accordance with the process established by that program. The sponsor reviews all comments and catalogs them in a comment resolution document. The comment resolution document is a three-column document that shows the organization that made the comment, the comment, and the sponsor's resolution of the comment. The draft functional area qualification standard is revised as applicable based upon the comments received.
  - (6) After completing all requirements of the Technical Standards Program, the sponsor transmits the final draft functional area qualification standard and the comment disposition document to the executive secretary of the Federal Technical Capability Panel. After ensuring that the standard is consistent in format with all other FAQS, the executive secretary transmits the final draft functional area qualification standard and the final comment resolution document to Panel members for review and approval. Once the Panel approves the standard, the executive secretary of the Panel transmits it to the Technical Standards Program for distribution throughout the Department.
- c. Technical Qualification Standard Format. Sponsors who develop and revise FAQS must ensure that they are consistent in form and format, which makes them easier to use throughout the Department. To do this, sponsors must ensure FAQS have the content described below. The Panel maintains the functional area qualification standard template (with standardized language).
- (1) Approval Page. Indicate that the Panel has approved the standard.

- (2) Table of Contents. Develop a table of contents identifying all sections required for the standard.
- (3) Acknowledgment. Name the organization sponsoring the standard and list the names and organizations of the people who acted as recognized experts and/or reviewers.
- (4) Purpose. Briefly reference this Manual, the purpose of the standard, and some guiding principles for using standards in the personnel processes.
- (5) Applicability. Briefly indicate that the standard should be used in accordance with the applicable DOE elements' TQP plans.
- (6) Implementation. Describe minimum competency requirements and the level of knowledge necessary to meet the standard; also refer to the specific TQP plan for the process by which participants may use equivalencies, training, experience, or other means to meet requirements.
- (7) Evaluation Requirements. Briefly describe any specific documentation requirements necessary to complete the qualification process.
- (8) Continuing Education, Training, and Proficiency. Briefly describe the need to maintain proficiency through continuing education, training, or other activities; also refer the reader to Appendix A of the standard, which suggests a list of activities that may be used to maintain proficiency upon completion of the competencies in the Standard. Recognized experts who developed the functional area qualification standard are to develop the list. Refer to the specific TQP plan for continuing professional development requirements.
- (9) Duties and Responsibilities. List and describe the typical duties and responsibilities of an individual working in the functional area. This section also provides the framework for the remainder of the standard. The recommended background and technical competencies should support the identified duties and responsibilities.
- (10) Background and Experience. Provide additional guidance related to the preferred background of an individual in terms of specific education credentials and experience related to the particular functional area. (Note: OPM's qualification standards establish minimum education, training, experience, or other relevant requirements applicable to a particular occupational series/grade level, and alternatives to meeting specified requirements.)
- (11) Required Technical Competencies. Identify the specific minimum technical competencies an individual should have to work within the

functional area. This section should identify only those competencies that would be common throughout DOE within the functional area. It should not identify nontechnical competencies such as those related to communication, leadership, personnel management, etc., unless they have some unique feature specifically related to the functional area. Supporting knowledge and/or skill statements should be identified for each competency statement. (The purpose of the knowledge and skill statements is to further define the competency statement.)

- (12) Appendix A. List suggested activities for maintaining proficiency upon completion of the competencies in the standard. The recognized experts who developed the standard are to develop the list.

CANCELLED

## ***SECTION 1, SAFETY SYSTEM OVERSIGHT***

1. OVERVIEW. SSO personnel are a key technical resource qualified to oversee contractor management of safety systems at DOE defense nuclear facilities. Unlike FRs, who are responsible for monitoring the safety performance of DOE defense nuclear facilities and day-to-day operational status, staff members assigned to SSO are responsible for overseeing assigned systems to ensure they will perform as required by the safety basis and other applicable requirements. SSO personnel are highly qualified people who perform assessments and investigations to confirm performance of assigned safety systems in meeting established safety and mission requirements and review sections of the DSA related to these systems. DOE line management is responsible for safety at DOE facilities and for meeting mission objectives and goals. ISM System processes help to ensure systems are able to perform their design safety functions. Effective implementation of ISM relies upon the ability to apply engineering expertise to maintain safety system configuration and assess system condition and effectiveness of safety management program implementation. Federal staff requires a working knowledge of assigned systems and the contractor's application of the cognizant system engineer concept and safety program management as described in DOE O 420.1A, *Facility Safety*, dated 5-20-02.

The SSO Qualification Program is a key part of the TQP, considered an additional level of technical qualification, and builds upon technical discipline competencies. Additional requirements, unique to qualifying and maintaining qualification for performing SSO, are provided below.

2. DUTIES AND RESPONSIBILITIES.

- a. Safety System Oversight Personnel.

- (1) Maintain communication and oversight of systems and monitor performance of the contractor's Cognizant System Engineer Program.
    - (2) Attend selected contractor meetings with FRs and contractor personnel responsible for system performance (e.g., cognizant system engineers, design authorities, and program managers), review system health/status reports, review test results, interface with external organizations that can provide insights on performance, and perform other oversight activities on a routine basis.
    - (3) Perform assessments, periodic evaluation of equipment configuration and material condition. The effect of aging on system equipment and components, the adequacy of application of work control and change control processes, and appropriateness of system maintenance and surveillance should be considered with respect to reliable performance of safety functions.

- (4) In conjunction with FRs, perform evaluations of contractor troubleshooting, investigations, root cause evaluations, and selection and implementation of corrective actions. May be requested to respond to off normal and/or off normal hours events and investigations and be able to provide relevant insights and serve as the DOE recognized expert on issues related to assigned areas.
- (5) Provide support to other Federal employees as appropriate. (This may include program and project managers responsible for supervision of facility safety systems installed in new and modified facilities. It may also include those managing the implementation of ISM in the operation, maintenance, and configuration management of facility safety systems.)
- (6) Assess contractor compliance with relevant DOE regulations, industry standards, contract requirements, safety basis requirements, and other system requirements.
- (7) Confirm configuration documentation, procedures, and other sources of controlling information are current and accurate.
- (8) Report potential or emergent hazards immediately to DOE line management and FRs, and stop tasks, if required, to prevent imminent impact to the health and safety of workers and the public, to protect the environment, or to protect the facility and equipment and immediately notify the on-duty or on-call FR.
- (9) May serve as a qualifying official in the development or revision of FAQs, mentor assigned backups, and qualify other candidates to the same FAQs attained to achieve SSO qualification.
- (10) Maintain cognizance of the appropriate funding and resources to maintain and improve safety systems.
- (11) May perform additional duties and responsibilities, as assigned by their respective FEMS, if needed to meet specific requirements of their sites/facilities, systems/program activities, or other involved organizations.

b. Field Element Managers.

- (1) Establish SSO qualification programs as part of the TQP.
- (2) Establish appropriate training and performance requirements for SSO personnel and hold supervisors of SSO personnel accountable for achieving them.

- (3) Define SSO requirements and ensure that SSO staffing needs are filled.
- (4) Clearly define the functions, responsibilities, and authorities of personnel assigned to perform SSO and their interface/support of FRs. Ensure affected DOE and contractor managers understand their roles and relationships to FRs and the contractor's cognizant system engineers, and provide the necessary access and support.
- (5) Verify that SSO candidates possess the required level of knowledge or skills to perform assessments and investigations to confirm performance of safety systems in meeting established safety and mission requirements.
- (6) Assign qualifying officials to sign site-specific qualification cards.

c. Supervisors with Responsibilities for SSOs.

- (1) Maintain STSM qualification.
- (2) Develop site-specific SSO qualification standards and cards for safety systems and safety management programs.
- (3) Identify and approve candidate selection.
- (4) Establish SSO personnel qualification schedules.
- (5) Facilitate SSO qualification (e.g., ensure sufficient time and training is provided to complete qualification tasks).
- (6) Train and qualify SSO candidates so they are capable of performing assigned duties.
- (7) Ensure SSO responsibilities are included and maintained in individual performance plans.
- (8) Ensure SSO qualifications are maintained current by training and assignments planned in IDPs.
- (9) Periodically evaluate program effectiveness and serve as management advocates within their respective field elements to resolve programmatic issues.

3. RELATIONSHIP BETWEEN SAFETY SYSTEM OVERSIGHT PERSONNEL, FACILITY REPRESENTATIVES AND SENIOR TECHNICAL SAFETY MANAGERS.

- a. STSMs are managers responsible for the status of safety systems and safety management programs. As such, they provide direction to SSO personnel and



FRs to ensure that safety systems and safety management programs required by the facility safety basis are functional and fully implemented.

- b. FRs perform oversight of their assigned facilities to ensure that the contractor operates facilities safely and efficiently (i.e., within the boundaries of those controls invoked in the facility AB), communicating system and facility status and operational performance information with STSMs.
- c. SSO personnel coordinate with FRs to ensure, and report to STSMs, the operability of specific safety systems. SSO personnel focus on the details of safety system operability implementation while FRs focus on the integrated operational aspects of these systems and programs.

#### 4. PROGRAM REQUIREMENTS.

- a. Purpose and Scope. The purpose of SSO qualification is to ensure that a sufficient number of competent DOE staff members are assigned to oversee contractor management of safety systems at DOE defense nuclear facilities. Oversight performed by assigned staff provides DOE line managers with accurate objective information on the performance of safety systems and the associated effectiveness of contractor work performance and practices, including implementation of the ISM System, the contractor's Cognizant System Engineer Program, and fulfillment of the facility safety basis.
- b. Applicability. Program and field offices with responsibilities for oversight of defense nuclear facilities that rely upon safety systems in a DSA per 10 CFR 830, Subpart B.
- c. Coverage and Staffing. Determination of the number of staff members to be assigned and qualified at the Federal level begins with the identification of safety systems and safety management programs at each site as relied upon in the DSA. The facility hazard classification; safety classification, number, type, complexity, and accessibility of safety systems; programmatic importance and potential environment, safety, health and/or financial impact of facility systems; and maturity and effectiveness of implementation of the contractor's Cognizant System Engineer (as described in DOE O 420.1A) and Safety Management Programs are used to determine the need for Federal employees with this expertise.

In some cases, it may be prudent to share these responsibilities between field elements and/or facilities depending on the commonality of system designs, program features, physical location, or life-cycle stage (e.g., startup, decommissioning, closed). Additionally, to the degree these employees may be promoted or otherwise lost from the program, necessary steps should be taken to ensure departing staff members are replaced in a timely manner. The assignment of backups and in-progress qualification for planned replacements should be considered.

- d. Relationship to Other Programs. SSO should be considered the primary function of assigned personnel. Depending on the level of required coverage, some of these “positions” may not require full-time involvement and the assigned employees may have other, collateral, functions. However, it is important that this primary function not be diminished. Unlike FRs, who are responsible for monitoring the safety performance of DOE defense nuclear facilities and day-to-day operational status, staff members assigned to SSO are responsible for overseeing assigned systems to ensure they will perform as required by the safety basis and other applicable requirements.

SSO personnel provide input to FRs (who are typically the first to identify problems) for evaluating the significance and impact of identified problems through more detailed analysis of system or program performance. SSO personnel should also be available to oversee contractor life-cycle management as it relates to assigned safety systems, particularly when significant problems arise.

Program Feedback. The program should be periodically evaluated and adjusted as needed to ensure a high and continuously improving level of performance. Performance should be monitored through established performance indicators (e.g., number of fully qualified personnel, number of personnel in qualification, number of backups, time spent evaluating systems), self-assessments, peer reviews, workshops, and frequent communication and feedback. Assessments should be performed in accordance with the guidance in this Manual. Assessment objectives and criteria should be added to verify effective performance of SSO Program duties and responsibilities.

## 5. SSO KNOWLEDGE, SKILLS, AND ABILITIES.

- a. Consistent with this Manual, each field element organization will develop a TQP. This TQP will include the knowledge, skills, and abilities listed below for all SSO personnel. It is understood that as part of the TQP, all SSO personnel will acquire the necessary basic technical knowledge and technical discipline competencies linked to their individual job descriptions. In addition, the overall competency expectation for SSO personnel is that they have a working knowledge of and ability to oversee those safety systems to which they have been assigned. The following knowledge, skills, and abilities were developed to meet this expectation.
  - (1) IDENTIFY and DESCRIBE the AB documents and DESCRIBE the function and purpose of the assigned safety systems and major components and how these functions support the full spectrum of system operations.
  - (2) Given the major design basis supporting analyses, system design descriptions, calculations, and other information sources, EXPLAIN how system performance requirements satisfy the AB.

- (3) DESCRIBE the maintenance requirements of the safety system, DESCRIBE how to determine the status and adequacy of contractor maintenance activities, and EXPLAIN how the contractor maintains the configuration of the safety system (both physical and document configuration) throughout the work control and design change processes.
  - (4) DESCRIBE the unreviewed safety question process and its importance for maintaining the original safety basis.
  - (5) DESCRIBE the contractor's Cognizant System Engineer Program, the program's role in maintaining and improving safety system performance, the key criteria for determining that this role is adequately performed, and how to assess the program to confirm it is fulfilling assigned responsibilities.
  - (6) DESCRIBE the key considerations in preparing and implementing a troubleshooting plan to determine the root cause for equipment failures (e.g., evidence preservation, need for contingencies, application of ISM to trouble shooting). Describe how to obtain related facility or industry experience to support the cause determination.
- b. In addition to evaluating and documenting how the above knowledge, skills and abilities have been achieved as part of the SSO personnel qualification, field element organizations should also use practical exercises such as the following to evaluate SSO staff knowledge, skills, and abilities.
- (1) Performing walk-downs of the system and/or contractor facilities to demonstrate how system requirements and performance data are gathered.
  - (2) Conducting (preferably leading) performance-based assessments (through walk-downs, interviews, document reviews, and field observations) to confirm that (a) AB documents are accurate and adequately maintained; (b) system operation, maintenance, and performance is in accordance with this basis; (c) the effect of aging on system equipment and components is addressed; and (d) the contractor has an adequate Cognizant System Engineer Program (e.g., staffing, qualifications, responsibilities, programs) for monitoring, maintaining, and improving system performance.

Achievement and demonstration of knowledge, skills, abilities, and related practical factors will be fully documented on the SSO candidate's qualification card.

## ***SECTION 2, FACILITY REPRESENTATIVES***

1. OVERVIEW. The DOE FR is the “eyes and ears” of DOE management within the facilities owned by the Department. DOE line management is responsible for safety at DOE facilities, and well-managed, well-trained FRs are an important line management tool for ensuring safe operations. FRs perform oversight of their assigned facilities to ensure—
  - contractors operate facilities safely and efficiently (i.e., within the boundaries of those controls invoked in the facility AB);
  - contractor management systems effectively control conduct of operations and implement ISM objectives, principles, and functions;
  - DOE line/program managers are cognizant of the operational performance of facility contractors; and
  - effective lines of communication between DOE and its operating contractors are maintained during periods of normal operation and following reportable events, in accordance with DOE Orders and requirements.

Only NNSA FRs will perform oversight of NNSA facilities.

1. PROGRAM REQUIREMENTS. FRs must have independent and direct access to contractor personnel, facilities, and records, as necessary, to carry out their assigned responsibilities. FRs should have access to program/line managers to provide information related to the assigned facilities. FRs must be qualified by education, experience, and training to carry out the duties and responsibilities of the position. FRs are required to meet stringent and comprehensive qualification standards. Cognizant Secretarial Officers and FEMs are responsible for providing developmental and career opportunities for FRs.

Field elements with hazardous facilities must establish a formal FR program using DOE-STD-1063-2000, *Facility Representatives*, dated March 2000.

### ***SECTION 3, SENIOR TECHNICAL SAFETY MANAGERS***

1. OVERVIEW. The Department's most critical objective is to ensure that work is done safely and efficiently with regard to public health, worker safety, and the environment. STSMs are key to meeting this objective.

By definition, an STSM is a person, usually at the GS/GM-15 or SES level, who is assigned direct line responsibility for activities impacting the safe operation of defense nuclear facilities, including managing technical programs and associated resources and providing assistance, direction, guidance, oversight, or evaluation of contractor technical activities through the contracting officer or pursuant to some specific contract delegation.

STSMs are managers responsible for the status of safety systems and safety management programs. As such, they provide direction to SSO personnel and FRs to ensure that safety systems and safety management programs required by the facility safety basis are functional and fully implemented. It is imperative that STSMs be technically competent as well as good managers.

Selecting STSMs is a complex process. This chapter provides direction for selecting applicants or assessing the competency of incumbents for STSM positions. This chapter is intended to complement local merit staffing procedures, the provisions of which still apply. TLPSOs, PSOs, and FEMs are encouraged to adopt a formal process, similar to that described in this chapter, to ensure that employees selected for STSM positions have the highest level of technical competence obtainable. This Manual also defines mechanisms for independently monitoring LPSO/PSO/FEM implementation of the STSM program.

Both the FEM and deputy FEM should be identified as STSM positions. The individuals filling these positions should meet the technical competency criteria for an STSM. If not both, then either the FEM or one deputy FEM (if more than one) should be an STSM with compensatory measures in place to maintain an unbroken chain of qualified STSMs in positions of authority.

2. RESPONSIBILITIES.
  - a. Field Element Managers, Program Secretarial Officers, and the Administrator, National Nuclear Security Administration. FEMs, PSOs, and LPSOs play a critical role in ensuring that DOE has adequate numbers of qualified STSMs. Specifically, they are responsible for the following.
    - (1) Identifying the STSM positions for their offices.
    - (2) Ensuring that individuals filling STSM positions, whether incumbents or candidates for new or vacant positions, meet the technical competency criteria (only in rare cases may compensatory measures be relied upon).

- (3) Establishing a process to recruit, screen, and hire competent technical personnel to fill STSM positions.
    - (4) Developing a process to determine needed detailed office/facility-specific technical competencies for each of the STSM positions in their organizations.
  - b. Federal Technical Capability Panel. The Panel is responsible for overseeing implementation of the STSM Program across the Department, including the following.
    - (1) Maintaining a list of the designated STSM positions and incumbents in DOE.
    - (2) Overseeing the process for evaluating the qualifications of employees filling STSM positions.
    - (3) Reviewing and approving the STSM Functional Area Qualification Standard.
  - c. Federal Technical Capability Panel Agents. These agents, who make up the Panel, are responsible for coordinating and overseeing implementation of the FTCP at their offices. Specifically, they are responsible for the following.
    - (1) Assisting FEMs/PSOs/LPSOs in establishing or maintaining formal STSM programs for their respective organizations.
    - (2) Facilitating recruitment to fill open positions with technically competent individuals.
    - (3) Concurring with STSM vacancy announcements to ensure the inclusion of adequate selection criteria.
    - (4) Concurring with competitive selections for STSM positions where the individual has not previously qualified as an STSM.
3. MONITORING STSM POSITIONS. The executive secretary to the Panel maintains the approved list of STSM positions with incumbents, and monitors changes to the list. The agent representing the changes must notify the executive secretary of any changes. The notification must address any of the following that apply:
  - change in position title,
  - organizational change in position responsibilities,
  - addition or removal of a position from the list, or
  - selection of a new individual for an STSM position.

4. FILLING STSM POSITIONS.

- a. Background and Experience. STSMs must possess a scientific or engineering degree with a major in an academic area that supports the functional responsibilities of their positions. Exceptions to this requirement should be considered only in rare circumstances, and then in accordance with OPM qualification standards for the 800 and 1300 classification groups. Professional credentials (e.g., Professional Engineer) and industry or governmental qualifications/certifications (e.g., FR) should weigh heavily in favor of the applicant or incumbent. Additionally, the applicant should have demonstrated management and leadership skills.

The applicant's resume or work history should show a demonstrated capability to manage technical issues using an integrated and systematic approach at the level that the position requires. For example, a management position that is narrow in scope with significant detail work requires a level of expertise close to that of a recognized expert. Conversely, a management position that is very broad in scope requires an interdisciplinary background and demonstrated technical competence. In both cases, direct operational experience should support the position responsibilities. Applicants should typically have 3 or more years experience in an equivalent position or a position one level below the position for which the applicant has applied.

In summary, both demonstrated technical expertise and managerial skills are necessary for STSM positions.

- b. Position Descriptions. STSM position descriptions must clearly identify the positions as STSM positions and be written to ensure that the requisite education, experience, and requirements are included.

To ensure the integration of safety management within the organization, incumbent STSMs should be used as recognized experts to assist the servicing human resource office in developing position descriptions.

5. COMPENSATORY AND ALTERNATIVE MEASURES. If the incumbent in an identified STSM position does not meet the education or experience requirements contained in the STSM Functional Area Qualification Standard, management has various options for addressing or compensating for the deficiency. In developing and implementing compensatory measures, management has the responsibility for creating an unbroken chain of fully qualified STSMs in positions of authority. The following are examples of the compensatory measure options available to management.

- Maintaining the incumbent in the respective position and having a fully qualified STSM assigned to the office to be responsible for technical aspects

of decisions. This may be advisable if the incumbent is in place to address administrative or legal issues. This option may also be desirable if the incumbent is a political appointee.

- Changing the position description to specify that the incumbent in the position does not decide technical issues. When implementing this option, document that a member of the individual's staff (e.g., deputy or senior staff officer) is responsible for the technical aspects of decision making for the work unit. Include that the nontechnical STSM overlays administrative, legal, or other implications, without changing the technical decisions of the work unit. Any technical issue on which the two individuals cannot agree must be referred to the next senior qualified STSM in the office.
  - Providing training and development support to the individual so that he or she can eventually qualify as an STSM.
  - Requesting that the Deputy Secretary review the STSM's qualifications and the organizational situation to determine whether the situation dictates an exception to policy. In such cases, the Deputy Secretary must find that, due to the unique qualifications of the incumbent and the duties of the position, the individual—although not meeting the strict requirements of the STSM Functional Area Qualification Standard—should remain in the position because his/her unique qualifications contribute to and ensure safety.
  - Reassigning the individual to a position that does not require him/her to qualify as an STSM.
6. QUALIFICATION PROCESS. The STSM Functional Area Qualification Standard applies to all Department STSMs identified on the approved list maintained by the Panel. This standard, which is issued through the Department's Technical Standards Program, contains the competencies associated with a typical STSM position in DOE. For ease of transportability of qualifications between DOE elements, the DOE General Technical Base Qualification Standard and the DOE STSM Functional Area Qualification Standard must be used without modifications or additions. A process should be developed to determine needed additional office/site/facility specific technical competencies for the individual position. Staff members designated as STSMs participate in the TQP and are required to satisfy the requirements of the program as defined by DOE M 360.1-1B, *Federal Employee Training Manual*, dated 10-11-01.

Personnel should be hired, transferred, or promoted into STSM positions using the process described in paragraph 4 above, "Filling STSM Positions." Upon being placed in the positions, they must complete the requirements identified in the STSM



Functional Area Qualification Standard and any other local requirements established for the position.

Training and qualification records must be maintained for STSMs as defined by DOE M 360.1-1.B.

CANCELED

## **CHAPTER IV. CONTINUOUS IMPROVEMENT AND REPORTING**

### ***SECTION 1, STAFFING PLANS AND PRESERVATION OF CRITICAL TECHNICAL CAPABILITIES***

1. OVERVIEW. Senior managers must conduct periodic workforce analyses of their organizations and develop staffing plans that identify critical technical capabilities and positions that ensure safe operations at defense nuclear facilities. The staffing plans should identify—

- critical safety needs and actions taken to address recruitment and deployment issues;
- projected staffing needs for technical positions, including SSO positions; and
- methods such as, Excepted Service Authorities, redeployment, CIP, and the respective leadership development programs to fill those positions with the best-qualified individuals.

Each Panel agent coordinates the conduct of analyses and development of the resulting staffing report for his or her office in accordance with the office's plan. The Panel is responsible for ensuring that workforce analyses are conducted and the results are analyzed and included in the Panel's annual report to the Secretary.

2. IDENTIFICATION OF CRITICAL TECHNICAL CAPABILITIES. Workforce analyses identify the critical technical capabilities that must be maintained to ensure safe operation of defense nuclear facilities. A position determined to have critical technical capabilities must meet the following two criteria.

- The position must be technical in nature, with responsibilities related to the safe operation of defense nuclear facilities.
- The critical capabilities associated with the position must represent a specialized skill set that could not typically be replicated in 90 days using formal training or external recruiting.

Additionally, positions identified as possessing critical technical capabilities must meet at least one of the following criteria.

- The position must require a qualification or certification unique to the DOE mission (e.g., FR and SSO).
- Proficiency in the position must require critical capabilities that can only be obtained through a lengthy period of on-the-job training (e.g., longer than 6 months).

- The position must require specialized skills from a limited talent pool (e.g., criticality experts or nuclear weapon design/safety experts).
- Loss of the technical capabilities resident within the position would jeopardize the Department's ability to meet safety or regulatory requirements.

3. WORKFORCE ANALYSIS AND STAFFING PLAN REPORT. DOE organizations use workforce analyses as a basis for developing staffing plans. The following information is included in workforce analyses and the associated staffing plan reports.

- Section One briefly describes the current missions of the organization to frame the need for technical capabilities in the organization. It also describes probable or potential changes to the missions of the organization that may affect the required critical technical capabilities/positions for the organization. This may include new missions, changing missions, downsizing, facility startup, facility shutdown, etc.
- Section Two identifies the critical technical capabilities/positions for the organization and the minimum number of employees/positions required in each area. Preparation of this section requires a review and validation of the information submitted in the report from the previous year.
- Section Three identifies the current shortages, what is being (or will be) done to fill the shortages (including any compensatory measure), and the anticipated date that the shortages will be filled.
- Section Four identifies the projected shortages or surpluses in critical technical capabilities/positions over the next 3 years. These projections should be based on mission changes indicated in Section One and vacancies created due to retirements, changing demographics, etc. This section also briefly describes how the organization will deal with the changing requirements.
- Section Five identifies any general concerns or recommendations related to ensuring that critical technical capabilities/positions are maintained for the organization or the Department overall.

A workforce analysis and staffing plan report is transmitted to the chair and vice chair (if applicable) of the FTCP, with a copy to the executive secretary, in December of each year. The transmittal should be signed by the senior manager of the organization submitting the report and include an effective date. The Panel reviews the individual reports and uses them as a basis for its annual report to the Secretary of Energy.

4. PRESERVATION OF CRITICAL TECHNICAL CAPABILITIES. Organizations use workforce analyses and staffing plans as a basis for recruitment and development programs and as part of the strategy to reduce the potential effects of downsizing on technical capabilities. In the Reduction-in-Force (RIF) process, organizations must

establish competitive levels based on regulations found in Title 5, Code of Federal Regulations Part 351.40, which defines a competitive level as:

*...all positions in a competitive area which are in the same grade (or occupational level) and classification series, and which are similar enough in duties, qualification requirements, pay schedules, and working conditions so that an agency may reassign the incumbent of one position to any of the other positions in the level without undue interruption.*

In some cases, especially critical technical positions with unique duties and qualification requirements, organizations may have to establish separate competitive levels based on documentation of special qualification requirements beyond those published by OPM. For competitive levels to be properly established, position descriptions must document the duties and functions performed and the knowledge required to accomplish those duties and functions, especially if qualifications should be expanded using selective placement factors. Selective placement factors, along with the unique nature of the duties and functions of positions, distinguish positions as unique for competitive level purposes and for qualification determinations during the RIF process.

Appropriate selective placement factors must be incorporated into the knowledge required for positions and used to determine basic qualifications for job entry. In addition, inclusion of selective placement factors and the unique nature of the duties and functions of certain positions support establishment of unique competitive level codes. Selective placement factors, when incorporated into the knowledge required for job accomplishment and when supported by the duties and responsibilities of a position, extend the qualification requirements for initial entry into a position and for entry into the position during a RIF.

DOE G 426.1-1 provides a specific example of how competitive levels can be established for the FR position. This process can be used to establish competitive levels for other critical technical positions identified in workforce analyses and staffing plan reports. .

## ***SECTION 2, ASSESSMENTS***

1. OVERVIEW. The FTCP provides for the recruitment, deployment, development, and retention of Federal employees with the demonstrated technical capabilities to safely accomplish the Department's missions and responsibilities. The Panel periodically assesses the effectiveness of the functions of the FTCP using both internal and independent experts. In addition to FTCP assessments, Headquarters and field elements conduct periodic self-assessments of TQP implementation within their organizations.

This section establishes the guidance and criteria for conducting FTCP and TQP assessments. Regardless of the type of assessment conducted or who conducts the assessment, the objectives and criteria within this Manual are used as a basis for the assessment. Objectives and criteria must be used consistently to establish baselines and to track and trend performance.

2. FEDERAL TECHNICAL CAPABILITY PROGRAM ASSESSMENTS. Within the context of this Manual, FTCP assessments are classified as internal assessments or independent assessments and either local assessments or Departmental assessments.
  - a. Internal FTCP Assessments. Experts from within DOE conduct internal FTCP assessments. Although experts from other organizations may be part of the assessment team, staff members from within the organization or program being assessed typically conduct internal assessments. A senior manager from within the organization leads internal assessments.
  - b. Independent FTCP Assessments. Independent FTCP assessments are conducted using experts from outside the Department or experts from within the Department who have no involvement with the organization or program being assessed. External experts may include independent consultants, employees from other Agencies, or experts from industry organizations. An external expert or an independent DOE expert may lead the independent assessment team. Independent oversight performed by the Office of Independent Oversight and Performance Assurance includes review of the TQP.
  - c. Local FTCP Assessments. Periodically, each DOE office with safety responsibilities for defense nuclear facilities conducts a local FTCP assessment covering all the objectives and criteria in this Manual. This includes field elements and Headquarters offices. Local FTCP assessments should be led by an STSM, who reports directly to the office manager for purposes of the assessment. Although local assessments may be internal or external, they are usually internal assessments.

The Panel reviews the results of all of the local assessments. Based upon its findings, the Panel may charter a Departmental assessment team to review the implementation of select objectives and criteria throughout DOE.

- d. Departmental FTCP Assessments. Departmental FTCP assessments are conducted across multiple DOE offices and may be conducted internally or independently. Departmental assessments may cover the entire FTCP, or they may cover a single aspect of the program, such as recruitment or the intern program.

The Panel charters Departmental FTCP assessments on a periodic basis and when the potential exists for a performance problem in an area of the FTCP. Departmental assessments are conducted based upon the objectives and criteria in this Manual, but the Panel may add objectives and criteria to the scope of the assessment. The Panel selects the Departmental assessment team leader and determines whether external experts will be used on the team. Departmental assessments conducted in the same year as local assessments should be conducted after the local assessments are completed and evaluated by the Panel. This enables the Departmental assessment team to use the results of the local assessments to assist in its assessment.

3. TECHNICAL QUALIFICATION PROGRAM ASSESSMENTS. To ensure effective implementation of the TQP, Headquarters and field elements conduct periodic self-assessments of the program. Typically, these self-assessments are conducted by an internal TQP Assessment Team lead by a senior line manager. The results of these assessments are used by the local organization to determine if improvements are required. The Panel also reviews the results of TQP assessments and determines if further action is necessary on a Departmental level.
4. ASSESSMENT TEAMS. Assessment teams may consist of people from the organization being assessed, other DOE Headquarters or field elements, and/or independent experts. The number and type of people on assessment teams vary based upon the scope of the assessment. Typically, an assessment team will have a team leader and three to five team members.
  - a. Assessment Team Leaders. Choosing the proper assessment team leader is a key element to ensuring a successful assessment. The organization manager selects local assessment team leaders, and the Panel typically selects Departmental assessment team leaders.
    - (1) Key attributes of an assessment team leader include the following.
      - (a) If internal to the Department, the individual is an SL (GS-15 or above) line manager with knowledge of, and experience with, the program being assessed.
      - (b) The assessment team leader should be an STSM.

- (c) If external to the Department, the individual is highly respected within the professional community in areas and programs similar to that being assessed.
  - (d) The individual has experience leading an evaluation or project team.
  - (e) The individual, by virtue of reputation, background, and/or experience, will be respected by the organization being assessed.
- (2) The roles and responsibilities of the assessment team leader are as follows.
  - (a) Serves as the project manager for all assessment team activities and acts as the primary point-of-contact with the organization being assessed.
  - (b) Has primary responsibility for selecting team members.
  - (c) Coordinates assessment team activities and ensures they are performed in a competent and professional manner.
  - (d) For local assessments, prepares and submits the final report to the office manager, who approves and forwards it to the Panel.
  - (e) For Departmental assessments, prepares and submits the final report to the Panel.
- b. Assessment Team Members. Selection of assessment team members is another key element to ensuring a successful assessment. No other task so directly affects the overall quality of the assessment. The following guidelines should be used when selecting team members
  - (1) Assessment team members should have technical experience relevant to this assignment and should also have some experience conducting program assessments. This experience provides the background for team members to work independently at an unfamiliar location, gather information quickly, and make objective recommendations.
  - (2) The team leader should determine whether any conflict of interest, actual or perceived, exists for any potential team member. If so, that individual must not be considered further.
  - (3) Team members should have qualifications that will be respected by the organization requesting the assistance (e.g., reputation, relevant background, and/or types and lengths of experience).

5. REPORTING THE RESULTS OF ASSESSMENTS. To facilitate the review and evaluation of assessment results by the Panel, the results of all assessments must be documented in a consistent manner. The assessment report covers the status of complying with the objectives and criteria listed in this Manual. The assessment team leader approves the assessment report. The format of the assessment reports is as follows.
- a. Cover Page. Include the title of the report, the name of the office assessed, and the date of the report.
  - b. Executive Summary. Limit this section to one page that provides a short overview of the team composition, dates of the assessment, and methodology. The executive summary should briefly describe assessment results, including strengths and weaknesses.
  - c. Introduction. Provide relevant background information and describe the purpose and format of the report.
  - d. Scope and Methodology. Describe the make-up of the team in general terms (referring to Attachment A of the report for more detail), describe the scope of the assessment referencing the use of the objectives and criteria, and briefly describe the methodology applied.
  - e. Results. Address the overall program and each of the applicable objectives listed in this chapter, describe the status of the effort to achieve the objective, and identify any strengths or weaknesses. Addressing each criterion for the objectives is not necessary; however, any criterion that is not achieved should be identified as a deficiency for that objective.
  - f. Attachments. Include the following attachments.
    - Objectives and criteria.
    - List of team leader and team members, including a brief description of their backgrounds and experience.
    - List of people contacted and documents reviewed.
    - Any other information the team deems pertinent.
6. FEDERAL TECHNICAL CAPABILITY PROGRAM ASSESSMENT OBJECTIVES AND CRITERIA.
- a. FTC-1, Executive Commitment and Line Management Ownership. Line management is actively involved in all aspects of technical employee recruitment, retention, development, and deployment.



Criteria:

- 1.1 Line managers are aware of the requirements and administrative flexibilities associated with recruiting, hiring, and retaining high-quality technical employees.
  - 1.2 Senior line management supports the continuous technical development and improvement of employees.
  - 1.3 Supporting organizations (personnel, training, contracts, finance, etc.) recognize line managers as customers and effectively support them in achieving and maintaining technical excellence.
  - 1.4 The applicable Level One or field level Functions, Responsibilities, and Authorities Manual (FRAM) clearly defines Federal line management responsibilities in the area of technical capability.
  - 1.5 Achieving and maintaining technical competence is reflected in the goals and objectives of the organization and the position descriptions and performance evaluation plans of senior managers.
  - 1.6 Technical capability programs and processes are institutionalized through Policy, Orders, Standards, and procedures.
  - 1.7 Management uses the results of previous FTCP assessments as a tool to improve the program.
- b. FTC-2, Recruiting Technically Capable Personnel. An effective process is implemented to attract highly competent technical personnel to fill key positions in the Department.

Criteria:

- 2.1 Excepted Service Authorities are considered as a tool to attract highly competent technical personnel to fill key safety positions.
  - 2.2 Intern programs, such as the CIP, are recognized as an effective method to attract technically competent personnel to the Department.
- c. FTC-3, Staffing and Deployment. Technical staffing plans are developed, maintained, and used as the basis for recruiting, developing, and deploying personnel to ensure that critical safety positions are filled with technically competent people.

Criteria:

- 3.1 Technical staffing plans are developed and maintained to identify critical safety positions and other key technical positions within the organization.

- 3.2 Technical staffing plans form the basis for recruiting, developing, and deploying technical personnel in the organization.
- 3.3 Employees in critical safety positions and other key technical positions possess the requisite education, training, experience, and background for their positions.
- 3.4 The STSM Program is effectively implemented in the organization. The STSM describes how STSM candidates are selected and compensatory measures used when responsible individuals lack STSM qualification.

- d. FTC-4, Development of Technically Capable Personnel. Programs and processes are effectively implemented to encourage the continuous improvement of technical personnel.

Criteria:

- 4.1 The TQP is effectively implemented. (Note: This program is evaluated using the TQP objectives and criteria.)
- 4.2 Fellowship programs and other continuing education processes are effectively used to enhance the continuous improvement of technical personnel.
- 4.3 Employees are encouraged to join professional organizations, write professional papers, and pursue professional certifications.

- e. FTC-5, Retaining Technically Capable Personnel. DOE is an organization where technically competent personnel are respected and want to work.

Criteria:

- 5.1 Technical personnel are assigned positions and responsibilities that allow them to effectively use their education, training, experience, and background in a fulfilling way.
- 5.2 Career path planning and succession planning are effectively used to help retain technically capable personnel.
- 5.3 Technical performance is used as a basis for performance reviews, promotions, recognitions, rewards, etc.
- 5.4 An effective process is in place to preserve critical technical capabilities during RIFs.

7. TECHNICAL QUALIFICATION PROGRAM ASSESSMENT OBJECTIVES AND CRITERIA.

- a. TQP-1, Demonstration of Competence. The program clearly identifies and documents the process used to demonstrate employee technical competence.

Criteria:

- 1.1 At a minimum, personnel providing management direction or oversight that could impact the safe operation of a defense nuclear facility have been identified as TQP participants.
- 1.2 IDPs, training plans, technical qualification records, or other related documents are updated to reflect the activities required for each individual to satisfy competencies.
- 1.3 A formal evaluation process is in place to objectively measure the technical competency of employees. The rigor of the evaluation process is commensurate with the responsibilities of the position.

- b. TQP-2, Competency Levels. Competency requirements are clearly defined and consistent with applicable industry standards for similar occupations.

Criteria:

- 2.1 Competency requirements include clearly defined knowledge, skill, and ability elements.
- 2.2 Recognized experts help establish competency requirements.
- 2.3 Related professional certification requirements are considered in the program as applicable.
- 2.4 Competency requirements are identified in the areas listed below. (Note: this does not imply that three separate documents are required.)
  - Basic Technical Knowledge. Competency in areas such as radiation protection, occupational safety, chemical safety, nuclear safety, and environmental regulations.
  - Technical Discipline Competency. Competency in a technical discipline (e.g., mechanical engineering, chemical engineering) that can be demonstrated by education, professional certification, examination, or on-the-job performance.
  - Position Knowledge, Skills, and Abilities. Competencies specific to the position, facility, or program and the office.

- c. TQP-3, Plans, and Procedures. Plans and/or procedures are developed and implemented to govern administration of the program.

Criteria:

- 3.1 Senior management is committed to the TQP.
- 3.2 Written procedures that adequately define the processes and requirements to implement the TQP are in place.
- 3.3 Roles and responsibilities for implementing the TQP are clearly defined and understood by all involved.
- 3.4 The procedures that govern implementation of the TQP are understood by all involved and are being implemented as written.
- 3.5 A training and qualification records system is established for each employee in the TQP.

- d. TQP-4, Qualification Tailored to Work Activities. The program identifies unique Department- and position-specific work activities and specifies the knowledge and skills necessary to accomplish that work.

Criteria:

- 4.1 An analysis has been performed to identify the related knowledge, skill, and ability elements to accomplish the duties and responsibilities for each TQP functional area or position.
- 4.2 The program includes job-specific requirements related to the rules, regulations, codes, standards, and guides necessary to carry out the mission of the office.
- 4.3 The program supports the mission needs of the office.

- e. TQP-5, Credit for Existing Technical Qualification Programs. The program is structured to allow credit, where appropriate, for other TQP accomplishments.

Criteria:

- 5.1 Credit (equivalency) is granted for previous training, education, experience, and completion of related qualification/certification programs, where applicable.
- 5.2 Equivalency is granted based upon a review and verification of objective evidence, such as transcripts, course certificates, test scores, or on-the-job experience.

5.3 Equivalencies are formally validated, approved, and documented.

- f. TQP-6, Transportability. Competency requirements identified as applying throughout the Department are transferable.

Criteria:

6.1 The program includes all competencies that have been identified as applying throughout the Department.

6.2 Formal documentation of the completion of Department-wide competencies is maintained in a manner that allows for easy transferability.

6.3 The TQP is integrated with personnel-related activities, such as position descriptions, vacancy announcements, recruiting, and performance appraisals.

- g. TQP-7, Measurable. The program contains sufficient rigor to demonstrate compliance to the principles.

Criteria:

7.1 The technical competency of personnel who have completed the requirements of the TQP is adequate and appropriate.

7.2 The program allows for continuous feedback and periodic evaluation to ensure that it meets the needs of the Department and the missions of the office.

7.3 The TQP provides for continuing training.

### ***SECTION 3, ANNUAL REPORT TO THE SECRETARY OF ENERGY***

1. OVERVIEW. The Panel prepares an annual report to the Secretary of Energy, based in part on the staffing plans described in this Manual. The report summarizes actions taken to address the Department's hiring and deployment needs and identifies future actions to preserve critical technical capabilities to ensure safe operations of defense nuclear facilities. The report is typically submitted through the Deputy Secretary in the third quarter of the calendar year.
2. REPORT FORMAT. The format of the report is as follows.
  - a. Introduction. Briefly describe the background and purpose of the report and indicate the period covered by the report.
  - b. Status of Critical Technical Capabilities and Staffing Related to Safe Operations of Defense Nuclear Facilities. This includes an assessment of the state of critical technical capability within the DOE. Provide an overview of the results of the workforce analyses and staffing reports submitted by each organization, and describe the analysis process and indicate how many positions are identified as critical technical capabilities in the Department, how many vacancies currently exist, and any other particulars associated with the staffing report results.
  - c. Accomplishments Related to Improving Technical Capability. Briefly describe the accomplishments from the previous year.
  - d. Issues Related to Improving Technical Capability. Briefly describe the issues or problems associated with improving technical capability.
  - e. Recommendations to Maintain or Improve Technical Capability. Provide specific recommendations to address deficiencies, and summarize the status, issues, and actions taken to improve and preserve the Department's technical capabilities.

**PRIMARY DOE ORGANIZATIONS TO WHICH DOE M 426.1-1A IS APPLICABLE**

Note: Additions and deletions reflect latest information we have. Please verify that this Directive applies to all listed this page and next.

Office of the Secretary  
Chief Information Officer  
Office of Civilian Radioactive Waste Management  
Office of Congressional and Intergovernmental Affairs  
Office of Counterintelligence  
Departmental Representative to the Defense Nuclear Facilities Safety Board  
Office of Economic Impact and Diversity  
Office of Electric Transmission and Distribution  
Office of Energy Efficiency and Renewable Energy  
Energy Information Administration  
Office of Environment, Safety, and Health  
Office of Environmental Management  
Office of Fossil Energy  
Office of General Counsel  
Office of Hearings and Appeals  
Office of Independent Oversight and Performance Assurance  
Office of the Inspector General  
Office of Intelligence  
Office of Legacy Management  
Office of Management, Budget and Evaluation and Chief Financial Officer  
National Nuclear Security Administration  
Office of Nuclear Energy, Science, and Technology  
Office of Policy and International Affairs  
Office of Public Affairs  
Office of Science  
Secretary of Energy Advisory Board  
Office of Security  
Office of Security and Safety Performance Assurance  
Office of Energy Assurance  
Southeastern Power Administration  
Southwestern Power Administration  
Western Area Power Administration