SUPPLEMENTAL DIRECTIVE

SD 226.1-1A

Approved: 12-16-11

HEADQUARTERS BIENNIAL REVIEW OF NUCLEAR SAFETY PERFORMANCE

U.S. DEPARTMENT OF ENERGY
National Nuclear Security Administration
Chief of Defense Nuclear Safety

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INITIATED BY:
Chief of Defense Nuclear Safety

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HEADQUARTERS BIENNIAL REVIEW OF NUCLEAR SAFETY PERFORMANCE

1. PURPOSE. This Supplemental Directive establishes the requirements, processes, and procedures for conducting biennial reviews under the National Nuclear Security Administration (NNSA) Chief of Defense Nuclear Safety (CDNS). The CDNS is responsible for maintaining operational awareness of nuclear safety performance of NNSA Headquarters, Site Offices and contractors on behalf of the Central Technical Authority and Administrator. One of the means by which CDNS maintains this awareness is through biennial and other types of reviews. The reviews provide credible, objective, value-added information to NNSA line managers on the status of program and site office nuclear safety oversight and implementation of nuclear safety requirements, and serve to facilitate continuous improvement in:

   - the implementation and maintenance of nuclear safety requirements of the Nuclear Safety Rule, 10 CFR Part 830;
   - the implementation and institutionalization of Integrated Safety Management Systems (ISMSs) that affect the implementation and maintenance of nuclear safety requirements; and
   - the implementation of the requirements for the Federal oversight responsibilities and processes contained in DOE O 226.1B for the protection of workers, the public, and the environment.
   - the implementation of the Line Oversight/Contractor Assurance System (LO/CAS) in the area of nuclear safety.

   CDNS convenes teams of evaluators who perform these reviews, which are an integral part of Headquarters support of facility and program line management.

2. CANCELLATION. NA-1 SD 226.1-1, *Headquarters Biennial Review of Nuclear Safety Performance* Manual, February 5, 2009.

3. APPLICABILITY.

   a. **NNSA Personnel.** Except for the exclusions in paragraph 3c, this NNSA Supplemental Directive applies to all NNSA personnel involved in developing, managing, and implementing regulations and directives that affect nuclear safety.

   b. **NNSA Contractors.** Support the site office in the conduct of the biennial review.

   c. **Exclusions.** This Supplemental Directive does not apply to:

      (1) In accordance with the responsibilities and authorities assigned by Executive Order 12344, codified at 50 USC sections 2406,2511 and to

ensure consistency throughout the joint Navy/ DOE Naval Nuclear Propulsion Program, the Deputy Administrator for Naval Reactors (Director) will implement and oversee requirements and practices pertaining to this Supplemental Directive for activities under the Director's cognizance, as deemed appropriate.

(2) Activities regulated through a license by the Nuclear Regulatory Commission (NRC) or a state under an agreement with NRC, including activities certified by NRC under section 1701 of the Atomic Energy Act.

4. REQUIREMENTS.

a. Headquarters Biennial Reviews of Nuclear Safety Performance will be conducted every two years.

(1) Baseline reviews will be conducted at least every four years.

(2) Reduced-Scope reviews will normally be conducted two years after the baseline review.

b. Nuclear safety delegations in the areas of Safety Basis and Startup and Restart of Nuclear Facilities will be reverified every two years during the conduct of the biennial review.

5. RESPONSIBILITIES.

a. Chief of Defense Nuclear Safety.

(1) Maintain operational awareness of nuclear safety performance of NNSA Headquarters, Site Offices, and contractors on behalf of the Central Technical Authority and Administrator.

(2) Coordinate, direct, and approve the conduct of biennial reviews as described in this supplemental directive.

(3) Issue the two year biennial review schedule annually.

(4) Select the Biennial Review Team Leader.

b. Biennial Review Team Leader. See section 5.b.(1).

c. Biennial Review Team Members. See section 5.b.(3).

d. Office Being Reviewed.

(1) Identify activities that should be accepted as having met review expectations.

(2) Assist the Team Leader in determining the review scope.

(3) Identify any special interest areas for review.

(4) Provide the team with counterparts to support the team members.

(5) Provide the team with adequate logistical and administrative support.

6. SCOPE. Headquarters biennial reviews of nuclear safety performance are performed as coordinated, directed, and approved by the CDNS. The scope of these reviews includes evaluating:

- Federal processes to ensure that the requirements of the Nuclear Safety Rule are effectively implemented and maintained for nuclear activities;
- Contractor processes to ensure that nuclear safety requirements of the Nuclear Safety Rule are effectively implemented and maintained for nuclear activities;
- Federal performance of nuclear safety responsibilities that verify contractor effectiveness, as necessary, including the administration of delegated responsibilities;
- Federal implementation of ISM, with emphasis on integrated management of nuclear safety requirements and responsibilities;
- Status of ISMS implementation by contractors who conduct nuclear activities, with emphasis on integrated management of nuclear safety requirements and responsibilities; and
- Adequacy of the Functions, Responsibilities and Authorities Manual (FRAM) documents in meeting the requirements of the DOE and NNSA FRAMs, and verifying the flowdown of nuclear safety-related FRAM requirements into implementing processes and programs.
- Adequacy of the LOCAS implementation in the area of nuclear safety.

7. DEFINITIONS. See DOE O 410.1, *Central Technical Authority Responsibilities Regarding Nuclear Safety Requirements*.

8. REFERENCES.

a. Title XXXII of P.L. 106-65, *National Nuclear Security Administration Act*, as amended, which established a separately organized agency within the Department of Energy.

b. DOE O 251.1C, *Departmental Directives Program.*

c. Secretarial memorandum, *Revised Safety Functions, Responsibilities and Authorities,* June 22, 2007, from the Secretary of the Department of Energy to the Acting Under Secretary for Energy, Acting Under Secretary for Nuclear Security, Under Secretary for Science, and Chief, Health, Safety, and Security Officer.

d. DOE O 252.1A, *Technical Standards Program.*

e. DOE O 410.1, *Central Technical Authority Responsibilities Regarding Nuclear Safety Requirements.*

f. DOE O 450.2, *Integrated Safety Management.*

g. NA-1 SD 411.1-1C, NNSA *Safety Management Functions, Responsibilities, and Authorities Manual*, Revision 2, February 15, 2008.

h. DOE O 226.1B, *Implementation of Department of Energy Oversight Policy.*

i. DOE P 226.1B, *Department of Energy Oversight Policy.*

j. NA-1 SD 442.1-1, *NNSA Differing Professional Opinions Manual for Technical Issues Involving Environment, Safety and Health.*

k. DOE-HDBK-3012-2003, *Guide to Good Practices for Operational Readiness Reviews (ORR), Team Leaders Guide.*

l. DOE-HDBK-3027-99, *Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook.*

m. *Title* 10 of the Code of *Federal Regulations (CFR), Part 830, Nuclear Safety Management.*

n. *Title 10 of the* Code of Federal Regulations (CFR), Part 835, *Occupational Radiation Protection.*

o. NNSA Policy Letter NAP-21, *Transformational Governance and Oversight.*

9. CONTACT. Questions concerning this Supplemental Directive should be addressed to the Chief of Defense Nuclear Safety, at 202-586-8216.

BY ORDER OF THE ADMINISTRATOR:

THOMAS P. D'AGOSTINO
Administrator

Attachment 1: Biennial Review of Nuclear Safety Performance

CONTENTS

BIENNIAL REVIEW OF NUCLEAR SAFETY PERFORMANCE

1. Introduction. The National Nuclear Security Administration (NNSA) Chief of Defense Nuclear Safety (CDNS) is chiefly responsible for providing confidence to NNSA management that its nuclear operations are being conducted safely. In order to have that confidence, the CDNS must ensure that the requirements of Title 10 of the Code of Federal Regulations (CFR), Part 830, *Nuclear Safety Management* (also known as the Nuclear Safety Rule), are being effectively implemented for NNSA nuclear activities. A critical element for gaining assurance that the requirements of the Nuclear Safety Rule are effectively implemented is conducting biennial reviews of nuclear safety performance at NNSA sites and Headquarters (HQ). For purposes of this supplemental directive, the term "office" is used to mean the NNSA office being reviewed.

a. NA-1 SD 411.1-1C *NNSA Safety Management Functions, Responsibilities, and Authorities Manual* (FRAM) specifies that CDNS is responsible for the conduct of biennial and other types of onsite reviews of NNSA sites and activities, as required by DOE directives or as needed based on specific issues, to ensure that nuclear safety requirements and guidance are implemented appropriately and effectively.

b. DOE O 226.1B, *Implementation of Department of Energy Oversight Policy,* directs that all applicable Department of Energy (DOE) organizations, including NNSA, establish and implement an effective oversight program that is consistent with DOE P 226.1B, *Department of Energy Oversight Policy,* and DOE O 226.1B in its entirety. The Order states that DOE line management must establish DOE HQ line management oversight processes that are focused primarily on the DOE field elements and look at contractor activities to the extent necessary in order to evaluate the implementation and effectiveness of field element line management oversight.

c. This Supplemental Directive is consistent with NNSA Policy Letter NAP- 21, *Transformational Governance and Oversight.* Biennial reviews will be included in approved Site Integrated Assessment Plans.

d. This Supplemental Directive establishes a process for conducting biennial reviews of nuclear safety performance that specifically addresses HQ requirements in the NNSA FRAM and in DOE O 226.1B. CDNS leads biennial reviews to fulfill its oversight responsibilities. The reviews represent a significant investment in NNSA resources, both in terms of the reviewers, many of which are supplied by the site offices, and the impact on the offices being reviewed. Consequently, participation in NNSA Biennial Reviews and use of the results should be a major element of a systematic oversight strategy for NNSA Headquarters organizations. However, the NNSA Biennial Reviews are not intended to be the sole component of any Headquarters organization's oversight activity. In most cases, NNSA

Headquarters organizations will need to supplement the NNSA Biennial Reviews with other activities to fully meet their oversight responsibilities.

2. **Principles of the Biennial Review of Nuclear Safety Performance.** The following principles guide the planning, preparation, and conduct of the review:

a. The safety of nuclear operations can only be ensured through confidence that nuclear safety requirements are fully implemented.

(1) In order to verify that applicable nuclear safety requirements are fully implemented, the biennial review team must assess the Federal Site, Headquarters, and contractor's planning and conduct of nuclear operations.

(2) The scope of the review includes all requirements of the Nuclear Safety Rule. The review will concentrate on contractor and Federal records that document competent verification of the safety elements of nuclear work with follow-up interviews and observations as appropriate.

b. The requirements of the Nuclear Safety Rule include satisfactory implementation of appropriate, approved Documented Safety Analyses (DSAs) and associated Technical Safety Requirements (TSRs) and robust implementation of each required Safety Management Program (SMP) by technically competent personnel.

(1) The scope of the review includes controls established through the Nuclear Safety Rule, including DSAs, TSRs, and relevant SMPs so that nuclear work can be performed safely. In addition, the approved, verified Integrated Safety Management (ISM) System Description, as it affects nuclear work and operations, is included within the scope of the review.

(2) To the degree that elements of the ISM System Description have been competently assessed, they may be reviewed in reduced depth.

(3) A critical element in the areas to review will be the documented, demonstrated technical competence of Federal personnel.

(4) Where applicable, the following expectations are included within the scope of the review:

(a) All necessary requirements evolving from the Nuclear Safety Rule, including DOE and NNSA implementing directives, are included in site contracts. A robust process is implemented to maintain the contract requirements current and complete with respect to nuclear safety.

(b) Site office implementing mechanisms provide for comprehensive evaluation of nuclear safety-related submittals such as preliminary DSAs (PDSAs), DSAs, TSRs, ISM System Descriptions, readiness

review documentation, Quality Assurance Programs (QAPs), and required implementation plans and matrices.

(c) For reviews of Headquarters organizations, implementing mechanisms provide for execution of nuclear safety functions established in Departmental and NNSA directives.

(d) Site implementing mechanisms provide for robust assessment of contractor routine and unique nuclear activities.

(e) Federal implementing mechanisms provide for robust assessment of the Federal organization and its activities, ensuring that they are in accordance with the Core Functions and Guiding Principles of ISM in the areas that affect nuclear safety.

(f) All implementing mechanisms provide evidence of their effective implementation to ensure the safety of nuclear operations.

(g) Federal staffing includes adequate numbers of technically competent personnel to oversee the total breadth of nuclear safety requirements.

(h) Reports and other documentation provide confidence that contractor implementation of nuclear safety requirements at the site is satisfactory.

(5) The biennial review may include field assessments at the site to supplement documented performance evaluations of contractor nuclear safety requirements implementation as determined necessary by the Team Leader.

c. Activities that the Team Leader determines to have met biennial review expectations may be reviewed in reduced depth or eliminated from the review.

(1) As the CDNS prepares for the biennial review, the NNSA office will have the opportunity to identify the activities that should be accepted as having met review expectations. The review can then be tailored to the extent possible.

(2) A portion of the planning process is committed to determining what activities have been previously evaluated by a sufficiently effective and rigorous process that can be credited as satisfying the underlying purpose of the review. Identification of these activities permits their treatment using a reduced depth, and in some cases where the review is independent, their elimination from the review.

(3) This Supplemental Directive includes a formal process for documenting those activities and elements of nuclear safety within the review's scope that have been previously evaluated by a sufficiently effective and rigorous

process. It is CDNS's fundamental goal to provide senior NNSA management with confidence that nuclear operations are being conducted safely and in compliance with all relevant requirements of the Nuclear Safety Rule. In accomplishing this goal, it is desirable to optimize the resources dedicated to the review.

(4) Offices under review are expected to propose areas that may be reviewed with a reduced depth, or that may be eliminated from the review. The final decision on the scope and depth of the review rests with the Team Leader, and is made in consultation with the CDNS. These decisions are documented in the final report.

d. The Team Leader and the reviewers jointly determine the activities that meet the review objectives.

(1) It is expected that from time to time there will be disagreement between the reviewers and those being reviewed over specific findings and whether functional area objectives are considered to be met.

(2) While dialogue is encouraged with the personnel being reviewed, the primary purpose of the dialogue is to ensure that all facts are established and that the issues are understood.

(3) The final decision on the review conclusions is made by the reviewer and the Team Leader. When the reviewer and Team Leader cannot agree, such disagreement should be documented on the Assessment Form signed by both the reviewer and the Team Leader, but the final decision rests with the Team Leader.

(4) In situations where strong technical disagreement exists, the Differing Professional Opinion process is available for use, as documented in NA-1 SD 442.1-1, *NNSA Differing Professional Opinions Manual for Technical Issues Involving Environment, Safety and Health.*

e. In many cases, issues may have been previously identified either by the office being reviewed or another outside entity (e.g. Office of Health, Safety, and Security (HSS)). In these cases, the biennial review team will review implementation of any corrective actions identified for these issues. Although the team will not repeat the issue as a numbered issue, the issue will be discussed in the Assessment Form and the status of correcting the issue will be taken into account when determining if a criterion and objective are met or not met for that functional area.

3. **Selection of Sites and Activities.** The CDNS issues a review schedule that lists the biennial reviews scheduled over the next two years. The scheduled biennial reviews will be included in Site Integrated Assessment Plans. CDNS develops this schedule in coordination with NNSA Headquarters line managers and Site Office Managers. The

schedule is published annually and revised as needed. The following NNSA offices undergo nuclear safety performance reviews every two years or as needed:

a. Sandia Site Office (SSO)

b. Nevada Site Office (NSO)

c. Y-12 Site Office (YSO)

d. Pantex Site Office (PXSO)

e. Los Alamos Site Office (LASO)

f. Livermore Site Office (LSO)

g. Savannah River Site Office (SRSO)

h. NNSA Headquarters- This includes the nuclear safety functions in the following offices:

(1) Office of Defense Programs (NA-10)

(2) Office of Defense Nuclear Nonproliferation (NA-20)

(3) Office of Emergency Operations (NA-40)

(4) Office of Acquisition and Project Management (NA-APM)

i. Federal Project Teams for Nuclear Major Systems Acquisitions (MSAs) (or recognize responsibilities of NA-APM to perform these reviews for nuclear construction projects, with CDNS input)

4. **Approach.** The established process for conducting biennial reviews provides a disciplined approach for evaluating the status of nuclear safety requirement implementation in NNSA offices and reporting the results to NNSA management. Review teams are composed of qualified personnel from throughout the NNSA complex, providing the additional benefit of mentoring and instructing while facilitating the communication of good practices.

a. The Review Process. The biennial review is primarily an assessment of the implementation and oversight of nuclear safety requirements at NNSA sites and offices. It requires substantial coordination, communication, and cooperation among the participants. It may cover a broad range of facilities and activities, or may focus on only a few.

b. Determining the Scope of the Review. Baseline reviews have been performed at each site office and NA-10. When a baseline review demonstrates strong performance, subsequent baseline reviews are conducted every four years. After a baseline review is conducted where most of the objectives are met, the next biennial review for each office will be a reduced-scope review.

(1) Scope for Baseline Reviews. The review team develops the criteria for evaluating implementation of nuclear safety requirements using generic Criteria and Review Approach Documents (CRADs) as a basis. These generic CRADs are maintained by CDNS and updated as necessary.

(a) During the initial planning process, the review team evaluates the status of the Federal and contractor assessment programs and completed assessments to establish those areas for which the evidence is persuasive that the status of nuclear safety implementation is well known and that any required corrective action plans (CAPs) are in place.

(b) Using this information, the generic CRADs are then individually tailored to the NNSA office being reviewed and are incorporated into the Review Plan. The basis for the modifications is documented in the Final Report.

(c) A key component of tailoring the CRADs is the input from the NNSA Office Manager as to areas that should be included in the scope of the review and areas where he or she believes that the office assessment programs demonstrate satisfactory awareness.

(d) The review team shall also consider other recent, comprehensive, independent reviews such as readiness reviews , DSA implementation verifications, or similar assessments when tailoring the scope and depth of the review. At a minimum, corrective actions as a result of previous biennial reviews should be reviewed.

(e) In addition, the team coordinates with NNSA HQ and site office staff to incorporate their issues and areas of interest into the Review Plan.

(f) The Team Leader ensures that the site office and NNSA HQ staffs have an opportunity to review and provide comments on the Plan. Through this involvement, the program office ensures that biennial reviews support its needs for systematic reviews of the site offices, as described in DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*.

(g) The Team Leader is responsible for resolving any comments on the Review Plan.

(2) Reduced-Scope Reviews. Reduced-scope reviews are normally conducted within the four years between baseline reviews.

(a) CDNS proposes a review scope to the NNSA office being reviewed that considers the results of the previous biennial review, other review results since the last biennial review (e.g.,

independent oversight reviews conducted by HSS), and any other pertinent nuclear safety activities.

(b) This proposed scope is used to gain input from personnel from the office being reviewed, including suggested additions or deletions and reasons for modifying the proposed scope. This normally occurs during the pre-visit, and the results are documented in the final review CRADs.

(c) Criteria that CDNS uses in proposing the review scope include the following: (See section 7.d. (2) for description of grades)

1 If a previous grade of **Exceeds Expectations** was received in a functional area, this area is normally not reviewed during the current review unless there is evidence of degraded performance as determined by the Team Leader.

2 If a previous grade of **Needs Improvement** or **Does Not Meet Expectations** was received in a functional area, this area normally requires a full-scope review and is normally assigned to one reviewer as his or her only CRAD.

3 Most, if not all, other functional areas are reviewed to follow up on previous review results. This may result in a CRAD with only a few criteria. One reviewer may review several of these reduced-scope CRADs.

4 All nuclear safety delegations are reviewed so that they can be revalidated.

5 The process for adding or revising nuclear safety directives in contracts is reviewed to ensure that the CTA's responsibilities as specified in the NNSA FRAM are being met.

6 The functional area of criticality safety is reviewed as appropriate to support the NNSA Criticality Safety Program.

7 When requested by NNSA Headquarters Management or the Site Office Manager, the review may include evaluating special interest areas.

c. Functional Areas. The following are the functional areas to be evaluated during each biennial review to the degree that they affect implementation and maintenance of nuclear safety:

(1) Review of Site Offices

(a) Conduct of Engineering

(b) Conduct of Operations

(c) Contractor Training and Qualification

(d) Criticality Safety

(e) Emergency Preparedness

(f) Facility Representatives

(g) Federal Training and Qualification

(h) Feedback and Improvement

(i) Fire Protection

(j) ISM, including the Site Office FRAM, contractor ISMS maintenance, nuclear safety requirements (List B) maintenance, and Federal staffing

(k) Maintenance

(l) Nuclear Explosives Safety

(m) Packaging and Transportation

(n) Quality Assurance

(o) Radiation Protection

(p) Radioactive Waste Management

(q) Safety Basis, including nuclear safety delegations

(r) Startup and Restart of Nuclear Facilities, including nuclear safety delegations

(s) Special Interest Areas∗

(2) Review of Headquarters Offices

(a) Directives

(b) Engineering and Project Management

(c) Federal Training and Qualification

∗ Additional areas may be selected based on requests by NNSA HQ or the Site Office, recent independent oversight inspection findings, occurrence reports, or special-interest items identified by the Administrator.

(d) Feedback and Improvement

(e) ISMS Implementation

(f) Line Oversight

(g) Nuclear Explosives Safety

(h) Quality Assurance

(i) Safety Basis

(j) Startup and Restart of Nuclear Facilities

(k) Special Interest Areas*

(3) The review team evaluates the functional areas using generic CRADs tailored to the office being reviewed. The basis for tailoring the generic CRADs is documented in the Final Report. The intent of using generic CRADs is to provide as much uniformity among the reviews as practical given the difference in office missions. Use of the generic CRADs is also important to provide confidence that nuclear safety requirements implementation are evaluated for nuclear activities. It is only through a consistent approach to the CRADs that CDNS can assert with confidence that the biennial review results in accurate operational awareness of nuclear safety requirements implementation across the NNSA complex, as required by the NNSA FRAM. Because Headquarters roles and responsibilities are different from those of site offices, CRADs for Headquarters reviews will necessarily be different from those used for site office reviews.

5. The Review Team.

a. Team Composition. The review team is composed of a Team Leader and team members, comprising CDNS staff and subject matter experts from NNSA Headquarters and the site offices.

(1) Particular emphasis is given to having team members from site offices and NNSA Headquarters. All team members must have demonstrated technical competence in the areas to which they are assigned.

(2) As appropriate, a typical team is made up of:

(a) Team Leader;

(b) Senior Advisor;

(c) CDNS staff;

(d) Site office staff;

(e) NNSA Headquarters technical experts, including support contractors as necessary to review functional areas; and

(f) Administrative support personnel.

(3) In general, the team is drawn from a pool of core team members who have significant experience in performing biennial and other types of reviews, supplemented with additional team members as necessary to address the needs of each review. The team composition should be relatively constant to ensure consistency among reviews. For reviews of NNSA site offices, it is anticipated that three core team members are supplied by NA-10. Additional team membership will be supplied by CDNS and the NNSA site offices.

b. Roles and Responsibilities. Each member of the biennial review team has a prescribed set of roles and responsibilities. Below is a breakdown of roles and responsibilities for the team members.

(1) Team Leader. The Team Leader is selected by CDNS and is assigned the following roles and responsibilities:

(a) Leads and manages the review team;

(b) Selects team members;

(c) Manages the initial planning and preparation efforts, plans the site pre-visit and team activities to tailor the generic CRADs, makes the final decision on review scope, and documents the basis for tailoring in the Final Report;

(d) Develops the Review Plan and provides a copy to the site prior to the review;

(e) Leads the review, analysis, and development of conclusions;

(f) Establishes priorities and resolves issues;

(g) Redirects the team, if necessary;

(h) Interfaces with NNSA office senior management;

(i) Ensures the quality and timeliness of the Final Report; and

(j) Keeps the CDNS, program office, the CTA, Administrator, Deputy Administrators, and Associate Administrators informed of the progress of the review as appropriate.

(2) Senior Advisor. The Senior Advisor is an experienced Federal employee or support service contractor with demonstrated technical competence in nuclear operations and assessments. The Senior Advisor supports the Team Leader in the planning and conduct of the review and is available to provide advice to the Team Leader as well as support and mentoring to the individual team members. The Senior Advisor is knowledgeable of the processes and the philosophy of the review. The Senior Advisor for reviews of NNSA site offices is usually provided by the NA-10 Office of Safety. Selection of the Senior Advisor remains the responsibility of the CDNS Team Leader in consultation with the CDNS.

(3) Team Members. The Team Leader selects the team members, relying on a core team to maintain consistency. Experienced site office technical staff members are normally requested to participate to promote immediate feedback and to provide a vehicle for disseminating lessons learned from the review to all field sites. Individuals in training as team members for future reviews participate in reviews to gain experience, and typically work with an experienced reviewer. Team members must have demonstrated technical competence in the areas they are assigned to review. In reviewing their assigned functional areas, team members are assigned the following roles and responsibilities:

(a) Review the implementation and maintenance of nuclear safety requirements for facilities and activities at the site and ensure that data collection is accurate;

(b) Review the appropriate directives, standards, statutes, regulations, industry standards, and best practices. In coordination with other team members, verify that all necessary nuclear requirements are included in the site contract(s);

(c) Evaluate the application of the ISM Core Functions and Guiding Principles in implementing nuclear safety requirements;

(d) Work closely with their assigned counterparts to effectively communicate potential issues and areas for improvement;

(e) Keep the Team Leader informed of review activities and potential issues; and

(f) Prepare the Assessment Form for their assigned functional areas, including within the Final Report the basis for items that were not evaluated based on the initial planning and preparation efforts to tailor the CRADs.

(4) Administrative Support. Sufficient administrative support is assigned to each review. The CDNS will provide a Technical Editor, and the office

being reviewed will supply additional personnel as needed. Roles and responsibilities for administrative support personnel are as follows:

(a) Provide administrative and logistical support to the review team;

(b) Provide computer support, fax, telephones, and office space;

(c) Serve as the point of contact for onsite support;

(d) Ensure control and accountability of classified documents if required;

(e) Serve as the point of contact for site- or facility-specific access and training requirements; and

(f) Edit the Assessment Forms, reformatting them as necessary, and assemble and edit the Final Report.

c. Team Communications. Effective, frequent communication is one of the most important elements of a successful review.

(1) The office being reviewed should assign a counterpart to each team member.

(a) Team members must ensure that they work closely both with their counterparts and with those being evaluated during the conduct of the review.

(b) Counterpart responsibilities are listed in Appendix A.

(2) Team members must be positive and straightforward in dealing with those who are presenting programs for review.

(3) Frequent communication among team members ensures that the scope of the review is effectively covered in the limited time allotted.

(4) To facilitate communications, the team normally meets at the end of each day to share data and information gathered and to prioritize and coordinate activities for the following day.

(a) Team members review and discuss observations from the day's activities and analyze key observations and areas requiring follow-up.

(b) By providing a forum for exchanging information among team members, these daily meetings help the team identify and formulate integrated views of the status, strengths, and weaknesses of programs.

(c) Normally, the Team Leader provides an opportunity for the office being reviewed to have representation at the daily team meetings for the purpose of understanding issues and concerns.

(d) The daily team meeting should be a forum for representatives of the office being reviewed to gather information. Discussion between office representatives and individual team members of the information presented in the meetings should occur before or after the meetings.

(e) The daily meeting keeps the team and the office being reviewed informed of the team's progress and emerging issues throughout the evaluation, and is an important element of the review process. For a Site Office review, observation or participation by the site contractors in team meetings occurs at the Site Office Manager's discretion, as agreed to by the Team Leader.

(5) The Team Leader should conduct an informal daily meeting or debriefing with the office senior managers to communicate the previous day's activities, emerging issues, and administrative items, and to obtain feedback. This debriefing, in conjunction with office representation at the daily team meeting, achieves three main purposes:

(a) Office personnel can learn about the review team's observations, including potential strengths and issues as they develop;

(b) Office personnel can provide information that may clarify, validate, or resolve the emerging issues; and

(c) Office management can suggest additional sources of information about specific emerging issues.

6. **Planning for the Review.** Planning for the review involves several key activities:

- Scheduling the review and designating the Team Leader;
- Identifying and selecting the members of the review team;
- Planning and conducting the pre-visit;
- Tailoring the CRADs to reflect the specific status and activities ; and
- Obtaining logistical, security, training, and support arrangements for the onsite portion of the review.

The *DOE Guide to Good Practices for Operational Readiness Reviews (ORR) Team Leader's Guide*, DOE-HDBK-3012-2003, and the *Integrated Safety Management Systems*

(ISMS) Verification Team Leader's Handbook, DOE-HDBK-3027-99, both contain expanded discussions on the details of preparing for a review.

a. Scheduling the Review. The Team Leader uses the review schedule to make contact with the NNSA office senior line managers eight to ten weeks prior to the scheduled review. During this initial interaction, the following logistics are discussed:

(1) Dates of the pre-visit and review;

(2) Scope of the review;

(3) Administrative support requirements;

(4) Requested presentations and tours of facilities; and

(5) Documents needed for the review.

b. Identification and Selection of Review Team Members. Once the Team Leader has made initial contact with the site and identified a Senior Advisor to support the review, the remainder of the team is selected.

(1) The team typically consists of NNSA Headquarters personnel and, to the degree possible, individuals from sites or offices other than the one being reviewed.

(2) All team members must have demonstrated technical competence in the areas they are assigned to review.

(3) Fully qualified Facility Representatives of nuclear facilities, fully qualified safety system engineers, and Senior Technical Advisors who have completed Senior Technical Safety Manager (STSM) qualification are particularly valuable as team members.

(4) Team members must be committed and able to dedicate the required time and undivided attention to the review.

(5) At least one administrative support member of the team should be experienced in supporting reviews and preparing Final Reports, and should be available throughout the pre-review planning period, the onsite review period, and the post-review period, when the Final Report is issued and Headquarters briefings are prepared and conducted.

(6) The entire review team, including administrative support, should be available to participate in the pre-visit.

c. Planning and Conducting the Pre-visit. The purpose for the pre-visit is to communicate the purpose and the process of the review to office personnel. It also allows the team to gain a sufficient understanding of the office and the status

of implementation and maintenance of nuclear safety requirements to tailor the CRADs for the review.

(1) The pre-visit provides an opportunity for the team members to tour facilities to further their understanding of site nuclear facilities and activities.

(2) An important aspect of the pre-visit is the opportunity for management to present information on the effectiveness of their assessment processes to determine the status of implementation and maintenance of safety requirements for nuclear facilities and activities.

(3) It is essential that the entire team participate in the pre-visit and follow-on preparation activities.

(4) The goals of the pre-visit should be met during a two- to three-day visit.

(5) By the conclusion of the pre-visit, the Team Leader and the review team should have:

(a) Gained an understanding of the organization and of the status of key nuclear safety program and oversight requirements implementation;

(b) Familiarized themselves with the status of assessment processes so that they can adequately evaluate the implementation and maintenance of nuclear safety requirements;

(c) Obtained key organizational documents;

(d) Identified team member counterparts;

(e) Developed a follow-up document request list;

(f) Coordinated logistical arrangements for the remainder of the preparation phase of the review and during the onsite portion of the review; and

(g) Finalized the scope of the review.

(6) By the conclusion of the pre-visit, the Team Leader and the NNSA office should agree on adequate facilities and equipment to support the review team. Private meeting and working spaces are critical for a successful review.

(a) Adequate computer and communication resources must be available.

(b) Personnel to perform classification reviews of the report and Assessment Forms must be available.

(c) Obtaining agreement on these support items is a key element of the pre-review planning effort.

(7) In preparation for the review, team members should read available documentation, prepare interview questions, and begin writing their Assessment Forms. Preparing for the review in advance enables the team members to make the most efficient use of the onsite review period.

d. Tailoring the CRADs to Reflect Office-Specific Activities and Status.

(1) Each CRAD is tailored to:

(a) Reflect the office specific nuclear activities and facilities;

(b) Accommodate any unique requirements that may be invoked in the site contract, and

(c) Reflect the adequacy of the assessment processes to evaluate the status of implementation and maintenance of nuclear safety requirements.

(2) The tailoring activity is a structured process that documents those activities and elements of nuclear safety that the review team has determined to be adequately assessed by NNSA office oversight. The Office Manager is given the opportunity to identify activities that he or she considers to meet the expectations for the review. This allows the team to determine what activities can be credited with meeting the underlying goals of the review and tailor the CRADs accordingly.

(3) To tailor the CRADs in a manner consistent with this discussion, the entire review team is expected to:

(a) Review the generic CRADs,

(b) Tailor those CRADs to reflect the unique office activities, and

(c) Identify the criteria in the CRADs that can be demonstrated to be met by competent assessments or other independent reviews.

(4) A key tailoring decision is which nuclear activities and nuclear facilities are to be assessed during the review. The review approach defined in the CRADs should clearly identify necessary observations.

(5) Similarly, if it is determined that contractor personnel should be interviewed to ensure an adequate review, this conclusion should be included in the CRAD review approach as a required interview.

(6) As part of the effort to tailor the CRADs for the review, the basis for any additions or deletions will be documented in the Final Report. The documentation will be a part of the Assessment Form for the functional area defined by the CRAD. It is therefore important that the team members begin entering information in the Assessment Forms during the preparation phase when the CRADs are being tailored.

(7) Prior to a review, the office being reviewed is often already aware that some nuclear safety requirements are not met or that weaknesses exist, either through previous external reviews or as a result of self-assessments. In those situations, the content and status of the corrective action plans are included in the review scope as determined by the Team Leader, and incorporated into the appropriate CRADs.

e. Obtaining Logistical, Security, Training, and Support Arrangements for the Onsite Portion of the Review.

(1) Following the pre-visit, but before the review team arrives at the site for the actual review, any additional training and access security arrangements must be completed.

(2) There must be clear agreement between NNSA office management and the review team as to office space and support arrangements.

(3) Counterparts should be identified and prepared to most effectively support the review team (counterpart responsibilities are detailed in Appendix A).

(a) Office management should brief counterparts as to their duties in support of the review.

(b) Management should understand and support counterpart commitments.

(c) During the review, counterparts may have little time for performing routine responsibilities.

(4) Administrative support requirements including classification reviews should also be confirmed.

(5) The tailored CRADs in the final Review Plan indicate:

(a) The records that will be reviewed,

(b) The activities that will be observed,

(c) The title or function of those who will be interviewed (including contractor personnel where necessary), and

(d) The facilities to be evaluated.

(6) The Team Leader must provide the office being reviewed with the final Review Plan in a timely manner so that the required interviews and observations can be scheduled.

(7) The Team Leader and the senior NNSA office point of contact should communicate frequently as the review approaches to ensure that all logistical, planning, and scheduling expectations are clearly understood and can be accommodated.

7. **Performing the Review.** Observation, record reviews, and interviews comprise the major review activities. Where possible, team members should observe Federal employees conducting assessments of the contractor or interacting with contractor management on nuclear safety and ISMS issues. In those situations where evidence is not available to indicate that nuclear safety requirements implementation is being assessed effectively, observations at the nuclear work sites and in the nuclear facilities are required and will be identified in the CRADs.

a. It is recognized that each office is unique and the applications of successful programs are often different among offices.

(1) The team must expend the necessary effort to understand the processes established, management expectations, and methods defined by NNSA office management.

(2) It is preferred that offices not be forced to use processes developed by other offices unless mandated by contract requirements or Departmental policy, but rather that the review team ensures that the evaluation provides a thorough assessment of the satisfactory implementation and maintenance of nuclear safety requirements at nuclear facilities.

(3) The review team may share best practices from one office with other NNSA offices for use as desired by office management.

b. Gathering Data. Data collection and documentation are critical activities in the review process. Evaluations rely primarily on three methods for collecting data: interviews, record reviews, and observations. Each method has its own limitations on completeness and reliability; therefore, it is important that the review team understand the value of cross-checking, whenever possible, the validity and integrity of data and information from interviews, record reviews, or observations with another independent information source.

In addition, as concerns or issues are identified, team members should make a concerted effort to identify the underlying causes that may extend beyond operations to the responsible management system. Successful data collection depends on a well-developed plan and a schedule that is flexible in accommodating necessary plan revisions discovered as the review progresses.

The biennial review is guided by the CRADs; however, it is not intended that the CRADs limit pursuit of potential issues, but that those areas of the CRADs that were modified or eliminated during the tailoring process not be evaluated unless approved by the Team Leader. Team member interest does not justify expanding an evaluation beyond the scope of the CRAD.

(1) Interviews. The interview is a valuable tool for obtaining data and information. Every interview should be carefully planned and structured to obtain the necessary information. Interviews are especially effective early in the review to provide insight on the structure and status of office programs and activities.

(a) Information gathered during interviews should be confirmed by obtaining additional supporting information through record reviews and observations.

(b) The tailored CRADs identify by position or title those who are to be interviewed.

(c) If contractor personnel are to be interviewed, this is specified in the CRADs.

(d) If, during the course of the review, a team member believes it necessary to interview contractor personnel not identified on the CRAD, the Team Leader coordinates with office management to request that an interview be arranged.

(2) Record Reviews. Line managers usually rely on documentation (e.g., policies and procedures), and performance data to ensure that programs are properly implemented and administered. Record reviews provide the review team with information about the consistency of written policies and procedures, and may suggest weaknesses that need further exploration.

(a) Needed records should be requested early enough in the review process to allow team members to use them in planning their review activities.

(b) The use of electronic media transfer to the review team prior to the review is encouraged to maximize the efficiency of the record review process.

(c) Records of greatest interest are usually:

1 Policy documents that describe how programs are designed to function;

2 Written program plans and procedural documents;

3 Records of self-assessments; and

4 Other records that may indicate whether programs are implemented properly and functioning to achieve the desired result.

(d) Communications between the NNSA office and the contractor are also revealing as to the NNSA office's effectiveness in conducting oversight.

(e) The team may also find it necessary to review contractor records of nuclear safety requirements assessments or records of nuclear safety requirements implementation such as TSR surveillances or nuclear facility operator training and qualification records.

1 If, during the pre-visit and activities to prepare the Review Plan, it is determined that review of contractor documentation is necessary, this is identified in the CRADs.

2 If, during the course of the review, a team member concludes that a review of contractor records not identified in the CRAD is necessary, the Team Leader requests that the office arrange with the contractor to retrieve the records to be reviewed.

(3) Observations. In the case of field reviews, observations should concentrate on witnessing the Federal workforce while they conduct assessments of the contractor.

(a) Because the office is charged with performing reviews of the contractor's site and facility operations, the team should observe the office's review process to determine whether it is effective.

(b) Facility Representatives should be observed in their day-to-day monitoring of the contractor.

(c) Numerous nuclear safety-related activities occur between the office and the contractor that can be observed; e.g., nuclear operational planning meetings and senior management meetings.

(d) If the review team determines that contractor nuclear operations or nuclear facility assessments need to be observed, the Review Approach section of the CRADs indicates as such.

(e) If, during the course of the review, a team member concludes that field observation of contractor activities not identified on the

CRAD is necessary, the Team Leader asks the office to make these arrangements with the contractor.

c. Analysis. Analysis is essential to writing an effective and constructive Final Report. It is an ongoing process that involves a critical review of all results and leads to logical and supportable conclusions on the status of implementation and maintenance of office nuclear safety requirements. Analysis begins informally through daily team discussions about the observations, interviews, and record reviews.

(1) The objectives and criteria for each CRAD serve as analysis tools during the course of the review.

(2) If, during the course of the review, any unsafe or unacceptable conditions are observed, the Team Leader will immediately bring them to the attention of the NNSA Office Manager.

(3) It is important during analysis to give credit for self-identified issues if they are formally documented (e.g., assessment report, pre-visit presentations).

(a) The team member should follow up to determine whether corrective actions have been identified and are being implemented.

(b) Self-identified issues should be documented in the Assessment Form write-up but not cited as a numbered issue.

d. Functional Area Documentation. Documenting the review of each functional area on an Assessment Form demonstrates that all of the elements of the CRAD were evaluated and that either the criteria were met or, if not met, what aspects of the criteria were found to be deficient. The Assessment Form documents the review process, the basis for tailoring the CRAD, the review results, and the conclusions reached, for each functional area. The Assessment Form also includes any issues, strengths, or opportunities for improvement. The Team Leader is responsible for providing examples of the Assessment Forms to the review team during the planning phase. The purpose of the documentation is to provide details of the review to individuals who did not witness it.

(1) Notable conditions, both positive and adverse, are identified and discussed on the Assessment Forms (with the exception of Management Concerns) as follows:

(a) **Issue:** A condition or situation that has led, or could lead, to degraded nuclear safety performance. Issues are evaluated in a risk-informed manner to clearly delineate those that pose the highest risk to nuclear safety. Each issue is categorized as either a Finding or a Weakness.

1 **Finding**—a violation of an identified requirement.

2 **Weakness**—a situation that, while not a direct violation of an identified requirement, may, if not resolved, lead to degradation in nuclear safety performance. Management attention is recommended to evaluate the situation and take action as deemed appropriate.

(b) **Opportunity for Improvement:** A condition, practice, or situation for which a best practice or process improvement would result in improved efficiency or improved performance.

(c) **Management Concern:** A significant issue, or collection of similar issues, that indicates a systemic problem. Management Concerns are highlighted in the Executive Summary of the Final Report.

1 Repeat findings or inadequately closed findings from a previous biennial review may be identified as a management concern if additional management attention to their closure appears warranted.

2 Significant findings that were not adequately closed because office management disagrees with the finding may be highlighted to ensure adequate and timely resolution of the underlying issue.

(d) **Noteworthy Practice:** A condition, practice, or situation that is highlighted for management attention for possible expanded implementation or communication to other NNSA offices.

(2) **Grades:** A grade is assigned to each functional area only for baseline biennial reviews, and is based on the following guidelines.

(a) **Exceeds Expectations:** All criteria are met, the objective is met, and few or no issues are identified. Some Noteworthy Practices are identified.

(b) **Meets Expectations:** Most criteria are met, and the objective is met. Some issues may be identified.

(c) **Needs Improvement:** Objective is not met, but the office is able to address the issues without need for additional oversight, although external support or resources may be needed. Needs for external support or resources, if any, will be highlighted in the Executive Summary of the Final Report.

(d) **Does Not Meet Expectations:** Objective is not met. Management Concerns associated with the functional area reflect failure to meet nuclear safety performance expectations. External oversight is needed to resolve the identified issues; external resources may also be needed.

(3) Appendix B is a writing guide to assist team members in completing their Assessment Forms.

e. Lessons Learned. An integral part of continuous improvement is the development and usage of lessons learned. Team members should document activities and process details that enhanced or detracted from the review as the review progresses, and provide these to the Team Leader. Lessons learned related to the conduct of the review will be maintained by CDNS. Any lessons learned related to technical areas in the review will be included in the Final Report.

8. **Writing the Final Report.** The purpose of the Final Report is to accurately and objectively represent the status of implementation and maintenance of nuclear safety requirements to the NNSA Office Manager and to NNSA HQ line management.

a. The review team must review, integrate, and analyze results for both the individual and cumulative impact of each functional area on the overall status of implementation and maintenance of nuclear safety requirements.

b. The Final Report should convey the status of:

(1) Federal processes to ensure that the requirements of the Nuclear Safety Rule are effectively implemented and maintained for nuclear activities;

(2) Contractor processes to ensure that the requirements of the Nuclear Safety Rule are effectively implemented and maintained for nuclear activities;

(3) Federal performance of nuclear safety responsibilities that verify the effectiveness of the contractor, as necessary, including the administration of delegated responsibilities and federal oversight responsibilities and processes contained in DOE O 226.1B;

(4) Federal implementation of ISM, with emphasis on integrated management of nuclear safety requirements and responsibilities, including the contractual treatment of nuclear safety requirements;

(5) ISMS implementation by contractors conducting nuclear activities, with emphasis on integrated management of nuclear safety requirements and responsibilities; and

(6) NNSA office FRAM documents in meeting the requirements of the DOE and NNSA FRAMs, and verifying the flowdown of nuclear safety-related FRAM requirements into implementing processes and programs.

(7) Implementation of LO/CAS in the area of nuclear safety.

c. Report Structure. The Final Report typically follows a standard format, which may be revised to meet the unique reporting needs of a specific evaluation. The following is an outline of the typical format:

(1) Executive Summary, summarizing the key topical areas

(2) Introduction

(a) Objectives

(b) Functional areas

(c) Team composition and functional area assignments

(3) Overall approach

(a) Scope

(b) Grading

(4) Assessment results by functional area

(5) Conclusions and recommendations

(6) Lessons learned in technical areas reviewed

(7) Assessment Forms

d. Issuing the Final Report. The Team Leader provides a summary of findings (with assigned grades for baseline reviews) for each functional area to the NNSA office during the management briefing at the end of the review. The Final Report is sent to the NNSA Office Manager after the transmittal letter has been signed by the Administrator.

e. Differing Professional Opinions. In cases where a differing professional opinion cannot be resolved by the Team Leader, the differing opinion will be documented in the Final Report.

9. **Follow-On Actions.** The Final Report serves two functions: to provide operational awareness to NNSA management regarding the effectiveness of Federal personnel in performing their assigned functions and responsibilities and to provide the senior Federal managers with a tool to promote continuous improvement. The NNSA Administrator expects Federal managers to resolve the findings and weaknesses and take action as appropriate, which may require follow-up actions and reports. Action required by the Administrator will be documented in the report forwarding memo.

Appendix A: Counterpart Responsibilities during the Biennial Review

The role of the office counterpart is to be a knowledgeable guide for the biennial review team member to whom he or she is assigned, enabling team members to devote their time to evaluating instead of sorting documents or trying to find the person who can best answer questions.

The role of the counterpart is to ensure that the team member has access to the appropriate documents, is able to observe the appropriate operations, and can interview the appropriate personnel who have the responsibility and expert knowledge to speak with authority on the functional area being evaluated. Discussions between the counterparts and their assigned team members should focus on the factual accuracy of the observations recorded by the team member. The conclusions of the team member regarding weaknesses, findings, and whether or not objectives are met are the responsibility of the team member, the Senior Advisor, and the Team Leader.

The counterpart should:

- gather documents, arrange interviews, or, if necessary, suggest operations that will allow the team member to arrive at a satisfactory conclusion for the issue or area under discussion;

- keep the chain of command informed of any issues that are developing; it is expected that communications will continue between counterparts and their supervisors;

- suggest to the reviewer, if an issue appears to be developing because of misinformation that has been presented to the reviewer, documents or interviews that would correct the misconception; and

- review the facts on the Assessment Forms for accuracy. The conclusions drawn are not subject to review, only the facts that are used to reach the conclusions.

Active counterparts who quickly provide documents, arrange interviews with appropriate personnel, and assist the team members are greatly beneficial in achieving an efficient review. An ineffective counterpart who is unresponsive or unavailable when needed causes the team member difficulty in collecting data and reaching conclusions. An aggressive counterpart who tries to force his or her opinion on the team member is similarly unhelpful.

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Appendix B: Writing Guidance for Biennial Review Reports

General Guidance for Completing Assessment Forms:

- Document what you reviewed, *not* what you did not review.
- Findings, Weaknesses, Opportunities for Improvement, and Noteworthy Practices should be brief, consisting of one to two sentences. These are copied verbatim from the Assessment Form write-up and pasted into the Assessment Form after the Conclusion paragraph.
- Findings and Weaknesses should be written up as deficiencies and not as recommendations to the NNSA Office. For example, "The Site Office has not identified a responsible SME for fire protection systems," instead of "The Site Office should identify a qualified SME for fire protection systems."
- In the write-up that describes a Finding, be as specific as possible as to what the requirement is that is not being met.
- Credit should be given for NNSA office self-identified issues if they are formally documented (e.g., assessment report, pre-visit presentations). The team member should follow up to determine whether corrective actions have been identified and are being implemented. Self-identified issues should be documented in the Assessment Form write-up but not cited as a numbered issue (e.g., SNF.1-1/F).
- A NNSA office requirement that is not being met is a compliance and performance issue; document it as such. If an applicable DOE or NNSA requirement is not being met (e.g., DOE Order requirement), this is a compliance issue that should be documented. Determine what compensatory measure or other action is being taken by the Site Office in lieu of meeting the requirement and evaluate and document it from a performance basis.
- A Noteworthy Practice is a condition, practice, or situation that is highlighted for the attention of management for possible expanded implementation or communication to other NNSA offices. Doing what one is supposed to do well is not normally a Noteworthy Practice.
- The write-up for a criterion must clearly support the conclusion that the criterion is met or not met. If a criterion is not met, there must be a Finding or Weakness identified either by the review team or self-identified by the NNSA office or contractor.
- The Conclusion must support why the Objective is met or not met. This should be based on an evaluation of the assessment results with respect to the Objective, not a numerical determination based on how many criteria are met or not met.
- If an Objective is met, the grade must be Meets Expectations or Exceeds Expectations. If the Objective is not met, the grade must be either Needs Improvement or Does Not Meet Expectations.

- Opportunities for Improvement are recommendations and should be worded as such. Appropriate wording includes: "It is recommended that…" or "Consideration should be given to…"

- Most of the write-up should be in the past tense based on your review. (e.g. "The procedure was implemented" not "The procedure is implemented")

Denoting Issues:

- Use the abbreviation letters of the CRAD (e.g., T&Q.1).

- Number issues consecutively as they are identified in the write-up, starting with 1. For example, if the issue is a Finding, follow the T&Q.1 with a dash and the number 1 (e.g., T&Q.1-1/F, T&Q.1-2/F).

- Follow the same format for Weaknesses, (/W), Opportunities for Improvement (/OFI), and Noteworthy Practices (/NP). Always start each new category with the numeral 1.

EXAMPLE

Issue(s):

Findings:

- **T&Q.1-1/F:** Copy the sentence or sentences from the text you have written.

- **T&Q.1-2/F:** Copy the sentence or sentences from the text you have written.

Weakness:

- **T&Q.1-1/W:** Copy the sentence or sentences from the text you have written.

Opportunities for Improvement:

- **T&Q.1-1/OFI:** Copy the sentence or sentences from the text you have written.

- **T&Q.1-2/OFI:** Copy the sentence or sentences from the text you have written.

Noteworthy Practice:

- **T&Q.1-1/NP:** Copy the sentence or sentences from the text you have written.

Referencing Records Reviewed: When referencing records reviewed, use the following format:

- Document number, *Title of Document*, revision number, date (mm/dd/yy format). This is not the only way to do it; it's just for consistency throughout.

- Align the text of your write-up under each criterion with a ¼-inch left indent. The Conclusion and its discussion are flush left.

- In the Interviews section, list the titles of the people, not their names.

- Cite Findings, Weaknesses, Opportunities for Improvement, and Noteworthy Practices in **bold** and in parentheses at the end of a sentence (e.g., "…while preserving responsibility for positions taken by subordinate organizations **(XXX.1-1/F)**."

- The discussion of each criterion ends with the statement, "The criterion was (or was not) met."

- The Conclusion section begins with the statement "The Objective (was or was not) met." The discussion following then explains why this is a valid conclusion.

- Try to avoid using the passive voice whenever possible. The exception to this is in the Opportunities for Improvement section, where sentences commonly start, "Consideration should be given to…" or "It is recommended that…"

Writing Tips: A technical editor's goal is to make sure that everyone who reads the Final Report understands what is being said. Below is a list of commonly encountered obstacles to clarity.

- The words *ensure* and *assure* are often misused. Here is a helpful hint: You *assure* a person, you *insure* your car, and you *ensure* everything else. Usually *ensure* sounds better with *that* following it because most of the time, *ensure* takes an object.

- In a list of three or more, put commas after all but the last in the series. Remember "eats, shoots, and leaves." If the list consists of a series of phrases, semicolons are used to separate each item in the series instead of commas.

- The words *criteria* and *data* are plural and take a plural construction.

- Try not to use a slash to divide two words; for example, feedback/improvement. Does that mean feedback or improvement, or feedback and improvement, or neither? Same goes for "and/or." It is rarely both. Please choose one.

- Unless an ampersand appears in the title of something *as an ampersand* and not the word "and," please use "and," except when it is used in acronyms such as ES&H and D&D.

- Use two spaces after a colon and after a period.

- Quotations that are longer than four lines are indented ¼ inch on each side but not set off in quotation marks.

- Punctuation marks always go inside quotation marks unless the punctuation applies to the sentence in which the quotation is contained. Example: "I hate tech editors," he thought to himself. Compare with: Have you seen "The War of the Worlds"?

- In the past when we had four-digit DOE directives, we referred to them as, for example, DOE Order 5480.19. Starting with the new three-digit directives, we have a different format when referring to them in text; e.g., DOE O 420.1B.

- Use of *a* versus *an*: When deciding whether to use "*a*" or "*an*" in front of a noun, use the initial sound, not the initial letter of the word. For example, "*a* cup," "*an* apple," but "*a* useful tool" (starts with a consonantal *y* sound), "*an* RCT" (starts with a vowelish "*ar*" sound), and "*an* hour" (starts with a silent *h*; only the vowel sound is heard).

Please review the sample Assessment Form on the next page for further information concerning format.

SAMPLE ASSESSMENT FORM

FUNCTIONAL AREA: CONTRACTOR TRAINING AND QUALIFICATION (T&Q)	**OBJECTIVE: T&Q.1** **DATE:** 10/15/2008	**OBJECTIVE MET: YES ___ NO_X__** **GRADE: NEEDS IMPROVEMENT**

OBJECTIVE

T&Q.1: The site contractor has developed, and the Site Office has verified, the effective implementation and maintenance of a compliant Training and Qualification Safety Management Program (SMP) in support of nuclear activities at the site.

CRITERIA

1. The site contract specifies requirements for a T&Q SMP. Contractor implementing mechanisms provide a means for the T&Q SMP to meet the commitments in the Documented Safety Analysis (DSA) and Technical Safety Requirements (TSRs) for each nuclear facility (10 CFR Part 830 Subpart B).

2. The site contractor implementation processes for the T&Q SMP comply with contract requirements. A training implementation matrix (TIM) has been submitted and approved by the Site Office that includes each nuclear facility and meets the commitments within the individual DSA and TSR. The elements of the training program comply with DOE expectations specified in DOE Order 5480.20A (10 CFR Part 830 Subpart B, DSA and TSRs, DOE Order 5480.20A).

3. The site contractor has conducted periodic systematic evaluations of the SMP and found it to be effective and compliant with contract requirements.

4. Site Office or other DOE/NNSA organizations have completed assessments of the contractor T&Q SMP in accordance with DOE-STD-1070-94. The assessments have found the SMP to meet DOE requirements and the commitments in the site nuclear facility DSAs and TSRs (DOE Order 5480.20A).

5. Site Office staff is organized, and assigned personnel have adequate technical competence, to oversee the performance of the contractor's T&Q SMP (FRAM, DOE Order 5480.20A).

Record Review: *List the documents you reviewed.*
•

Interviews: *List each individual by TITLE, NOT NAME, whom you interviewed.*
•

Observations: *List any events, processes, or meetings that you witnessed.*
•

Discussion of Results:

1. **The site contract specifies requirements for a T&Q SMP. Contractor implementing mechanisms provide a means for the T&Q SMP to meet the commitments in the DSA and TSRs for each nuclear facility.**

   *Summarize your findings that support the conclusion as to whether or not the criterion was met. Note that, if a criterion has not been met, there should be at least one issue. Assign a number to the issue for your objective and bold its identifier (e.g., **T&Q.1-1/F**). Insert the identifier at the end of the paragraph in which you discuss the issue. Repeat for next issue, if any (e.g., **T&Q.1-2/F**). The write-up will end with the statement*:

   The criterion was (or was not) met.

2. **The site contractor implementation processes for the T&Q SMP comply with contract requirements. A TIM has been submitted and approved by the Site Office that includes each nuclear facility and meets the commitments within the individual DSA and TSR. The elements of the training program comply with DOE expectations specified in DOE Order 5480.20A.**

   The criterion was/was not met.

3. **The site contractor has conducted periodic systematic evaluations of the SMP and found it to be effective and compliant with contract requirements.**

   The criterion was/was not met.

4. **Site Office or other DOE/NNSA organizations have completed assessments of the contractor T&Q SMP in accordance with DOE-STD-1070-94. The assessments have found the SMP to meet DOE requirements and the commitments in the site nuclear facility DSAs and TSRs (DOE Order 5480.20A).**

   The criterion was/was not met.

5. **Site Office staff is organized, and assigned personnel have adequate technical competence, to oversee the performance of the contractor's T&Q SMP (FRAM, DOE Order 5480.20A).**

   The criterion was/was not met.

CONCLUSION: This section opens with the statement "The Objective was/was not met." *Follow it with a concluding statement, which is also used in your functional area summary for the Final Report.*

Example from LSO biennial review:

The Objective was met.

The LSO Emergency Management Program is a well-established and managed program. Upgrades to the program continue to be made to improve the LSO emergency management oversight function and LSO emergency response operations. The LSO personnel are well qualified to perform their oversight and response missions. SP-43 stated in its inspection report that "overall, LSO's oversight has been important in communicating expectations and encouraging improvements in the LLNL emergency preparedness program, which has continued to show improvement."

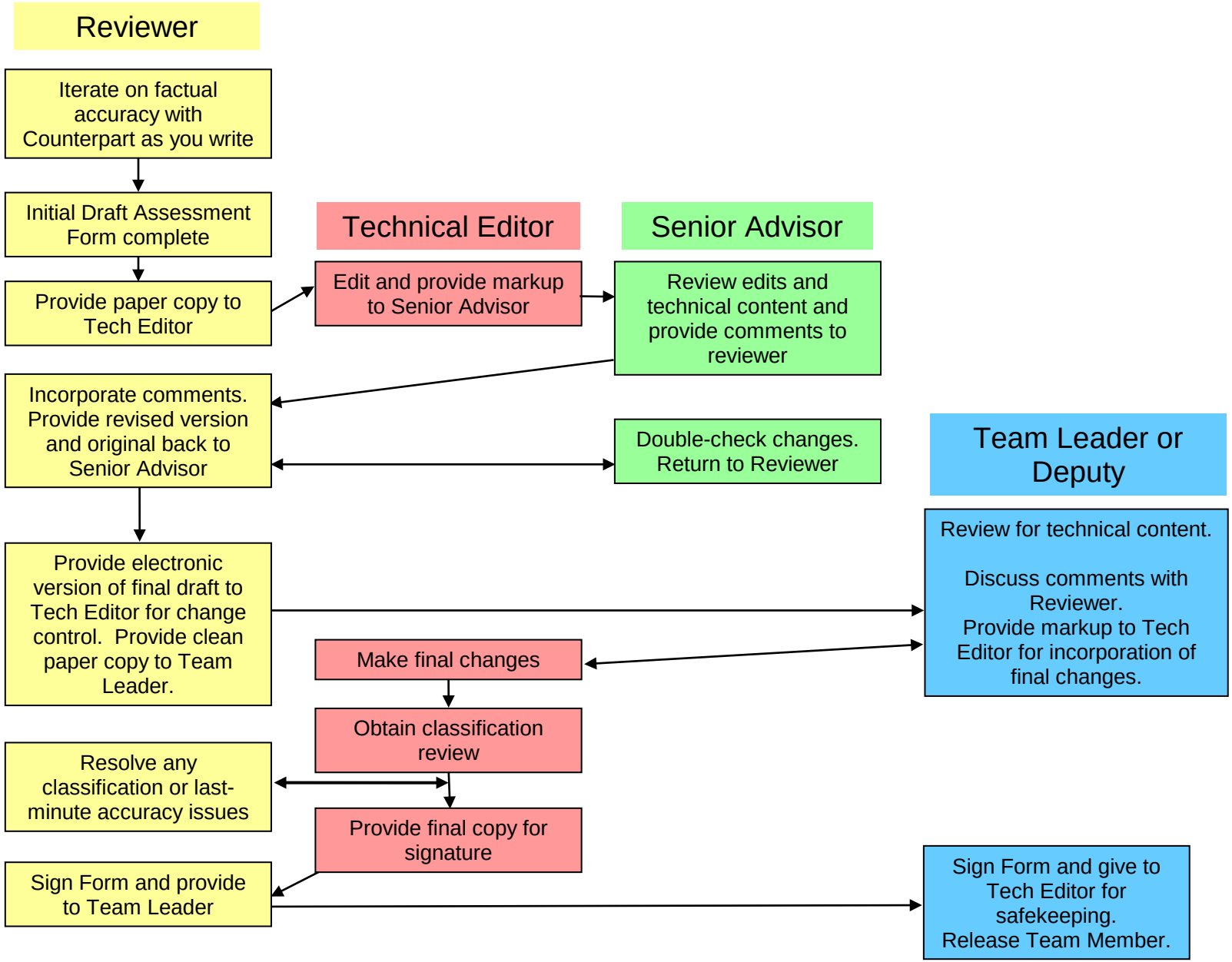
The LLNL Emergency Management Program has been subjected to several reviews and evaluations in the past two years. The implementation of corrective actions and measures has contributed to significant improvements in the program status and increases the level of readiness and performance. Emergency response facilities are well equipped and adequately maintained to support LLNL emergency operations. LLNL EPO personnel are well trained and qualified to perform their emergency management and response missions. The improved communications and interactions between LLNL and LSO have also created a positive environment for mutual aid and cooperation.

Opportunity for Improvement:

T&Q.1-1/OFI: It is recommended that LLNL consider whether additional drills are warranted.

A graphic depiction of the process flow for completing Assessment Forms is shown in Appendix C.

Appendix C: Assessment Form Processing Flow



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