



Department of Energy
National Nuclear Security Administration
 Washington, DC 20585

November 23, 2007

OFFICE OF THE ADMINISTRATOR

The Honorable A. J. Eggenberger
 Chairman
 Defense Nuclear Facilities Safety Board
 625 Indiana Avenue, NW, Suite 700
 Washington, D.C. 20004-2941

Dear Mr. Chairman:

Enclosed is the approved National Nuclear Security Administration (NNSA) review plan for the design agency (DA) implementation of DOE-NA-STD-3016-2006, *Hazard Analysis Reports for Nuclear Explosive Operations*. My staff has previously shared this plan with your staff in August and I appreciate the insights gained through our staff-to-staff interactions. We intend to conclude our review of DA implementing documents by the end of this quarter and will share the results with you as soon as they are available.

The review covered by the enclosed plan extends only to the DA procedures, and not to their application. Their application will be reviewed through normal Site Office and Headquarters oversight activities as the procedures are used to develop weapons responses.

If you have any comments or feedback, please call me or Mr. Steve Goodrum, Assistant Deputy Administrator for Military Application and Stockpile Operations, at (202) 586-4879.

Sincerely,

William C. Ostendorff
 Principal Deputy Administrator

Enclosure

cc: K. Fortenberry, DNFSB
 C. Martin, DNFSB
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SEPARATION

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PLAN

**NA-12 PLAN
3016-2006-1**

**NNSA Implementation Review Plan for
DOE-NA-STD-3016-2006, *Hazard Analysis
Reports for Nuclear Explosive Operations***



**U.S. DEPARTMENT OF ENERGY
National Nuclear Security Administration**

STD-3016 Implementation Review Plan

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1.0 Introduction

DOE-NA-STD-3016-2006, *Hazard Analysis Reports for Nuclear Explosive Operations*, provides a pre-approved methodology that may be followed during the development of a Hazard Analysis Report (HAR). The methodology requires the interaction between multiple Design Agencies (DAs) and the Production Plant Contractor (PPC) to determine how weapons respond to potential hazard and accident scenarios during operations at a production plant. The objective of this review or assessment is to ensure that the DAs have the mechanisms in place that are required to fulfill their roles in a manner that complies with the standard.

The methodology in the standard provides the DAs with considerable flexibility with respect to the processes that they follow, and many of the details of implementation are situation specific. However, the standard includes some key process requirements that must be developed, approved and available for a DA to comply with the overall methodology. The objectives and criteria in this document focus on those key process requirements.

The standard includes guidance on such things as criteria for entering expert elicitation. This guidance is not used as a basis for determining compliance with requirements. However, the guidance establishes an expected level of performance. Where the guidance is not followed, the review will evaluate the DA approach and determine whether it provides comparable performance.

2.0 Scope

The review of implementation of the revised standard will examine the adequacy of DA-specific procedures that cover those provisions of the standard that are discussed in section 4.0. The mechanics of the exchange of information between the DAs and the PPC is at their own discretion and will not be covered as part of this review. The governing document for those procedures/processes is TBP-908, *Technical Business Practice for Hazards Analysis and Weapon Response*, scheduled for publication by the end of calendar year 2007. TBP-908 is produced and maintained as a result of a cooperative effort between the DAs and the PPC.

Field validation of whether weapon response is being produced to comply with DA procedures is not within the scope of this review. It is anticipated that the normal HAR review processes performed by both the PPC and the Site Office(s), or other NNSA or field element oversight activities will identify potential areas of non-compliance with respect to developing weapon response in accordance with the requirements of the revised standard.

3.0 Review Team

The review team members include:

| | |
|----------------|--|
| Kamiar Jamali | NNSA HQ – NA-12, Team Lead |
| Don Nichols | NNSA HQ – NA-2.1 |
| Ike White | NNSA HQ – NA-2.1 |
| Karl Waltzer | Assistant Manager - Pantex Site Office (PXSO) |
| Les Winfield | Office of Assistant Manager for National Security – Nevada Site Office |
| Jim Winter | NNSA/HQ – NA-173; Quality Assurance |
| Anita Leivo | Los Alamos Site Office - Quality Assurance for Los Alamos review |
| Lisa Dancy | Livermore Site Office – Quality Assurance for Livermore review |
| Dan Pellegrino | Sandia Site Office – Quality Assurance for Sandia review |

4.0 Criteria and Review Approach Documents (CRADs)

The CRADs for this review are constructed by identifying the objectives of the review in accordance with the requirements of the standard, and the criteria that satisfy each objective.

4.1 Objectives and Criteria

The first two objectives apply in general to the DA weapon response procedures. The third and fourth objectives apply to specific requirements on those procedures with regard to expert judgment and peer review.

Objective 1: The DA has developed and approved a DA procedure (or procedures) that define the DA processes supporting the development of weapon response and weapon response bases documents.

Criterion 1.1: The procedure(s) define the processes, roles and responsibilities within the DA for developing weapon response and the associated documentation.

Criterion 1.2: The procedure(s) require(s) the basis for weapon response to be documented with a level of detail that would permit a knowledgeable reviewer to trace weapon response and screening conclusions back to the underlying source data, calculations, analytical methods, and judgments. The documentation requirements are sufficient to allow an adequate peer review.

Criterion 1.3: The procedure(s) include provisions to ensure that the information used within or supporting weapon response basis documentation is preserved and available to support the NNSA Hazard Analysis Report (HAR) review.

Criterion 1.4: The procedure(s) establish criteria for qualification of persons involved in the development of weapon response, and identify training requirements with respect to understanding Quality Assurance Programs (QAPs) and DA Weapon Response Procedures.

Objective 2: Initial measures required to implement the DA procedure have been completed.

Criterion 2.1: The procedure(s) have been made available to DA personnel who develop weapon response.

Criterion 2.2: Training of weapon response development personnel on the procedures has been documented. As a minimum, documentation certifies that the weapon response personnel have read and understand the procedures and included requirements.

Objective 3: The DA weapon response development procedure(s) define the process for using expert judgment and expert elicitation where needed for developing specific responses.

Criterion 3.1: The procedure(s) establish the circumstances that warrant consideration of the use of expert judgment and expert elicitation.

Criterion 3.2: The procedure(s) establish the documentation requirements associated with the use of expert judgment and expert elicitation.

Criterion 3.3: The procedure(s) establish key considerations that guide the development and application of expert judgment and expert elicitation in order to guard against the potential pitfalls associated with their use.

Criterion 3.4: The procedure(s) have been included in the approved DA QAP (procedures may be included by reference).

Objective 4: The DA weapon response development procedure(s) define a process for conducting peer reviews of all relevant weapon response documents.

Criterion 4.1: The procedure(s) define the situations in which internal and/or external peer reviews of weapon response information are required, and the associated scope of the review(s).

Criterion 4.2: The procedure(s) establish criteria for independence, training and qualification of persons participating in peer reviews of weapon response information.

Criterion 4.3: The procedure(s) establish the documentation requirements associated with peer review deliberations and comment resolution.

Criterion 4.4: The procedure(s) have been included in the approved DA QAP (procedures may be included by reference).

5.0 Assessment Method

An initial review of the site office procedures will determine whether site visits or formal interviews will be needed for this review. The review team will review procedures and documentation provided by the DAs against the objectives and criteria in this document. It is expected that the following documents will be reviewed:

- Approved DA QAPs
- DA Weapon Response Procedures
- Documentation showing the Weapon Response Team personnel have been trained on the new or revised DA procedures

As mentioned in Section 2.0, the adequacy of weapon response developed using these procedures will not be reviewed because the procedures are too new for a representative sample of weapons responses to have been developed according to the procedures. The same is true of documentation developed to support the responses. These process outputs will be reviewed as part of future routine Headquarters and field element oversight activities.

The team leader will assign the CRADS to individual team members. Team members will develop lines of inquiry as appropriate based on the assigned CRADS. Team members may discuss questions or obtain clarifying information from the DA points of contact as needed during the review. The results of each team members' review activities will be documented on forms similar to Appendix 1 and provided to the team leader for developing the final assessment report. The team leader will approve the final assessment report with concurrence of the team members. If expressed, minority opinions will be included in the final report with a response from the team.

The results of evaluations of the CRADS will be characterized as strengths or noteworthy practices; findings – which indicate noncompliance with some aspect of the standard and require corrective action on the part of the DA; or observations – which identify issues the DA should consider for action but do not require a formal response.

6.0 Schedule

The following actions must be completed by each organization:

6.1 NNSA Headquarters Actions

1. Develop a Review Plan, including final CRADs and review schedule, and get concurrence from NA-12 by August 24, 2007. Action – Kamiar Jamali, NA-12, Steve Goodrum, NA-12. [Completed]
2. Transmit Review Plan, CRADs, and assessment schedule to DNFSB and Design Agencies by August 31, 2007. Action Kamiar Jamali, NA-12. [Completed]
3. NNSA will review “high quality” draft DA procedures during August 24, 2007 – September 28, 2007, to assist timely delivery of compliant final DA procedures by September 28, 2007. [Completed]
4. Complete DA implementation assessments by the end of 1st quarter FY 2008. Team Lead - Kamiar Jamali, NA-12.
5. Issue assessment report by January 31, 2008. Action – Kamiar Jamali, NA-12
6. Track closure of any assessment report findings against DA commitments. Action – Kamiar Jamali, NA-12.

6.2 Design Agency Actions

1. Complete implementation of DOE-STD-3016-2006 (i.e., finalize all relevant DA-specific documents) by end of Fiscal Year (FY) 2007. This includes submittal of the revised QAPs to the associated Site Offices for approval by September 28, 2007. [Completed]
2. Provide documentation to NNSA review team in accordance with the scope and schedule identified in the Review Plan. [Completed]
3. If required, respond to results of the assessment report in accordance with NNSA direction.
4. If required, implement corrective actions and document completion to NNSA in accordance with DA commitments.

6.3 NNSA Site Office Actions

Each DA Site Office (Los Alamos, Livermore, and Sandia) will provide the interface, as needed, between the review team and the DAs to ensure timely completion of all actions envisioned in this Review Plan. This includes, but is not limited to:

1. Ensuring timely delivery of the required documentation from the DAs to the Review Team in accordance with this Review Plan. [Completed]
2. Review and approval of the revised QAPs by September 28, 2007. This action may be conducted in concert with the review of STD-3016 implementation in accordance with this Review Plan. [Completed]

3. Ensuring effective access of the Review Team, through the Review Team Leader, to the DA points of contact and/or subject matter experts.
4. Serving as a conduit for transmittal of the documents required by the Review Team from the DAs to the Review Team members, coordinated through the Review Team Leader, as needed.
5. Transmittal of the Assessment Report(s) from the Review Team to the DAs.
6. Ensuring closure of any potential actions envisioned in the Assessment Report(s) in cooperation with the Review Team Leader.



William C. Ostendorff
Principal Deputy Administrator
National Nuclear Security Administration

Appendix 1

Sample Review Form

1. Objective

State the objective being evaluated, i.e., Objective 1, 2, 3, or 4.

2. Criteria

State the criterion of the objective being evaluated, e.g., Criterion 1.1, *The procedure(s) define the processes, roles and responsibilities within the DA for developing weapon response and the associated documentation.*

3. Approach/Lines of Inquiry

Discuss what was reviewed to complete the evaluation of the criteria. Specific lines of inquiry can be discussed. Topics include records reviewed and interviews conducted.

4. Discussion of Results

Summarize the results of the evaluation of compliance with the criterion. If a Finding is noted, describe it after the discussion narrative. Also, discuss strengths or noteworthy practices, if appropriate.

5. Conclusion

State whether the criterion was met.