Department of Energy
National Nuclear Security Administration
Washington, DC 20585

November 2, 2006

OFFICE OF THE ADMINISTRATOR

The Honorable A.J. Eggenberger
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, N.W., Suite 700
Washington, D.C. 20004-2901

Dear Mr. Chairman:

The National Nuclear Security Administration (NNSA) has reviewed the Defense Nuclear Facilities Safety Board letter regarding implementation concerns about the Nuclear Criticality Safety (NCS) Program at Los Alamos National Laboratory (LANL) and associated NNSA oversight.

The NNSA is committed to conducting operations with fissile material safely. NNSA has demonstrated its commitment to nuclear criticality safety by providing leadership to the Headquarters Criticality Safety Monitoring Program (CSMP). The NNSA formed an expert team and conducted a review of the LANL criticality safety program in late October 2005. The Team identified three Safety Recommendations and fourteen findings. The Team found that the LANL nuclear criticality safety program did not meet many of the expectations of the national consensus criticality safety standards. LANL developed a Performance Improvement Plan (PIP) to fully accomplish the Safety Recommendations and bring all operations into compliance with national consensus criticality safety standards.

LANL has implemented interim compensatory measures based on their assessment of operations. NNSA has increased oversight of the LANL program. An expert team under the auspices of the NNSA Chief of Defense Nuclear Safety (CDNS) has independently reviewed LANL's approach and actions to address the three safety recommendations. The review report will be completed by the end of November 2006. Based on the results of this review, NNSA will re-evaluate the need for Federal compensatory measures or additional LANL compensatory measures. Preliminary results from the CDNS team indicate that there are no imminent, as-found, uncontrolled criticality accident hazards at LANL.

NNSA is currently meeting regularly with the LANL criticality safety group to assess progress against the schedules in the PIP. LANL has fallen behind in meeting these milestones. LANL is in the process of updating the PIP and NNSA will approve the revised plan and actively monitor progress against the agreed-upon schedule. A performance incentive has been added to the contract to encourage LANL accomplishment in this area. Both NNSA and LANL are increasing staff to meet NCS program goals. A General Engineer has been assigned as a full-time NCS Engineer at the

Los Alamos Site Office. Full completion of qualifications is required by April 2008; NNSA is exploring mechanisms to accelerate this qualification. NNSA will continue to review all new criticality safety evaluations for new or modified operations until satisfied that the evaluations produced are of high quality. Review will then continue on a sampling basis. LASO is evaluating and modifying its Criticality Safety Oversight Plan for implementation. LASO will continue to receive technical assistance from the Service Center, Headquarters, and other NNSA resources.

LASO has taken contracting measures designed to incentivize LANL in improving their NCS program. This, coupled with the addition of DOE Order 420.1B to the LANS contract (currently in negotiation with LANS), requires that NNSA approve the plans produced, and allows NNSA to hold incentive fee at risk to ensure that LANL's performance in these areas is sufficient. The metrics identify quarterly reviews of LANL progress against milestones.

Collectively, these actions will ensure that all ongoing operations and all new or modified operations will be conducted safely from a criticality safety perspective.

The detailed LANL response to the three specific issues you raised in your letter is provided in the attachment. If you have any questions, please contact me or have your staff contact Mr. Patrick Moss of the NNSA Los Alamos Site Office at (505) 665-9233.

Sincerely,

Linton F. Brooks
Administrator

Attachment

cc:
T. D'Agostino, NA-10
E. Wilmot, LASO
M. Whitaker, HS-1.1
J. McConnell, NA-2.1

SEPARATION

PAGE

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Nuclear and High Hazard Operations
Robert L. McQuinn, Associate Director
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Date: October 5, 2006
Refer To: AD-NHHO:06-074

Mr. Ray Corey
Acting Assistant Manager, Facilities
National Nuclear Security Administration
Los Alamos, NM 87544

Subject: Input for NNSA Response to DNFSB Letter Dated September 22, 2006

The Los Alamos National Laboratory (LANL) has reviewed the DNFSB letter regarding implementation concerns about the NCS Program Improvement Plan (PIP) developed as a result of the October 2005 National Nuclear Security Administration (NNSA) Technical Evaluation.

In summary, the board requested a report addressing the following:

1. Interim compensatory measures being employed to reduce the risk of inadvertent criticality prior to achieving compliance with the ANSI/ANS Series 8 standards, or justification for accepting the incremental risk of an inadvertent criticality.
2. A description of the management approach being used to ensure that the NCS PIP milestones are completed in a timely manner, including the (1) the resources being applied to this effort, (2) when a full-time qualified federal NCS engineer will be added to the NNSA site office, and (3) how NCS program performance is monitored to prevent a recurrence of this situation.
3. A description of the mechanism NNSA is using to ensure that findings resulting from Criticality Safety Monitoring Program assessments are promptly addressed.

LANL Response

Bullet #1 – Interim Compensatory Measures

LANL does not believe it now has nor would it accept a higher risk of an inadvertent criticality than prescribed by the applicable national standard, specifically, ANSI/ANS-8.1. In fact, the LANL program has always sought to exceed the safety margin requirements of that standard and will continue to do so as much as practicable.

A LANL Nuclear Criticality Safety (NCS) PIP was produced by LANL management with the aid of external NCS experts and has been reviewed and concurred with by the NNSA Los

Alamos Site Office. The PIP outlines a Work Breakdown Structure (WBS) to track and manage the actions/deliverables and schedule. The PIP restructures the core LANL program around the seven (7) elements of ANSI/ANS-8.19 and associated DOE-STD-1158 standards. The WBS for the PIP consolidated the findings, recommendations and opportunities for improvement of the report into specific actions and deliverables under each element given the new LANL NCS structure.

The October 2005 NNSA Technical Evaluation found many documentation deficiencies. Three safety recommendations (SR.CS-01, SR.PE-01 and SR.PE-02) (addressed by PIP action 13) arose from the inability of the assessment team to make an independent judgment of the actual safety margins (in some cases) because of the lack of documentation. The PIP action and deliverable schedule for the three safety recommendations (Action 13) is listed in Table 1 and the Attachment provides the complete action and schedule summary, including status, for the entire NCS PIP. The NCS PIP summary is organized around complying with the requirements of ANSI/ANS-8.19. The 90-Day review undertaken by operations management, the NCS group, and several external NCS experts was in direct response to the safety recommendations. The review process was essentially a "triage" applied to 100% of fissile/fissionable material operations at LANL and was intended to determine if there were ongoing operations that did not meet the safety margin requirements.

The review of fissile material operations at the laboratory was done in accordance with NCS Group Policy 05.05, *Review of Fissile Material Operations*. The triage was designed to work from relatively higher risk operations to lower risk operations in all phases of the triage. This ongoing process was used to develop the PIP to specifically address the NNSA Review deficiencies around the seven (7) elements of ANSI/ANS-8.19-1996 and associated DOE-STD-1158 standards.

A 100% tabletop review of fissile material operations was conducted to determine the status of the documentation (criticality safety evaluations, criticality safety limit approvals and operating procedures) to prioritize the operational walk downs. This was done for 564 operations involving a significant quantity of fissile materials. After the tabletop was completed, a 100% walkthrough of operations was performed in which each fissile material operation was visually inspected and the posted limits and implementing documentation were verified for consistency and compliance. The tabletop and walk throughs for the 564 fissile material operations (PIP action 13-A) were completed March 8, 2006. Of these 564 operations, sixty-four (64) of them were assigned a high priority for a formal walk down. These were also completed by March 8, 2006. Twenty-four (24) of these 64 operations required compensatory actions before they were reactivated to ensure sufficient criticality safety margin existed to continue fissile operations. The compensatory actions employed for these 24 fissile material operations involved the cessation of fissile material operations, establishment of a conservative technical basis via a new criticality safety evaluation or an existing, bounding analysis, and the implementation of appropriate criticality limits with demonstrable and adequate safety margin for the fissile material operation at that location.

Once the tabletop and walkthroughs were completed, each of the 564 fissile material operations was prioritized for a detailed walk down using a graded approach based on the information

gathered during the tabletop reviews, walkthroughs, and knowledge of the NCS and operational staff. As the walk downs were/are completed each fissile material operation was/is categorized into an action bin (1-4) based on the totality of information gathered. The action bins, defined in NCS Policy 05.05, are as follows:

- Action Bin 1: No deficiencies,
- Action Bin 2: Deficiencies noted are administrative in nature only and do not affect the criticality safety margin. The deficiencies will be entered into a long-term corrective action plan, e.g., for correction at the next review cycle,
- Action Bin 3: Deficiencies noted may impact the criticality safety margin. The process may continue only after corrective measures are put into place, e.g., strengthening of controls, and
- Action Bin 4: Deficiencies noted impact the criticality safety margin in a manner that cannot easily be assessed to implement enhanced or improved administrative or engineered controls. The process must be placed on administrative hold until a formal criticality safety evaluation can be performed, reviewed, and documented.

As of October 1, 2006, there have been 256 detailed walk downs completed (64 high priority, 75 medium priority and 117 low priority) out of a total of 564 operations, which represents approximately 45% of the total number of fissile material operations. Of these 256 formal walk downs, 24 were categorized into Action Bin 1, 208 into Action Bin 2 and 24 into Action Bin 3. None of the operations have been categorized into Action Bin 4. The findings from the tabletop reviews, walkthroughs and walk downs have been documented into a screening form database for tracking purposes (PIP action 13-C). All of the Action Bin 3 processes were found during the initial triage phase, i.e., there is every indication that the triage process was effective in identifying serious deficiencies. While the completion of the low-priority walk downs has slowed somewhat due to resource issues and budgetary challenges, we believe that there are no serious safety margin issues with the processes that have not yet had a detailed walk down performed.

A deficiency remediation plan is now being developed (PIP Action 13-D). These efforts will be conducted with an augmented staff over the next three fiscal years (FY07, FY08, and FY09). LANL is actively engaged in addressing and resolving the resource and budgetary issues. The NCS group is currently seeking three internal candidates with the relevant credentials (Q-clearance, facility experience, etc.) to assist with on-going operations. More staff will be sought when the FY07 budget is approved that will provide up to four more staff members to begin work on the remediation actions defined in the PIP. LANS corporate reach back will be used to add permanent staff and to augment staff temporarily.

An interim configuration management plan was implemented on March 8, 2006 (LANL Letter ADTS:06-015, Attachment 1, *Review of LANL Fissile Material Operations*, March 8, 2006) to prevent continuing drift of fissile material operations or equipment configurations after the tabletop, walkthrough and high-priority walk downs occurred. SB-CS reminded all supervisors, group management, and criticality safety officers of fissile material operations that there could be no changes to operations, equipment configurations, practices, or NCS documentation without formal concurrence from the NCS group. A more formal NCS configuration

management program is also defined in the ISD 130-1.0, *Nuclear Criticality Safety Program Manual*.

Table 1. PIP Action 13, Deliverables and Schedule to Address NNSA Review Report Safety Recommendations

PIP Action 13 and Deliverables	Schedule	Status	Responsible Organization
13-A/ Perform 100% table-top and walk through review of all ongoing fissile material operations.	2006-03-08	Complete	The Nuclear Criticality Safety Group (SB-CS) With managers, CSOs, and key operators from affected line organizations
13-B/ Complete 100% of walk downs as prioritized by operational table tops and walk throughs			
1) High priority operations	2006-03-08	Complete	
2) Medium priority operations	2006-05-31	Complete	
3) Low priority operations	2006-12-19	In progress but behind	
13-C/ Document deficiencies and corrective actions determined by the continuing review of 564 fissile material operations and NCS documentation maintaining screening form database			
1) High priority operations	2006-05-31	Complete	
2) Medium priority operations	2006-06-30	Complete	
3) Low priority operations	2007-01-31	In progress but behind	
13-D/ Develop a risk based (Action Bin 1, 2, 3, 4 per The Nuclear Criticality Safety Group (SB-CS)-05.XX) remediation plan identifying schedule for correcting deficient evaluations and documents			
1) High priority operations	2006-05-31	Complete	
2) Medium priority operations	2006-06-30	Complete	
3) Low priority operations	2007-01-31	In progress but behind	
13-E/ Engage external review of process to date	2006-06-30	In progress but behind	
13-E/ Develop CSEDs and CSLAs for all operations currently without an NCSE	TBD 13D	TBD	
13-F/ Revised CSEDs and CSLAs for all other operations	TBD 13D	TBD	

Bullet #2 – Description of the management approach being used to ensure that the NCS Improvement Plan milestones are completed in a timely manner

The LANL criticality safety and laboratory management will use a baseline schedule that tracks PIP milestones. The following hierarchy will be employed by LANL to ensure the milestones of the PIP stay on schedule:

- Weekly interface meetings with the NNSA site criticality safety representative,
- Monthly assessments and trending of PIP milestone progress, and
- Quarterly meetings to assess the overall progress on the PIP schedule.

These meetings will be used to make corrections as necessary to the schedule and staffing levels to ensure the PIP milestones are completed on schedule.

Bullet #2.1 – PIP Resources

The NCS PIP, summarized in the Attachment, shows that there are some PIP milestones that are behind schedule (Actions 4, 7A, 8A, and 11B). LANL recognizes this negative trend on specific actions and is working aggressively to correct it. There are other PIP actions that have yet to be scheduled (Actions 13E, 13F, and 15B). In particular, Actions 13E and 13F will require resource-loaded schedule over three fiscal years (FY07, FY08, and FY09). As progress on obtaining increased staffing becomes clearer, LANL will re-baseline the PIP schedule with a three year improvement plan objective.

Action 2 of the PIP required the generation of an NCS staffing plan necessary to support the ongoing fissile material operations and completion of the PIP. An SB-CS staff resource plan was developed prior to July 31, 2006 for FY07. The plan was adjusted to reflect changes to the organizational structure and budgetary models implemented as a result of the LANL transition. The NCS staff currently consists of 8 non-management technical staff members. Seven (7) additional staff members are currently being sought. These staff members will require Q-clearances, entry into the HRP program, and earn the appropriate NCS qualifications. Three of these are intended to be permanent full time additions to the group. These positions are currently being advertised internal to LANL, although it may be necessary to seek outside applicants. In addition, four (4) full-time staff members are projected as being needed to support the PIP. Because of the low availability and high demand for criticality safety personnel nationwide, these personnel are being sought through existing corporate resources and contractors. A decision as to the necessity of adding these additional personnel permanently will be made as the NCS PIP is implemented over the next three years. This approach is being taken in recognition of the potential productivity impacts to current NCS staff as they mentor and support the incoming staff members.

Bullet #2.2 – NNSA NCS Full-time Staff Member

The NNSA will respond to this DNFSB request.

Bullet #2.3 – NCS Program Monitoring of Performance

To better define the NCS Program at the laboratory, a new Institutional Policy and Procedure for LANL, IPP 130.0, *Nuclear Criticality Safety*, was issued by the laboratory director on July 3, 2006. The purpose of this document is to provide general guidance and to establish NCS programmatic requirements for the laboratory. The requirements from this procedure have been implemented into the *Nuclear Criticality Safety Program Manual* (ISD 130-1.0) that defines the program elements, roles, responsibilities, and implementation requirements. This document has been directly implemented from the institutional policy and procedure. The laboratory will implement these two programmatic documents by November 9, 2006.

To ensure that the NCS group is in compliance with the ANSI/ANS and DOE standards, periodic assessments are performed as required by ANSI/ANS-8.19, IPP 130.1 and ISD 130-1.0. The NCS Program Manual, ISD 130-1.0, defines the roles, responsibilities, frequency, and scope for conducting periodic assessments of fissile material operations throughout the laboratory. Internal assessments are done by various organizations including the Nuclear Criticality Safety Committee, the NCS group and the various operating organizations. Furthermore, assessments by external committees, such as the NNSA, DNFSB, and LANS parent companies are expected periodically.

Bullet #3 - Monitoring of NCS Program Performance

The NNSA will respond to this DNFSB request.

Conclusion

LANL does not believe that an inadvertent criticality is credible at LANL fissile material operations based on the triage performed in early 2006, which involved a 100% tabletop and high and medium priority walkdowns. The NCS group at LANL has been working toward the restructuring and improvement of the NCS Program based on the recommendations of the NNSA Review report. The NCS program has and is continuing to make significant progress in resolving the issues addressed in the NNSA review report.

Sincerely,

Robert L. McQuinn
Associate Director of Nuclear & High Hazard Operations

RLM:dgb

Att. a/s

Cys:
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R. S. Watkins, ADESHQ, MS K491
T. J. Lex, LANL SB-DO, MS E517
AD-NHHO File
IRM-RMMO, MS A150

ATTACHMENT

LANL Nuclear Criticality Safety Group (SB-CS)
Program Improvement Plan
(Aligned with the Requirements of ANSI/ANS-8.19)

LANL PIP	ACTION/DELIVERABLE	TARGET DATE	RESPONSIBLE ORGANIZATION
ANSI/ANS-8.19, Section 4 – Management Responsibilities			
1	**Define Nuclear Criticality Safety Program**		
1-A	**Revise and submit for LANS review and approval the institutional nuclear criticality safety policy as replacement for LIR-402.300.1, Nuclear Criticality Safety, and more clearly define policy, roles and responsibilities for implementing the elements of the NCS Program to meet all applicable ANS and DOE standards, with particular attention to elements of DOE-STD-1158.**	2006-05-31 Completed	SB-CS
1-B	**Develop and submit for LANS review and approval an NCS program manual** The program manual should be subordinate to the institutional policy of Action 1-A, using best-in-class NCS programs and providing detailed guidance and requirements for ANSI/ANS and DOE-STD-1158 compliance, including: (i) development, review, documentation, and change control for fissile material operating procedures (IICPs, IWDs, WIs); (ii) development, review and change control for NCS-related design/system engineering and NCS evaluations and approvals (CSEDs and CSLAs); (iii) roles and responsibilities and revised interpretation of thresholds for investigation, causal analysis, corrective action and lesson learned development for both ORPS and sub-ORPS NCS incidents and near misses; (iv) reporting chain, assessment criteria and process, and corrective action tracking process for the institutional NCSC (see also Action 3-A below for overall enhanced NCS oversight).	2006-05-31 Completed	SB-CS
2	**Nuclear Criticality Safety Staffing Plan**		
2-A	**Develop and submit to the Safety Basis Division the Work Breakdown Structure and Staffing Plan for The Nuclear Criticality Safety Group (SB-CS)** The staffing plan will include base staffing level to fully support field implementation of the program, development and implementation of program improvement initiatives of this PIP, and to accommodate administrative and professional development and qualification.	2006-07-31 Completed	SB-CS

3	**Define NCS Oversight Program**		
3-A	**Incorporate by revision of the NCS program manual Implementation Support Document (see Action 1-B above) requirements and schedule for implementation of an enhanced NCS oversight program** The program manual should include the structure, roles, responsibilities, accountabilities, and authorities for the assessment process; performance criteria and metrics; scope, content, and reporting chain for all assessment and oversight activities. The program shall use as its base the expectations set within the LANL institutional policy (1-A) and program manual (1-B) and DOE-STD-1158.	2006-09-29 Completed	SB-CS
3-B	**Develop and publish an integrated schedule for enhanced assessment activities** Develop and publish integrated schedule for operational assessments for FY07. NOTE: The NNSA assessment and LANL response under item #13 of this PIP meet or exceed the FY06 assessment expectations.	2006-09-29	SB-CS
4	**Examine CSO Program**		
4-A	**Benchmark the existing LANL CSO program against selected NNSA sites**, with participation of selected CSOs from the current LANL program.	2006-07-31	Operating Groups & SB-CS
4-B	**Submit recommendations to the new LANS management for upgrade of the CSO program** across the spectrum of LANL facilities (NMT, NWIS, N, SUP-5), and gain management decision for the path forward.	2006-08-31	Operating Groups & SB-CS
4-C	**Incorporate by revision of the NCS program manual (see Action 1-B above) requirements and schedule for implementation of the enhanced CSO program.**	2006-09-29	Operating Groups & SB-CS
4-D	**Implement revised CSO program, including CSO training and qualification.**	2006-12-31	Operating Groups & SB-CS

ANSI/ANS-8.19, Section 5 – Supervisory Responsibilities			
5	**Enhance Operations Interfaces**		
5-A	The safety management responsibilities assigned in 2000 to Area Work Supervisors (e.g., maintenance of worker training records) were rescinded in 2002 and returned to NMT line management. The AWS role was reduced to coordination of co-located activities as an officer of the Facility Manager. This resolved the finding from the 2000 assessment.	2002-07-30 Completed	PMT-DO
5-B	A memorandum of understanding between NMT-DO and N-DO, cosigned by ADWEM and ADTR, was put in place March 8, 2005, assigning responsibility and authority for the TA-18 safety programs including NCS with the Responsible Division Leader (RDL), i.e., NMT-DO, though CSO responsibility remained with the tenant organization, i.e., N-2. This MOU resolved the Nuclear Criticality Safety Group (SB-CS) concern. Note: This MOU will expire and be replaced by the LANS operations management model after June 1, 2006.	2002-07-30 Completed	PMT-DO/N-DO
6	**Improve Operations Training**		
6-A	Evaluate and present to LANS management alternatives for hands-on NCS training for managers, supervisors, and floor workers comparable to former LACEF courses. This analysis shall address facilities, materials and methods, curricula, and content of course(s) needed to meet all identified requirements.	2006-09-29	SB-CS
6-B	Develop and implement hands-on NCS curriculum per decision from Action 6-A.	2007-01-19	PMT-3, SB-CS, and PS-TIO
6-C	Upgrade NMT Fissile Material Handler Training, including OJT and formal qualification.	2006-10-01	
6-D	Ensure training and qualification records system (EDS or its successor) are adequate for line management to ensure compliance with NCS requirements.	2007-01-19	
6-E	Ensure near-term access to current CSEDs for cognizant managers, supervisors, and floor workers via the baseline document inventory (CSEDs, CSLAs, and procedures) resultant from the 2006 review of current operations, and establish in The Nuclear Criticality Safety Group (SB-CS) procedures, a process for maintaining the official record for CSEDs including those newly generated or revised after the reviews. The baseline inventory shall be shared with responsible managers, CSOs, supervisors, and floor workers, as a compensatory measure until completion of Action 10-B (see also Action 10-A).	2006-05-31 Completed	SB-CS
6-F	Ensure long-term access to all current NCS documents for cognizant managers, supervisors, and floor workers via an The Nuclear Criticality Safety Group (SB-CS) database and user interface to manage the development, peer review, publication, retrieval, review, and revision of criticality safety documents. This database will provide read access to responsible managers, CSOs, supervisors, and floor workers. (see also Action 10-B)	2007-05-31	SB-CS

7	**Improve NMT Procedure**		
7-A	Revise AP-522 to provide specific NCS-important equipment lists, including evaluation of open containers as noted in the assessment finding, in CSEDs and CSLAs, and include guidance on controlling such open containers in the NMT Work Control Manuals.	2006-05-31	PMT-DO
ANSI/ANS-8.19, Section 6 -- NCS Staff Responsibilities			
8	**Improve NCS Staff Training**		
8-A	**Review the requirements for training and qualification of The Nuclear Criticality Safety Group (SB-CS) staff against DOE-STD-1135-99 and the LANL institutional policy and program manual** (see Action 1-A and 1-B above).	2006-05-15	SB-CS
8-B	**Re-train and re-qualify The Nuclear Criticality Safety Group (SB-CS) staff on revised procedures resultant from this PIP** (same as Action 9-B).	2006-05-15 Completed	
9	**Enhance the Nuclear Criticality Safety Group Procedures**		
9-A	**Revise The Nuclear Criticality Safety Group (SB-CS) procedures to address specific deficiencies noted in the NNSA assessment**, i.e. recommendations 1-7 above.	2006-05-15 Completed	SB-CS
9-B	**Implement revised The Nuclear Criticality Safety Group (SB-CS) procedures, including re-train and re-qualify The Nuclear Criticality Safety Group (SB-CS) staff.**	2006-05-15 Completed	
10	**Improve Document Control**		
10-A	**Complete the baseline document inventory of CSEDs and procedures resultant from the 2006 review of current operations**, and establish in The Nuclear Criticality Safety Group (SB-CS) procedures, a process for maintaining the official record for CSEDs including those newly generated or revised after the reviews are completed. Note: The baseline inventory shall be available to The Nuclear Criticality Safety Group (SB-CS) staff and responsible managers, CSOs, supervisors, and floor workers, as a compensatory measure until completion of Action 10-B (see also Action 6-E).	2006-05-31 Completed	SB-CS
10-B	**Develop in The Nuclear Criticality Safety Group (SB-CS) an electronic database and user interface to manage the development, peer review, publication, retrieval, review, and revision of criticality safety documents.** This database will include CSEDs and CSLAs, and will be available to The Nuclear Criticality Safety Group (SB-CS) staff and responsible managers, CSOs, supervisors, and floor workers. (see also Action 6-F).	2007-03-08	SB-CS

ANSI/ANS-8.19, Section 7 – Operating Procedures			
11	**Improve NCS Control Implementation**		
11-A	Develop guidance and requirements in the program manual (submit for LANL/LANS review, see Action 1-B) addressing The Nuclear Criticality Safety Group (SB-CS) SME involvement during the generation of fissile material procedures in the following areas: coordination with the technical bases in the criticality safety evaluations and implementing documents; requirement for clear listings of all NCS controls and safety practices; complete NCS-important equipment lists; and requirement for The Nuclear Criticality Safety Group (SB-CS) SME review and approval of all new or revised procedures prior to work authorization.	2006-05-31 Completed	SB-CS
11-B	Complete training and qualification of all responsible managers, CSOs, and procedure writers in the new ISD requirements in Action 11-A.	2006-09-29	PMT and all affected organizations
12	**Improve Infraction Response**		
12-A	**Clarify in the ISD (see Action 1-B) roles and responsibilities of The Nuclear Criticality Safety Group (SB-CS) and the line organization in determining loss of NCS controls and determination of near misses, and revise in The Nuclear Criticality Safety Group (SB-CS) procedures the criteria The Nuclear Criticality Safety Group (SB-CS) staff shall use for loss of control and near miss determinations.** NOTE: Loss of one or more NCS control results in incident reporting under the LANL ORPS program as described in Operational Support Tool OST-402-130-01.3, which provides for a risk-based graded approach to investigation, causal analysis, and corrective action.	2006-05-31 Completed	SB-CS
ANSI/ANS-8.19, Section 8 – Process Evaluation			
13	**Prepare NCSEs and NCSAs**		
13-A	**Perform 100% table-top and walk through review of all ongoing fissile material operations.**	2006-03-08	SB-CS with managers, CSOs, and key operators from affected line organizations.
13-B	**Complete 100% of walk downs as prioritized by operational table tops and walk throughs**		
13-B-1	High priority operations	2006-03-08 Completed	
13-B-2	Medium priority operations	2006-05-31 Completed	
13-B-3	Low priority operations	2006-12-19	

13-C	**Document deficiencies and corrective actions determined by the continuing review of 564 fissile material operations and NCS documentation maintaining screening form database**		
13-C-1	High priority operations	2006-03-08 Completed	
13-C-2	Medium priority operations	2006-05-31 Completed	
13-C-3	Low priority operations	2006-12-19	
13-D	**Develop a risk based (Action Bin 1, 2, 3, 4 per The Nuclear Criticality Safety Group (SB-CS)-05.XX) remediation plan identifying schedule for correcting deficient evaluations and documents**		
13-D-1	High priority operations	2006-03-08 Completed	
13-D-2	Medium priority operations	2006-05-31 Completed	
13-D-3	Low priority operations	2006-12-19	
13-E	**Engage external review of process to date**	2006-06-30	
13-E	**Develop CSEDs and CSLAs for all operations currently without an NCSE**	TBD	
13-F	**Revised CSEDs and CSLAs for all other operations**	TBD	
ANSI/ANS-8.19, Section 9 – Materials Control			
14	**Improve Materials Control**		
14-A	Study and report on the usage of current tools for fissile material control (e.g., Fissile Material Tag Board, MASS System) and recommend to NMT-DO and cognizant ADs improvements as appropriate.	2006-09-29 Completed	PMT-4
14-B	Complete assessment with support of human factors experts and The Nuclear Criticality Safety Group (SB-CS) and recommend to NMT-DO and cognizant ADs improved operator aids.	2006-09-29 Completed	PMT-4
14-C	Implement decisions from Actions 14-A and 14-B as appropriate, e.g., NMT procedures, Fissile Material Handler Training (Action 6-C), and MASS Users Training.	2007-04-01	PMT-4
15	**Resolve MAR Constraints**		
15-A	Evaluate alternatives to the current system that connects MAR and NCS limits and submit recommendations as appropriate to operations, nuclear criticality safety, and authorization basis management	2006-09-29 Completed	ADWEM-AB, PS-4 with the support of SB-CS.
15-B	Implement recommendations from Action 15-A as appropriate into LANL NCS and safety basis policies and guidance, and into existing DSAs/TSRs.	TBD 15-A	