Assessment of the Safety Basis Corrective Action Plan Implementation at the Pantex Plant

March 2020

Office of Enterprise Assessments
U.S. Department of Energy

Table of Contents

Acronyms

CAP	Corrective Action Plan
CFR	Code of Federal Regulations
CNS	Consolidated Nuclear Security, LLC
DOE	U.S. Department of Energy
DSA	Documented Safety Analysis
EA	Office of Enterprise Assessments
FY	Fiscal Year
NNSA	National Nuclear Security Administration
NPO	NNSA Production Office
PER	Problem Evaluation Request

Assessment of the Safety Basis
Corrective Action Plan Implementation at the Pantex Plant
October 21 – 30, 2019

Summary

Scope

This assessment evaluated the Consolidated Nuclear Security, LLC (CNS) issues management process and the status of actions identified in the *Corrective Action Plan for DSA* [Documented Safety Analysis] *Quality Issues* at the National Nuclear Security Administration (NNSA) Pantex Plant. The assessment also evaluated NNSA Production Office (NPO) oversight of safety basis improvement activities. The scope of this assessment did not include determining the overall adequacy of the corrective action plan (CAP) in addressing identified issues with the Pantex Plant safety basis.

Significant Results for Key Areas of Interest

Overall, CNS completed the corrective actions scheduled for completion by September 30, 2019, in accordance with the CAP. Although most CAP actions are closed, the resulting documents include improvement plans and strategies for future activities. There is uncertainty associated with successful implementation of these plans and strategies.

Contractor Issues Management Process
The CNS implementing documents for its issues management process meet the requirements of 10 CFR Part 830, Subpart A, Quality Assurance Requirements, and DOE Order 414.1D, *Quality Assurance*. No programmatic issues were identified. Documentation associated with the CAP was generally consistent with those requirements, although some aspects of the process were not rigorously applied to the development of the CAP.

Contractor Closure of Corrective Actions
CAP actions scheduled to be completed by September 30, 2019, and identified as closed by CNS, were satisfactorily closed by the supporting documentation. Documentation included new or revised procedures, lesson plans and training rosters, schedules, long-range improvement plans, and strategy documents. To determine the extent of condition of legacy issues, CNS performed an in-depth review of all safety basis documents, compiled a detailed list of required changes, and developed a strategy for implementing these changes.

Federal Oversight
The NPO procedure for contractor oversight meets the requirements of DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*. NPO has dedicated a senior staff member to follow the CAP progress. NPO oversight of safety basis improvement activities is sufficient to evaluate CNS performance with respect to CAP deliverables.

Best Practices and Findings
No best practices or findings were identified during this assessment.

Follow-up Actions:

No follow-up activities are planned.

Assessment of the Safety Basis
Corrective Action Plan Implementation at the Pantex Plant

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) Office of Nuclear Safety and Environmental Assessments, within the independent Office of Enterprise Assessments (EA), conducted an assessment of the completion status of corrective actions identified in Consolidated Nuclear Security, LLC (CNS) document RPT-0020, *Corrective Action Plan for DSA* [Documented Safety Analysis] *Quality Issues*, at the National Nuclear Security Administration (NNSA) Pantex Plant. This assessment, conducted October 21 through 30, 2019, was requested by the NNSA Administrator. CNS manages and operates the Pantex Plant under the direction and oversight of the NNSA Production Office (NPO).

In accordance with the *Plan for the Office of Enterprise Assessments Assessment of the Safety Basis Corrective Action Plan Implementation at the Pantex Plant*, this assessment evaluated the status of actions in the corrective action plan (CAP) that were scheduled for closure by the end of fiscal year 2019, as well as the strategies for completing selected future CAP actions. The assessment also evaluated CNS's implementation of an issues management process as required by DOE Order 414.1D, *Quality Assurance*, along with Federal oversight, review, and closure acceptance of CAP actions. The implementation of new and revised processes is not yet mature enough to allow assessment of their effectiveness.

Over the last ten years, Pantex has been working to improve the quality of the safety basis. Various improvement plans have been developed and partially executed, but the intended improvements have not fully materialized. The CAP was developed to update and consolidate these plans, with the intent to be more comprehensive than previous plans and to have an aggressive schedule for completing near-term improvements.

The mission of the Pantex Plant is the assembly, disassembly, testing, inspection, temporary staging, and transportation of nuclear explosives and components. The hazard category 2 nuclear facilities and activities at the Pantex Plant include nuclear explosive bays and cells, special purpose facilities, staging facilities (bays, rooms, vaults, and magazines), and onsite transportation. The safety basis comprises a sitewide DSA, seven activity-specific DSAs for nuclear facilities, eight hazard analysis reports specific to nuclear weapon programs, and technical safety requirements.

2.0 METHODOLOGY

The DOE independent oversight program is described in and governed by DOE Order 227.1A, *Independent Oversight Program*, which is implemented through a comprehensive set of internal protocols, operating practices, assessment guides, and process guides. This report uses the terms "best practices, deficiencies, findings, and opportunities for improvement" as defined in the order.

Consistent with the assessment plan, this assessment considered requirements related to issues management from 10 CFR Part 830, Subpart A, Quality Assurance Requirements, and DOE Order 414.1D. Key aspects of these requirements are included in EA Criteria and Review Approach Document 31-32, *Review of Implementation of Safety Basis Corrective Actions at the Pantex Plant.* The assessment also evaluated whether closure of CAP actions is adequately supported.

The assessment team examined CNS documents implementing the issues management requirements of DOE Order 414.1D and the NPO-approved document E-SD-0002, *Quality Assurance Program*

Description. The assessment team also reviewed the Problem Evaluation Requests (PERs) issued to track the CAP actions, the documents identified as closure evidence for CAP actions, and supplemental documentation supporting the CAP actions. Closure evidence and supplemental documentation included new or revised procedures, revised training curricula, training presentations, training records, internal assessment records, performance improvement plans and strategy documents, schedules, transmittal memoranda to NPO, and NPO concurrence memoranda. The assessment team interviewed key CNS and NPO personnel responsible for CAP actions, as well as staff recently trained on new or revised processes. Appendix A lists the members of the assessment team, the Quality Review Board, and EA management responsible for this assessment. The results of the assessment team's review of the PERs and their associated actions and closure documentation are summarized in Appendix B.

There were no items for follow-up during this assessment.

3.0 RESULTS

3.1 Contractor Issues Management Process

The objective of the assessment of the CNS issues management process was to evaluate whether the procedures guiding CAP management and action closure meet applicable DOE quality assurance requirements.

In March 2019, at the request of NPO, the assessment team reviewed the CAP and provided feedback. Although review of the adequacy of the CAP to address safety basis issues was not in the scope of this assessment, the following observations from the earlier review of the CAP relate to implementation of the issues management process:

- The CAP provided inadequate justification for the lack of a causal analysis. The CNS procedure allows waiving of the causal analysis, but the complexity of the issues may warrant conducting the analysis.
- The CAP did not clearly and specifically identify and describe each issue or condition adverse to quality.
- The CAP did not describe an extent-of-condition evaluation for each identified issue.
- The CAP did not describe the closure mechanism for proposed corrective actions.
- The CAP did not identify organizations and individuals responsible for carrying out each corrective action.
- The CAP did not distinguish between issues and significant issues involving conditions adverse to quality.

The assessment team provided feedback to NPO management, including recommendations on how to address each of the team's observations on the CAP. This feedback did not result in revision of the CAP.

Due to the weaknesses found with the CAP, the assessment team reviewed the CNS issues management process as part of this assessment. The team determined that the CNS issues management process, as specified in E-SD-0002, and E-PROC-0006, *CNS Issues Management Process*, meets the requirements of 10 CFR Part 830, Subpart A and DOE Order 414.1D. Implementation is supported by a comprehensive set of work instructions, work sheets, and references to other procedures and programs for associated activities. The process document outlines the expectations for issue identification, communications, documentation and tracking, determination of ownership and significance, causal analysis, extent-of-condition review, CAP implementation, effectiveness reviews, and issue closure. The reviewed work instructions and procedures provide details for meeting those expectations. The assessment team identified no programmatic concerns in the implementing documents.

In reviewing the PERs developed for tracking CAP actions, the assessment team noted that the significance levels for the PERs, determined in accordance with CNS procedure E-PROC-0006, were inappropriately identified as level C (indicating a unique deficiency or nonconformance). Section 2 of the CAP identifies many systemic issues, which Procedure E-PROC-0006 requires to be categorized as significance level B. The assessment team provided this comment to CNS, and CNS committed to revise the significance levels and reevaluate the need for causal analysis, extent-of-condition evaluation, and effectiveness reviews.

Although the CNS issues management process is comprehensive and compliant with DOE requirements, the process was not rigorously applied to the development of the CAP.

3.2 Contractor Closure of Corrective Actions

The objective of the assessment of corrective action closure was to determine whether CNS follows its issues management process in closing CAP actions.

The CAP identified two categories of issues: one for overall quality improvement of safety basis documents, and one to address legacy issues associated with those documents. Quality improvement actions identified in the CAP include new procedures and processes, procedure revisions, personnel training, and development of long-range improvement plans and strategies to guide future actions. Actions focused on the safety basis development process, the unreviewed safety question process, engineering procedures for safety basis support documents, and training of personnel. Legacy issues are primarily inconsistencies across the safety basis documents, situations where the low probability of an event was used to justify lack of controls for events with high radiological consequences to the public and workers, and lack of technical safety requirement controls for the "falling man" hazard (with potential effects on a nuclear explosive from an operator tripping and falling into it). Addressing legacy actions focused on a detailed review of safety basis documents to identify all required changes and several new plans to guide safety basis changes. CNS generated two PERs corresponding to quality improvement and legacy issue corrective actions. Appendix B summarizes the results of the assessment team's review of the PERs and the associated actions and closure documentation.

At the time of this assessment, CNS had identified all actions scheduled for completion by September 30, 2019, as closed. Based on the provided documentation, the assessment team determined that most actions were satisfactorily closed. One action that CNS closed required submittal of a plan to NPO for concurrence; however, NPO had not yet concurred by the end of the assessment period (see Appendix B, Q-12). Thus, although the CAP was written to allow action closure upon submittal of deliverables, the lack of a stated measure of acceptable performance provided no guarantee that the products would meet NPO's expectations. The assessment team provided comments to CNS in several instances where CAP actions had not been fully met: one procedure had not yet been implemented (see Appendix B, Q-10), the training on a new process was insufficient (see Appendix B, Q-03), in one case the information specified in the CAP was not carried forward into new or revised procedures (see Appendix B, Q-01), one CAP action was canceled (see Appendix B, L-08), and some actions were not included in the schedule as required by the CAP (see Appendix B, Q-04). In all these cases, CNS personnel responded with adequate justification for the discrepancy or a commitment to take additional action to ensure that the CAP action was fully met. The assessment team determined that these discrepancies did not rise to the level of a deficiency as they did not indicate an applicable requirement was inadequately implemented.

In September 2018, CNS developed and implemented SB-SBS-942190, *Safety Basis Supplement for Legacy Issues Associated with Documented Safety Analyses at Pantex*, to disposition some legacy issues and to further define controls for the "falling man" hazard until safety basis documents are revised. This supplement, developed independently of the CAP and approved by NPO, helped guide the extent-of-condition reviews for legacy issues. CNS performed an in-depth review of all safety basis documents and

compiled a detailed list of required changes. The plan for completing these changes is captured in PLN-0111, *Pantex Safety Basis Vision Execution Strategy*, which identifies actions into 2025.

The assessment team interviewed safety analysis engineers, process engineers, and production technicians and reviewed records created under new processes to determine whether the new procedures and training have resulted in performance changes. Most personnel who were interviewed believed that the new processes have added value and that the additional training is beneficial. Several of the more experienced analysts stated that company practices have not changed considerably, but they noted that these practices are now formally documented. Reviewed records demonstrate that the new processes are being implemented. The assessment team concluded that, except as noted above where CNS has agreed to take additional actions, CNS has effectively completed all actions scheduled for completion by September 30, 2019.

3.3 Future Improvement Actions

The objective of the assessment of future improvement actions was to determine the status of CAP actions not scheduled for completion by September 2019 and the progress of select future actions, including whether CNS is adequately managing and NPO is adequately overseeing the associated deliverables.

Although most CAP actions are closed, the resulting documents include improvement plans and strategies for future activities. The quality improvement deliverables from the CAP include a strategy for safety management programs for tooling and other equipment. The effectiveness review of the closure of the quality PER planned for March 2020 may be premature, unless limited in scope, due to open legacy conditions. Legacy deliverables include a strategy to resolve legacy conditions of approval, a strategy to resolve planned improvements in the site safety analysis report, a plan for complete revision of selected safety basis documents, and a plan to review design features for adequacy.

The effectiveness of the safety basis improvement effort relies heavily on implementation of the improvement plans developed as a result of the CAP, some of which are projected to take up to six years to complete. Substantial resources will be required for several of the plans. Closure of the initial CAP corrective actions will not, in itself, effect the needed improvement in the Pantex Plant safety basis. The assessment team determined that there is considerable uncertainty associated with successful implementation of these plans. Considering that three prior plans were unsuccessful in resolving legacy issues and improving the safety basis (2010 through 2018), and considering the complexity of the safety basis issues, this safety basis improvement effort could also, unless carefully managed, prove ineffective in resolving the identified DSA issues.

3.4 Federal Oversight

The objective of the assessment of Federal oversight of the CAP was to determine whether NPO has established and implemented an oversight program consistent with DOE requirements that is sufficient to evaluate CNS performance with respect to CAP deliverables.

NPO procedure NPO-3.4.1.1, *NPO Oversight Planning and Implementation Process*, meets the requirements of DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*, and provides for effective oversight of CNS. The procedure uses a risk-based, graded approach to plan oversight assessments of CNS activities. NPO uses a combination of compliance-based and performance-based assessments to oversee the contractor and transmits the documented results to the contractor. The site integrated assessment plan guides NPO's scheduling and performance of assessments of contractor activities. Several safety basis-related assessments are scheduled for fiscal year 2020.

The assessment team interviewed several NPO personnel to determine the level and effectiveness of oversight of the CAP actions. In several cases, closure of CAP actions required NPO's concurrence on

the deliverables. In these cases, the NPO Assistant Manager for Nuclear Safety and Engineering either provided concurrence or rejected the plans with subsequent direction to CNS to revise the documents. NPO has dedicated a senior staff member reporting directly to the Assistant Manager to track action status and review action closure documentation. Weekly status meetings are held between CNS and NPO to discuss progress and issues. NPO Nuclear Safety and Engineering management demonstrated awareness of CAP status and articulated actions to ensure that the various improvement plans' actions are tracked going forward. In addition, senior NNSA officials remain cognizant of the progress of safety basis improvement efforts at the Pantex Plant. NPO's oversight of safety basis improvement activities is sufficient to evaluate CNS performance with respect to CAP deliverables.

4.0 BEST PRACTICES

No best practices were identified during this assessment.

5.0 FINDINGS

No findings were identified during this assessment.

6.0 DEFICIENCIES

No deficiencies were identified during this assessment.

7.0 OPPORTUNITIES FOR IMPROVEMENT

No opportunities for improvement were identified during this assessment.

Appendix A
Supplemental Information

Dates of Assessment

Onsite Assessment: October 21-30, 2019

Office of Enterprise Assessments (EA) Management

Nathan H. Martin, Director, Office of Enterprise Assessments
April G. Stephenson, Deputy Director, Office of Enterprise Assessments
Thomas R. Staker, Director, Office of Environment, Safety and Health Assessments
Kevin G. Kilp, Deputy Director, Office of Environment, Safety and Health Assessments
C.E. (Gene) Carpenter, Jr., Director, Office of Nuclear Safety and Environmental Assessments
Charles C. Kreager, Director, Office of Worker Safety and Health Assessments
Gerald M. McAteer, Director, Office of Emergency Management Assessments

Quality Review Board

April G. Stephenson
Steven C. Simonson
Michael A. Kilpatrick

EA Site Lead for NPO (Pantex and Y-12 sites)

Jimmy S. Dyke

EA Assessors

Daniel M. Schwendenman – Lead
Kevin E. Bartling
Roy R. Hedtke
Katherine S. Lehew
Thomas T. Martin
Jeffrey L. Robinson

Appendix B
Corrective Action Plan Review Results

PER Action	Problem Evaluation Request (PER) Action Description	Closure Status	Closure Evidence/EA Assessment Team Comments
Q-01	CNS will submit a comment resolution process to NPO for concurrence that maintains formality of comment generation and resolution, minimizes inefficiencies of resubmittals, provides a metric of initial quality, and generates lessons learned to be passed on to CNS analysts.	Closed	E-PROC-3159, S*coping, Comment Resolution, and Escalation for Development of Safety Basis Documents*, Revision 1, 4/11/19 DESKAID-0997, Revision 1 **EA Comment:** E-PROC-3159 does not include a description of requirements for generating metrics or reviewing the results of the resolution process for potential lessons learned. CNS has committed to revise the procedure to include identification of lessons learned. Metrics will be updated and revised as warranted.
Q-02	Revise the safety basis document generation process to eliminate errors, allow for more efficient generation of documents, maintain configuration control of the documents, and perform technical editing of the document.		
	a. Develop project charter	Closed	CHARTER-0008, *Project Charter: Documented Safety Analysis Software Configuration Management*, 7/31/19
	b. Complete project plan for improvements	Closed	PLAN-0101, *Safety Basis Document Generation Process Improvements,* 3/26/19
	c. Implement near-term improvements	Closed	Revised QC 604.91, *Authorization Basis Analysis 1 Qualification Card* DESKAID-00A, *Technical Editing for Safety Analysis* MNL-254543, *Pantex Plant Safety Analysis Engineering Manual*, Issue No. 38 PX-4980, *Authorization Basis and Safety Basis Documents – Change Request*, Issue No. 17
Q-03	Develop formal escalation process to be used on safety basis documents and train staff to process.	Closed	E-PROC-3159, S*coping, Comment Resolution, and Escalation for Development of Safety Basis Documents*, Revision 1, 4/11/19 PowerPoint Presentation

PER Action	Problem Evaluation Request (PER) Action Description	Closure Status	Closure Evidence/EA Assessment Team Comments
			Safety Analysis Engineering All-Hands meeting roster **EA Comment:** Initial briefing of staff on the new procedure did not reach all necessary personnel and was not incorporated into staff qualification. CNS has committed to enhance this training.
Q-04	Establish a FY19 baseline resource-loaded schedule that includes annual updates, improvement commitments, responses to current assessments, and the actions of this CAP.	Closed	**EA Comment:** Improvement commitments are not being tracked as part of the Safety Analysis Engineering baseline resource-loaded schedule as required by CAP action item Q-04. Actions are being tracked via the PER database and the Electronic Suspense Tracking and Routing System (ESTARS). CNS has committed to ensure that all improvement actions are included in Safety Analysis Engineering schedules.
Q-05	Develop and provide specific training courses for AB [authorization basis] analysts and Peer Reviewers to enhance job skills. Include (1) Inadequate/Insufficient detail supporting DSA changes, (2) Incorrect technical information cited from a support document, (3) Inconsistency between DSA chapters and/or appendices, Items in Section 2.4.1.		
	a. Issue subcontractor task order		No review necessary
	b. Obtain all lesson plans from subcontractor	Closed	CNS Training Lesson (LP), *Development and Maintenance of Documented Safety Analysis*, Revision 5, 9/24/19
	c. Complete training of all analysts	Closed	Training rosters
Q-06	Develop and provide specific training for USQD [unreviewed safety question determination] analysts and Peer Reviewers to enhance job skills. The training will also address what constitutes sufficient detail/justification.		
	a. Issue subcontractor task order		No review necessary

PER Action	Problem Evaluation Request (PER) Action Description	Closure Status	Closure Evidence/EA Assessment Team Comments
	b. Obtain all lesson plans	Closed	CNS Training Lesson, *USQ Evaluator Course*, Revision 5, 9/24/19
	c. Complete training of all analysts	Closed	Training roster
Q-07	CNS will submit notional suggestions for determining "adequacy of controls" to NPO for consideration.	Closed	Letter from Kupferer to Armstrong, "Pantex Safety Basis Quality Corrective Action Plan – Scoping, Comment Resolution, Escalation, and Adequacy of Controls," 12/31/18 Adequacy of Controls White Paper, CNS, 12/31/18
Q-08	CNS will submit the guidelines for level-of-detail for ESSs and JCOs, including the implementation strategy of these guidelines to NPO for concurrence.	Closed	SB-MIS-942208, *Implementation of the Evaluation of Safety of the Situation (ESS) and Justification for Continued Operations (JCO)*, Revision 1, 12/20/18 NPO concurrence letter on SB-MIS-942208, 3/11/19
Q-09	Document the requirements and guidance for initial scoping meetings to enhance communications on safety basis document development. The requirements shall include the identification of other CNS organizations, the Design Agencies, and members of NPO that need to be involved in the scoping meeting.	Closed	E-PROC-3159, *Scoping, Comment Resolution, and Escalation for Development of Safety Basis Documents,* Revision 1, 4/11/19
Q-10	Develop and [i]ssue revised procedures that cover Design Analysis Calculations, Engineering Evaluations, Operability Determinations, and Human Performance Improvement to implement quality requirements in SB [safety basis] documents.		
	a. Design Analysis and Calculation procedure	Closed	E-PROC-3040, *Design Analysis and Calculations,* Revision 1, 10/1/18 DESKAID-0089, *Engineering Calculations*, Issue No. 3
	b. Engineering Evaluation procedure	Closed	E-PROC-3055, *Engineering Evaluation*, Revision 1, 3/19/19

PER Action	Problem Evaluation Request (PER) Action Description	Closure Status	Closure Evidence/EA Assessment Team Comments
	c. Operability Determination procedure	Closed	**EA Comment:** This PER action was closed prior to issuance of the new Operability Determinations procedure. The new procedure is drafted, but training will extend into 2020. NPO concurred that use of the existing work instruction is acceptable, and the action could be closed. The assessment team determined that this path forward is appropriate.
	d. Address issues associated with HPI [Human Performance Improvement] evaluations	Closed	WI 02.03.12.01.02, *Human Performance Improvement Assessment of Specific Administrative Controls*, Issue No. 4 DESKAID-0678, *Human Performance Improvement Evaluation Worksheet*, Issue No. 4 TMP-0052, *Human Performance Improvement Evaluation Form*, Issue No. 5 CR 603.19, *Human Performance Improvement Evaluator Overview*
Q-11	Establish an assessment schedule to review for USQD [unreviewed safety question determination] quality	Closed	E-PROC-3004, *Enterprise Assessments Process*, Revision 3, 7/1/19 CNS Scheduled quarterly USQD assessments for FY 2019 and FY 2020. Assessments follow the issues management process and are tracked by CNS and monitored by NPO.
Q-12	Submit a strategy for Safety Management Programs [SMPs] for special tooling, supplemental equipment, and testers to NPO for concurrence.	Closed	PLN-0103, *Strategy for Continuing Improvement of Pantex AEP* [Approved Equipment Plan] *SMPs*, March 2019 (Revision 1, transmitted 9/30/19, addressed NPO comments on initial issue)
Q-13	Update the [Safety Analysis Engineering] Manual … to include (1) roles and responsibilities for reviewers in change package process, (2) Annual Update quality checks,… (3) all elements of the scope…included in the revision, (4) Inadequate/Insufficient detail supporting DSA changes, (5) Incorrect technical information cited from a support document, (6) Inconsistency between DSA chapters and/or appendices, (7) Items in Section 2.4.1.		
	a. Issue subcontractor task order		No review necessary

PER Action	Problem Evaluation Request (PER) Action Description	Closure Status	Closure Evidence/EA Assessment Team Comments
	b. Issue revised [Safety Analysis Engineering] manual	Closed	Manual-254543, *Pantex Plant Safety Analysis Engineering Manual*, Issue No. 38 PX-5972, *Change Package Quality Checklist*, Issue No. 6
	c. Obtain all lesson plans from subcontractor	Closed	CNS Training Lesson Plan (LP), *Safety Analysis Engineering Manual Briefing*, 9/10/19 CR 604.83, *Safety Analysis Engineering Manual Briefing* (training slides)
	d. Complete training of all analysts	Closed	List of attendees for briefing on manual update, 9/30/19
Q-14	Perform an effectiveness review that ensures the commitments above were met and resulted in measurable improvement in the quality of safety basis submittals.	Open	E-PROC-0006, CNS *Issues Management Process*, Revision 2, 3/19/18 CNS completed an effectiveness review for Quality Issues in Safety Basis Documents at Y-12 in 2017. The completion date of PER action Q-14 is March 2020. Using the same review model as the 2017 review should successfully complete this CAP action, with the exception of the long-term actions for safety basis issues. These actions cannot be effectively evaluated until the requisite plans are completed.
L-01	Review and determine the associated basis for safety for hazard scenarios that are dispositioned by low-probability arguments (e.g., Sufficiently Unlikely) and where the DSA has no controls identified.	Closed	Letter from Kupferer to Armstrong ME-19-MAIL-78867-4105-ME, "Corrective Action Plan for Documented Safety Analysis Quality Issues," 9/30/19 SB-SBS-942190, *Safety Basis Supplement for Legacy Issues Associated with Documented Safety Analyses at Pantex*, Revision 1, 12/18/18
L-02	Review high-order consequence scenarios initiated by a Production Technician trip for specific, sensitive operations and identify specific controls to address these operations.	Closed	Letter from Kupferer to Armstrong ME-19-MAIL-78867-4105-ME, "Corrective Action Plan for Documented Safety Analysis Quality Issues," 9/30/19 SB-SBS-942190, *Safety Basis Supplement for Legacy Issues Associated with Documented Safety Analyses at Pantex*, Revision 1, 12/18/18
L-03	Submit the strategy to resolve legacy conditions of approval to NPO for concurrence.	Closed	Letter from Kupferer to Armstrong ME-19-MAIL-77336-4105-ME, "Legacy Conditions of Approval and Planned Improvements Upgrades," 2/28/19 NPO concurrence letter on CNS strategy to resolve legacy conditions of approval and planned improvements, 5/15/19

PER Action	Problem Evaluation Request (PER) Action Description	Closure Status	Closure Evidence/EA Assessment Team Comments
L-04	Submit the strategy to resolve Sitewide SAR [Safety Analysis Report] Planned Improvements to NPO for concurrence.	Closed	Letter from Kupferer to Armstrong ME-19-MAIL-77336-4105-ME, "Legacy Conditions of Approval and Planned Improvements Upgrades," 2/28/19 NPO concurrence letter on CNS strategy to resolve legacy conditions of approval and planned improvements, 5/15/19
L-05	Document a plan to review, revise, and re-categorize [specific administrative controls], as appropriate.	Closed	PLN-0103, *Strategy for Continuing Improvement of Pantex AEP [Approved Equipment Program] SMPs [Safety Management Programs]*, Revision 1, 9/30/19
L-06	Document a plan to recommend the complete revision of select HARs [hazard analysis reports] / SARs for NPO and subsequently the Safety Management Review Team.		
	a. Develop list of HARs and SARs that need to be completely updated	Closed	CNS Memo from Joe Papp to File, Closure Evidence for PER-2018-0560.6(a), 11/28/18
	b. Develop a plan that describes the strategy for revising the HAR's and SAR's	Closed	PLN-0111, *Pantex Safety Basis Vision Execution Strategy*, September 2019
	c. Present list to SMRT to be included in the 10 year plan that the SMRT [Safety Management Review Team] maintains	Closed	Email D. Kupferer to SMRT, *Request to Brief the SMRT on our Five-year Pantex Safety Basis Vision and Execution Strategy,* 10/23/19 SMRT briefed on 1/14/20, agenda and presentation provided
L-07	Document a plan to review and revise, as appropriate, the In-Service Inspection requirements for credited Design Features.	Closed	PLN-0105, *Improvement Plan to Upgrade the Quality of Design Features for Pantex*, Revision 1, September 2019
L-08	Identify active safety systems that are not designed to meet single failure criteria and review that vulnerability for options to improve design reliability.	Action cancelled	Action was canceled with NPO concurrence. This action is being tracked under a new PER and is on schedule to be complete by December 31, 2019. The assessment team determined that this path forward is appropriate.