

NNSA Production Office

DNFSB 2019-1 IP BRIEFING

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Overview

- NNSA remains committed to pursuing Performance Excellence in regards to Nuclear Safety at Pantex.
- Significant progress has been made to improve Safety Basis at Pantex, in part due to the actions taken in response to the DNFSB Recommendation 2019-1.
- NNSA, in both collaborative and oversight roles, is working closely with Consolidated Nuclear Security, LLC (CNS) to track and manage execution of all Pantex Safety Basis Improvement actions.
- NNSA and CNS are pursuing additional initiatives to drive towards a sustainable safety basis process while continuing to ensure the protection of the workers, public, and environment.
- NNSA Production Office (NPO) recognizes that an upcoming contract transition will occur and is appropriately managing forward momentum on all of these items.



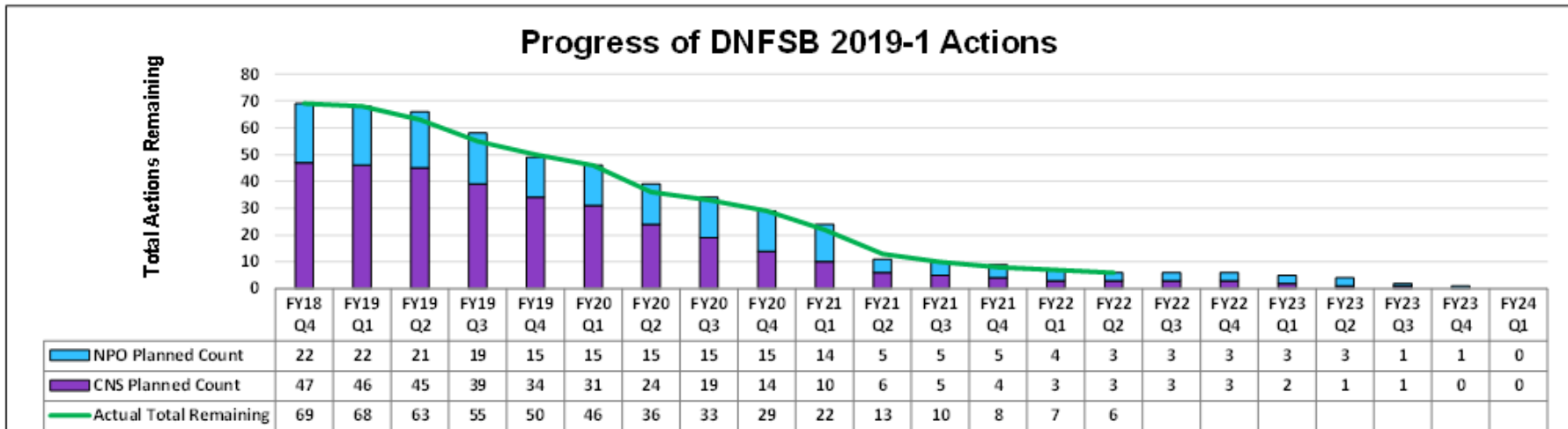
Background

- On February 20, 2019, the Board approved Recommendation 2019-1, *Uncontrolled Hazard Scenarios and 10 CFR 830 Implementation at the Pantex Plant*, to the Secretary of Energy.
- The DNFSB Recommendation 2019-1 Implementation Plan (IP) addresses 5 categories.
 - General Safety Basis Program improvements
 - Extent-of-Condition (EOC) evaluations for unlikely/uncontrolled hazard scenarios
 - Falling Technician controls
 - Special Tooling design and inspection
 - Training for Safety Basis Analysts
- On June 05, 2020, NNSA provided the DNFSB with Revision 1 of the IP for Recommendation 2019-1 to provide long-term improvements to the structure, control, maintenance, and implementation of the Pantex Safety Basis.



IP Status – Closed Actions

- 63 of 69 DNFSB IP actions have been completed by CNS and verified closed by NPO – 7 since the last briefing (Feb. 2021).



- In spite of working through a historic pandemic, NPO and CNS continue to make significant progress in improving the Pantex Safety Basis.
- All DNFSB IP actions associated with 3 of the 5 categories have been completed by CNS and verified closed by NPO.
 - EOC Evaluations for unlikely/uncontrolled hazard scenarios
 - Falling Technician controls
 - Training for Safety Basis Analysts



IP Status – Open Actions

- 6 actions remain open and are continuously being pursued.
- Disposition 6 Legacy Conditions of Approvals (COAs) – 2 IP actions
 - 5 of the 6 legacy COAs have been closed.
 - Physical modifications to Cells 5 and 6 of Building 12-44 must occur prior to closure of last remaining COA.
 - Cell 5 is out-of-service and construction activities are underway.
 - Cell 6 will be taken out of service by September 30, 2022 until the construction activities are completed. At this time, the risk will be eliminated
 - Expected closure date: January 2023 – ON TARGET
- Review Special Tooling In-Service Inspections (ISIs), develop plan and schedule for improvements, and implement – 2 IP actions
 - ISIs have been reviewed.
 - Plan and schedule has been issued and approved by NPO.
 - Implementation is underway.
 - Expected closure date: September 2023 – ON TARGET



IP Status – Open Actions - continued

- Establish expectations for identifying Special Tooling Performance Criteria, issue a plan and schedule to incorporate expectations, and implement – 2 IP actions
 - Performance Criteria expectations have been identified.
 - A plan and schedule have been issued and approved by NPO.
 - Implementation is underway.
 - Expected Closure Date: March 2023 – ON TARGET
- NPO and CNS are committed to resolving and verifying closure of the remainder of the open actions from the IP in a timely and efficient manner.
- NPO is dedicated to ensuring that contract transition does not impact the resolution of the IP or the other important Pantex safety basis initiatives.
- NPO and CNS recognize that there have been many realized benefits from IP related actions.



Realized Benefits from IP

- Significant Improvement Items identified by EOC Evaluations
 - Purpose
 - To identify all instances where credible accident scenarios were lacking credited controls.
 - Status
 - Controls have been identified and implemented for ALL credible accident scenarios, but the permanent documentation still needs to be updated
 - To date, 6 of 16 safety basis packages have been developed and submitted to NPO; of those 6, NPO has approved 4
 - 2 more are in development and on track to submit this Fiscal Year
 - By the end of FY22, 8 of the 16 will have been completed, with 8 remaining (i.e., we will be at the half-way point)
- Significant Reduction of Active Justifications for Continued Operations (JCO)
 - All JCOs are less than a year old.
 - There are only 2 active JCOs currently as compared to the peak of 15 a couple years ago.



Realized Benefits from IP

- Training for Safety Basis Analysts
 - Incorporated DOE National Training Center courses into our training of Safety Basis Analysts and Unreviewed Safety Question (USQ) Evaluators
 - Updated Qualification Cards for Safety Basis Analysts and made improvements to Training Materials
 - Hosted teaming and joint training sessions for NPO and CNS
- Falling Technician Specific Administrative Controls (SACs)
 - Developed and implemented Specific Administrative Controls to prevent Production Technicians from tripping and falling into sensitive weapon components
- Special Tooling Improvements
 - Updated Maintenance Paperwork to include explicit documentation of test and inspection criteria, and recording of results
 - Increase requirements associated with verification of Weld Quality
- NPO and CNS are also pursuing additional safety basis improvement items to create a more sustainable process for the future.



Pantex Safety Basis Redesign, Phase II

- Purpose
 - To reduce complexities associated with the Pantex Safety Basis, simplify its development and maintenance, and improve its execution efficiencies.
- Vision
 - Transition from the current safety basis process to one that is more straightforward, optimizes the resources and time needed to develop and maintain safety basis documents, and ensures that the workers, public, and environment are adequately protected.
- Phase II Approach
 - NNSA will collaboratively develop recommendation plans and execute those plans by Dec. 2024
- Recommendations
 1. Develop New Safety Basis Alternate Methodology
 2. Develop New Federal Review process
 3. Modify Lifecycle Process to improve the early inclusion of Safety in Design
 4. Improve Facility Environment/Tooling to Reduce Hazards
 5. Develop Integrated Software Solution for Safety Basis



Pantex Safety Basis 5-Year Vision

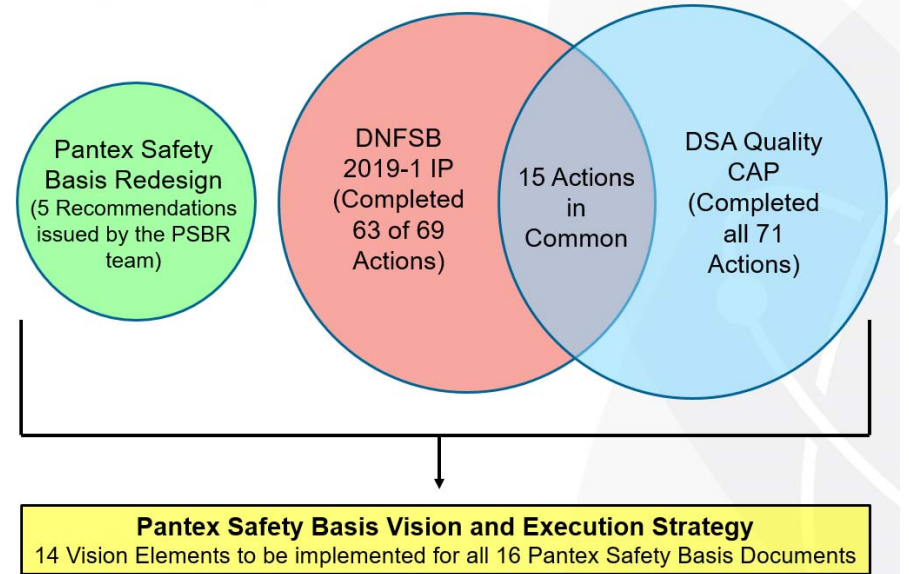
Background

In April 2020, NPO concurred on a Pantex Safety Basis Vision, jointly developed with CNS, which includes revising all 16 Pantex Safety Basis documents within the next few years to make key improvements, including the following:

- Right-sizing the process descriptions and hazards/accident analysis (Chapters 2 and 3)
- Modernizing all safety controls (e.g., SACs and Design Features (DF))
- Aligning Safety Management Programs with DOE Standard 3009-2014 requirements and guidance
- Migrating thematic facility-level events into the Sitewide Safety Analysis Reports (SAR) (e.g., Lightning, Hoisting, etc.)

FY 2021 Accomplishments

- Modernized Safety Management Programs (SMP)
- Right-sized Chapters 2/3
- Incorporated EOC results in 5 Hazard Analysis Reports (HARs)/SARs
- Made targeted improvements to Lightning, Fire Protection, and Severe Weather controls
- Developed actions/schedule for all Legacy Planned Improvements and Conditions of Approval
- Converted all SMP ‘Key Elements’ to SACs
- Reanalyzed radiological consequences of fire scenarios



FY 2022 Priorities and Challenges

- Review and modernize safety controls (SACs, DFs, Limiting Conditions for Operations (LCOs)), to include identifying Performance Criteria for credited DFs and Special Tooling
- Close all 6 Legacy Conditions of Approval
- Improve Testers and Combustible controls
- Implement a SMP identifying and implementing In-service Inspections
- Incorporate EOC results in 3 HARs/SARs
- Develop an ‘Alternate Methodology’ for the Pantex Safety Basis

Conclusion

- Significant improvements have been made to the Pantex Safety Basis during the past few years.
- NNSA appreciates the interactions that have occurred between the Board and the Department related to Recommendation 2019-1.
- Although we are close to completing the actions identified in the 2019-1 Implementation Plan, NNSA is committed to continue the momentum via execution of the Pantex Safety Basis Vision and the Pantex Safety Basis Redesign initiatives as evidenced by making NPO's FY22 Top Ten List.

