

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

**Office of the Technical Director**

**FISCAL YEAR 2018 WORK PLAN**

**September 2017**

**Introduction.** The Office of the Technical Director (OTD) developed the Fiscal Year (FY) 2018 OTD Work Plan based on the Defense Nuclear Facilities Safety Board's (Board) nuclear safety oversight mission. The work plan is organized consistent with the Board's Strategic Plan, Performance Goals, and OTD organizational structure as follows: Nuclear Weapon Programs (NWP); Nuclear Materials Processing and Stabilization (NMPS); Nuclear Programs and Analysis (NPA); Nuclear Facility Design and Infrastructure (NFDI); and Engineering Performance (EP). The FY 2018 OTD Work Plan discusses the oversight approach and high priority work within each of these organizational areas.

**Summary.** OTD conducted comprehensive and strategic oversight planning for FY 2018 resulting in 38 oversight plans. The plans define the strategies for conducting nuclear safety oversight of Department of Energy (DOE) sites, projects, and safety management programs. The plans also include internal OTD initiatives to improve the execution of the Board's mission. Based on the oversight plans, the technical staff identified approximately 280 work activities for FY 2018 requiring approximately 31 Full Time Equivalents (FTE)<sup>1</sup>. The OTD leadership team reviewed and adjusted the work plan until the work focus was consistent with the Board's priorities and the resource loads were appropriate for the available technical staff. The FY 2018 work plan loading provides flexibility to address emergent work activities, including Board initiatives, operational safety issues, and changes in DOE defense nuclear activities.

**Work Plan Improvements.** Each year, OTD has improved the planning tools and processes to help drive the best oversight strategies and execution of the Board's highest priority work. For FY 2018, OTD implemented improvements in the following areas: prioritization; review plan development; and cross-cutting issue identification<sup>2</sup>. For staff resources, OTD revised the planning system to allow tailoring individual staff members' loading for reviews. The other work plan improvements are discussed below.

**Prioritization.** OTD issued a standing order in June 2017 that included new guidance on work priorities for the FY 2018 work plan. The standing order defines the following work activities as non-discretionary:

- **Actions directed by the Board**
  - Approved Requests for Board Action
  - Board commitments based on response to Inspector General reports
- **Board activities**
  - Site visits
  - Public hearings
  - Reports to Congress (e.g., Annual Report)

<sup>1</sup> An FTE is equal to one OTD staff member's work for one year (i.e., 52 weeks \* 40 hours/week = 2080 hours). The work plan does not account for all staff activities (e.g., leave and training). Therefore, the OTD staff work loading goal is 0.5 +/- 0.1 FTE during a year.

<sup>2</sup> FY 2018 improvements include lessons learned from the technical staff scorecard project.

- **Activities consistent with Board policy and procedures**
  - Design and construction reviews
  - Directives reviews
  - Review of Implementation Plan deliverables
  - Annual correspondence on open Recommendations
  
- **Actions needed to meet Board performance goals**

The technical staff prioritizes other OTD work based on the type of activity (i.e., safety basis review, safety management program review, or directives review) and a safeguards score. The safeguards score includes criteria associated with people, facility and equipment, operations and design, and safety basis. The process results in a priority score of 1 to 6. The technical staff may adjust the priority when warranted (e.g., in response to an operational event or based on the Board's interest).

**Constraints.** OTD constrained the work plan for FY 2018 as follows:

- **Technical Staff Resources**—based on the total number and capabilities of the technical staff. Resident inspector and supervisory work is not included in the work plan.
  
- **DOE Plans**—based on current DOE plans for work activities in FY 2018.

**Uncertainties.** Uncertainties associated with the scope of work in the OTD FY 2018 work plan are largely tied to potential schedule changes on the part of DOE and the National Nuclear Security Administration (NNSA). Historically, such changes tend to result in delays, which may delay oversight activities throughout the year. Some review activities are dependent on DOE and NNSA producing specific documents and achieving key milestones prior to review. Emergent DOE and NNSA activities also can drive the need to perform additional oversight activities that impact the work plan. OTD will adjust schedules and tasks to reflect the Board's priorities and maintain the quality of each review.

Internal and external assessments of work processes and activities, including Inspector General's audits, could affect the OTD FY 2018 work plan. OTD resources are needed to support these assessments and develop corrective actions. Staff attrition and new staff hires also impact the technical staff's capability and capacity. New staff members typically do not have the same level of technical and DOE oversight experience as the staff members that depart. New hires also require training that limits their work and impacts staff members involved in their training. Additionally, OTD development and leadership training for succession planning may impact resources available for work planning activities.

**Review Plan Development and Cross-Cutting Issues.** OTD conducted a series of oversight planning meetings in key review areas (e.g., fire protection, electrical systems, ventilation, quality assurance, criticality, seismic/geotechnical). These meetings provided a forum to discuss potential reviews across the defense nuclear complex, the key aspects of each review, and potential cross-cutting areas. The meetings also encouraged cognizant engineers to discuss the priority of each review with staff experts and helped ensure consistent

prioritization in disciplines where technical staff resources are limited. During the meetings and subsequent discussions with the OTD leadership team, the technical staff identified the following areas where cross-cutting reviews will be completed in FY 2018: safety control implementation; readiness review process; and maintenance/aging infrastructure management.

**Design and Construction Oversight.** In July 2017, the Board approved Policy Statement-6, *Policy Statement on Oversight of Design and Construction of Defense Nuclear Facilities*. OTD adjusted the work plan consistent with the policy to include appropriate design and construction reviews at specified and logical points in the process. The work plan includes technical staff work to support formal reports to the Board for the following design and construction phases: conceptual design, final design, construction, and commissioning.

**FY 2017 Metrics.** OTD personnel evaluated metrics from the FY 2017 work plan to improve the work planning process and results. The primary conclusions from this review are noted below.

- All staff assigned to a review were loaded equally in the FY 2017 work plan due to a limitation in the work planning tools. This issue inflated review loads and the individual staff loading.
- The technical staff identified potential reviews in FY 2017 without constraints on staff capability and capacity. This approach resulted in significantly more potential work activities than resources.
- OTD added approximately 25percent of the activities in the FY 2017 work plan as a response to emergent information during the year.
- OTD generally underestimated the durations of review activities for site reviews (NWP, NMPS, and NFDI), and generally overestimated the duration of reviews for programmatic and internal activities (NPA and Performance Assurance).

These results were factored into the improvements in the FY 2018 work plan.

**Results.** The proposed FY 2018 OTD Work Plan identifies 69 non-discretionary activities (9.0 FTE), seven priority 1 reviews (0.8 FTE), and 33 priority 2 reviews (5.2 FTE)<sup>1</sup>. Figures 1 through 4 show the proposed resource allocations by focus area, review priority, project, and versus previous years. Appendix A provides a complete list of projects referenced in Figure 3. Appendix C shows the schedule for non-discretionary, priority 1, and priority 2 reviews. The next 5 sections provide a summary of activities within each of the OTD focus areas (NWP, NMPS, NPA, NFDI, and EP).

In addition to the non-discretionary and high priority work specifically identified in this report, OTD plans to perform lower priority reviews at defense nuclear facilities. These reviews are an important part of the Board's oversight mission to evaluate nuclear safety at

<sup>1</sup> Tables 1-5 include all non-discretionary, priority 1, and priority 2 activities; however, one table line item may represent multiple staff activities (e.g. Board Visit Support in Table 1 includes seven activities).

facilities and in focus areas that are reviewed less often. During these reviews, OTD collects important data to analyze trends and identify emerging issues.

While this plan represents the best estimate for work in FY 2018, the actual work performed will depend upon DOE’s activities, staff resources, and the Board’s evolving priorities. On a routine basis, OTD reviews and adjusts the work schedule in light of nuclear safety issues, Board direction, completed staff work activities, new information, and available staff resources. OTD will update the Board periodically on the status of these high priority reviews.

Figure 1 - FTE by Focus Area and Priority

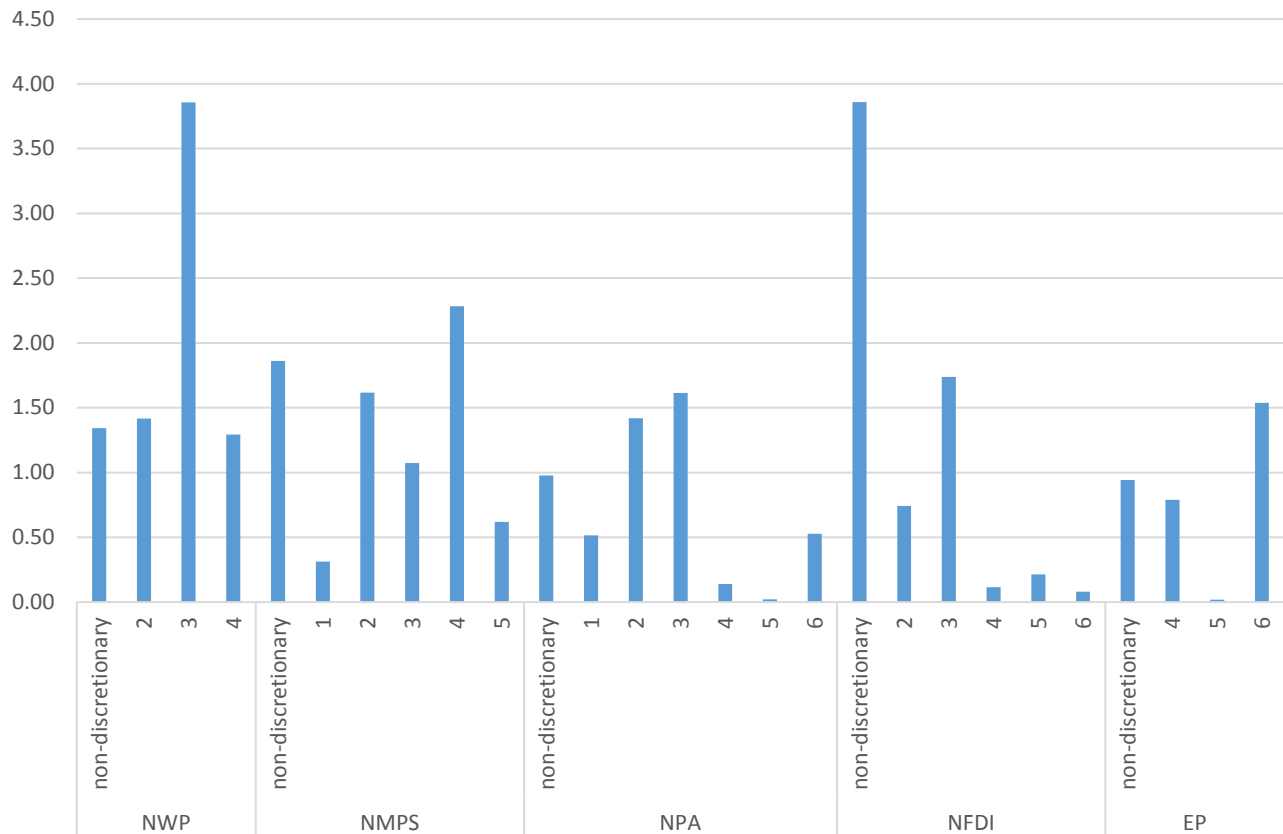


Figure 2 - FTE by Priority

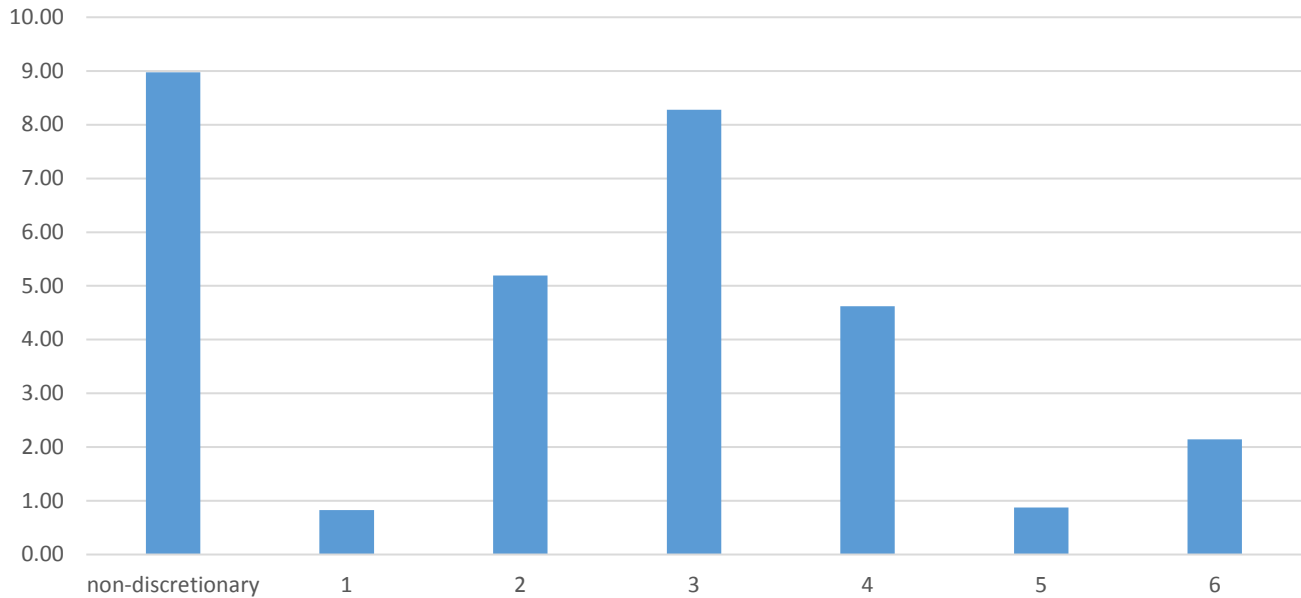
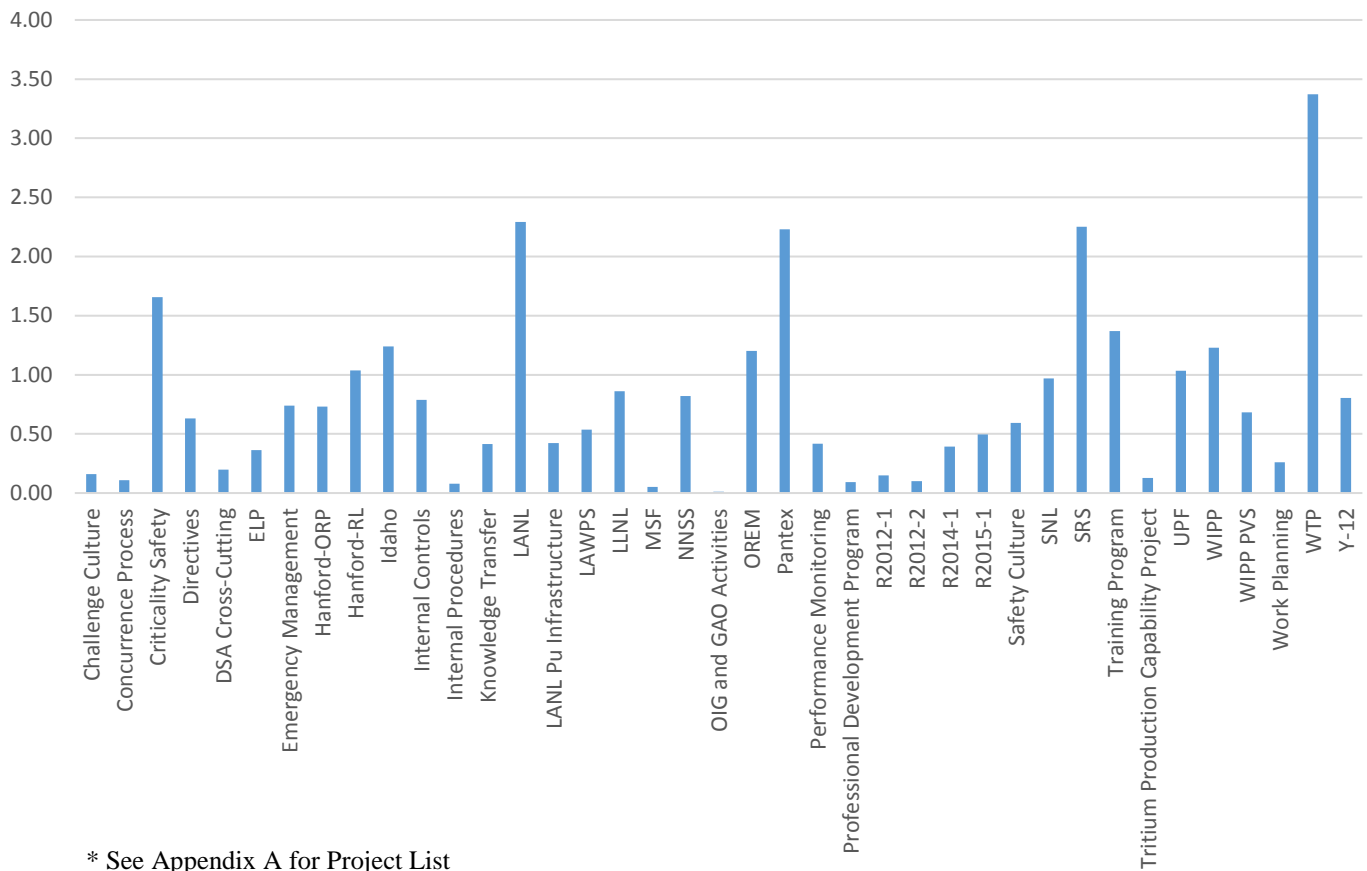
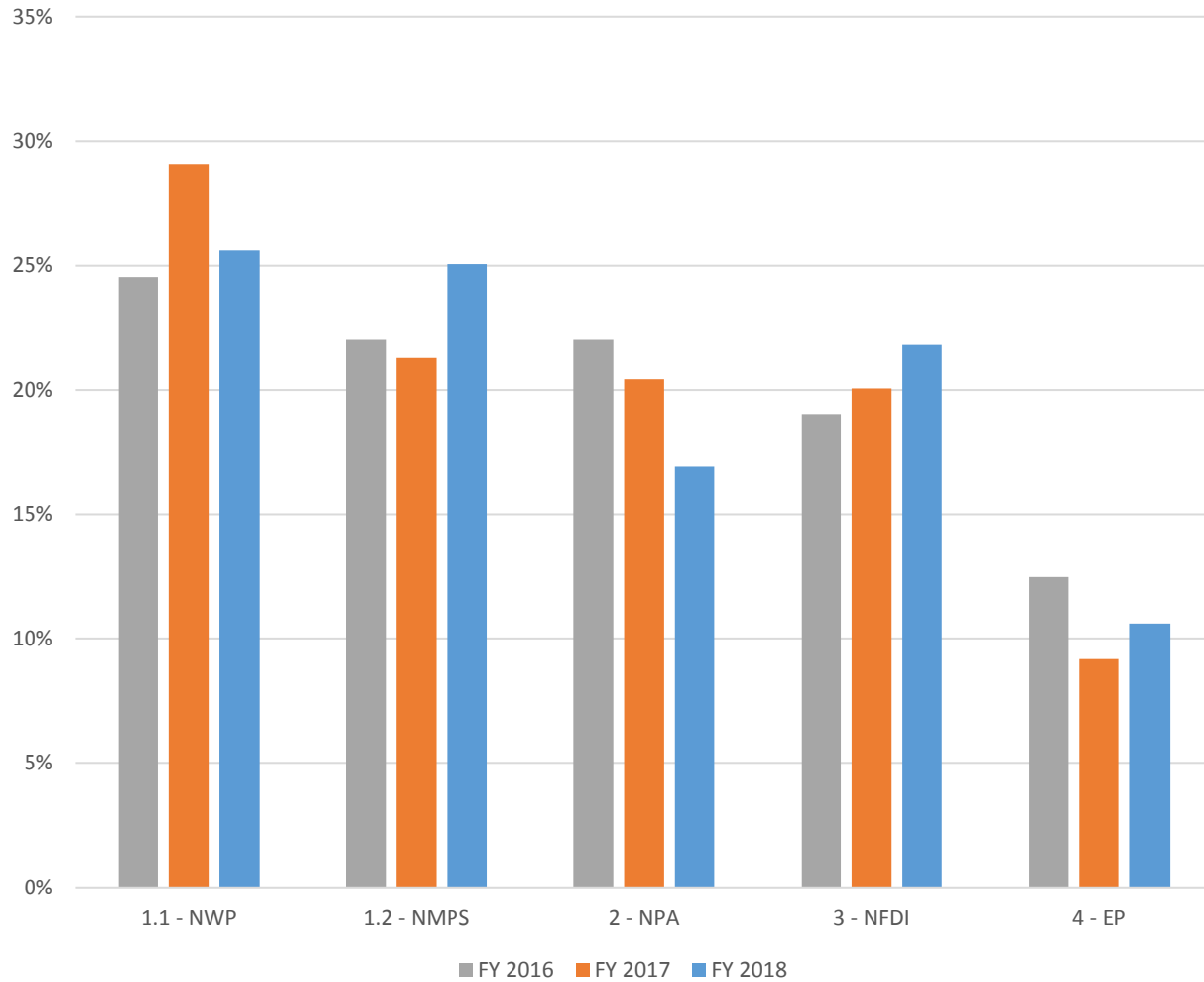


Figure 3—FTE by Project\*



\* See Appendix A for Project List

Figure 4 - OTD Work by Group



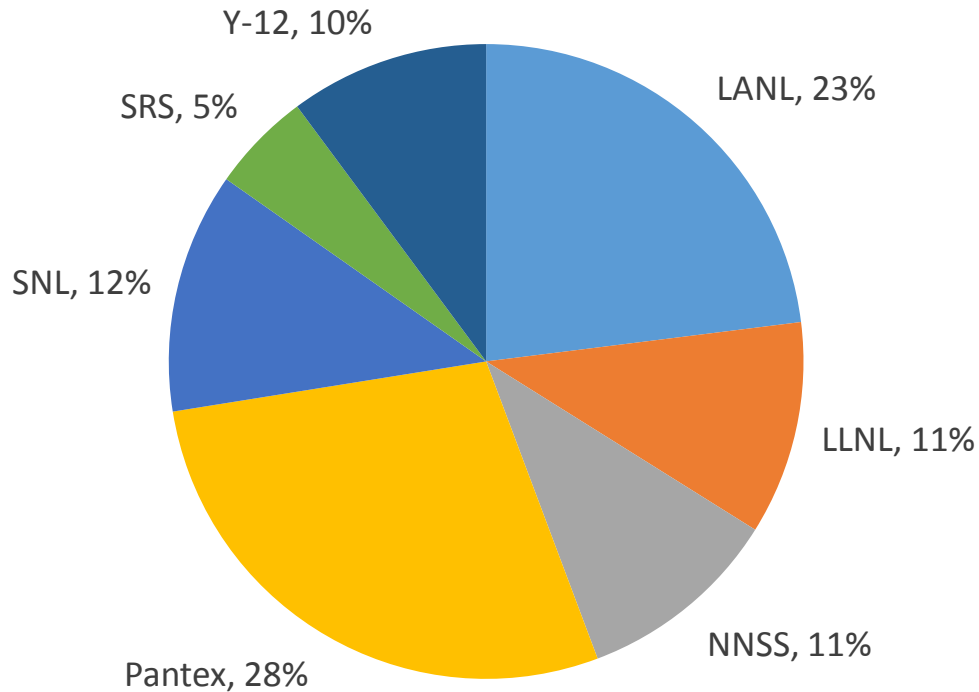
**Safety of Operations—Nuclear Weapon Programs.**

*Overview*—OTD’s NWP group performs independent and timely oversight of the safety of operations involving maintenance of the nuclear weapons stockpile, and in weapons-related research, development, and testing.

In FY 2018, NWP will conduct effective safety oversight through formal, well-planned reviews at NNSA defense nuclear facilities. In the course of these activities, NWP will assist the Board in notifying NNSA of potential safety issues at NNSA defense nuclear facilities and in nuclear explosive operations, while maintaining a near-continuous oversight presence at Los Alamos National Laboratory (LANL), the Y-12 National Security Complex (Y-12), and the Pantex Plant. For LANL activities, OTD developed a single, integrated oversight plan that includes both NNSA and DOE Environmental Management (EM) activities.

The NWP FY 2018 work plan represents approximately 26 percent of the resources available across the technical staff. This scope is intended to cover the entire range of facilities at the seven sites where NNSA conducts defense nuclear activities. Figure 5 shows the distribution of work by major project area in the NWP work plan.

Figure 5 - NWP Projects



*Priority Activities*—NWP non-discretionary and priority 2 work activities are listed below. The NWP group did not identify any priority 1 work. Appendix C, Figure C-1 shows a Gantt chart of these activities, with the exception of Board Visit Support and Site Cognizance.



**Table 1: NWP Non-Discretionary and Priority 2 Work Activities.**

Non-Discretionary
<b>Board Visit Support.</b> Support Board site visits at multiple sites.
<b>Site Cognizance.</b> Conduct cognizant engineer duties (e.g., site cognizance visits).
Priority 2
<b>Pantex - B61 Collaborative Authorization for the Safety-basis Total Lifecycle Environment (CASTLE) and Assembly NES Study.</b> Staff review team will evaluate the proposed B61 operations with the NES study, including observation of demonstrations and deliberations.
<b>Pantex - W88 NES Study.</b> Staff team will evaluate the proposed W88 operations with the NES study, including observation of demonstrations and deliberations.
<b>LANL - Fire Suppression System Equipment Qualification (Seismic) and Upgrade Review Follow Up.</b> Staff team will review actions associated with the Board letter dated May 12, 2016, and the Potential Inadequacy in the Safety Analysis (PISA) associated with this issue.
<b>LANL - PF-4 Documented Safety Analysis (DSA) Review Continuation.</b> Staff team will complete the review of the PF-4 safety basis (i.e., the DSA, Technical Safety Requirements, and any active Evaluations of the Safety of the Situation / Justifications for Continued Operations and Addenda).
<b>Pantex - Fire Protection Program Review.</b> Staff team will evaluate the adequacy of the Pantex fire protection program.
<b>Pantex - In-Progress Review.</b> Staff team will evaluate the adequacy of controls and safety of nuclear explosive operations associated with a specific weapon program (e.g., W76 or W88).
<b>Pantex – Quality Assurance Follow-up Review.</b> Staff team will follow-up on Pantex’s quality assurance program and implementation.
<b>Pantex – Weapon Complex Falling Man Committee (WCFMC) Model Implementation Review.</b> Staff team will evaluate the progress of the WCFMC and review the WCFMC falling man model, when developed. In addition, the staff team will assess Pantex’s implementation of needed changes to the falling man analysis to support hazard analysis reports for nuclear explosive operations.
<b>Savannah River Site (SRS) - Tritium Facilities/Tritium Extraction Facility (TEF) Combined DSA Review.</b> Staff team will evaluate the Tritium Facilities and TEF safety basis documents. Notably, SRS has updated the dispersion parameters, which will impact accident analysis calculations (e.g., offsite dose consequences).
<b>Y-12 - Aging Asset Management Program.</b> Staff team will review the revision to the aging management program for adequacy and consistency with DOE requirements and guidance.

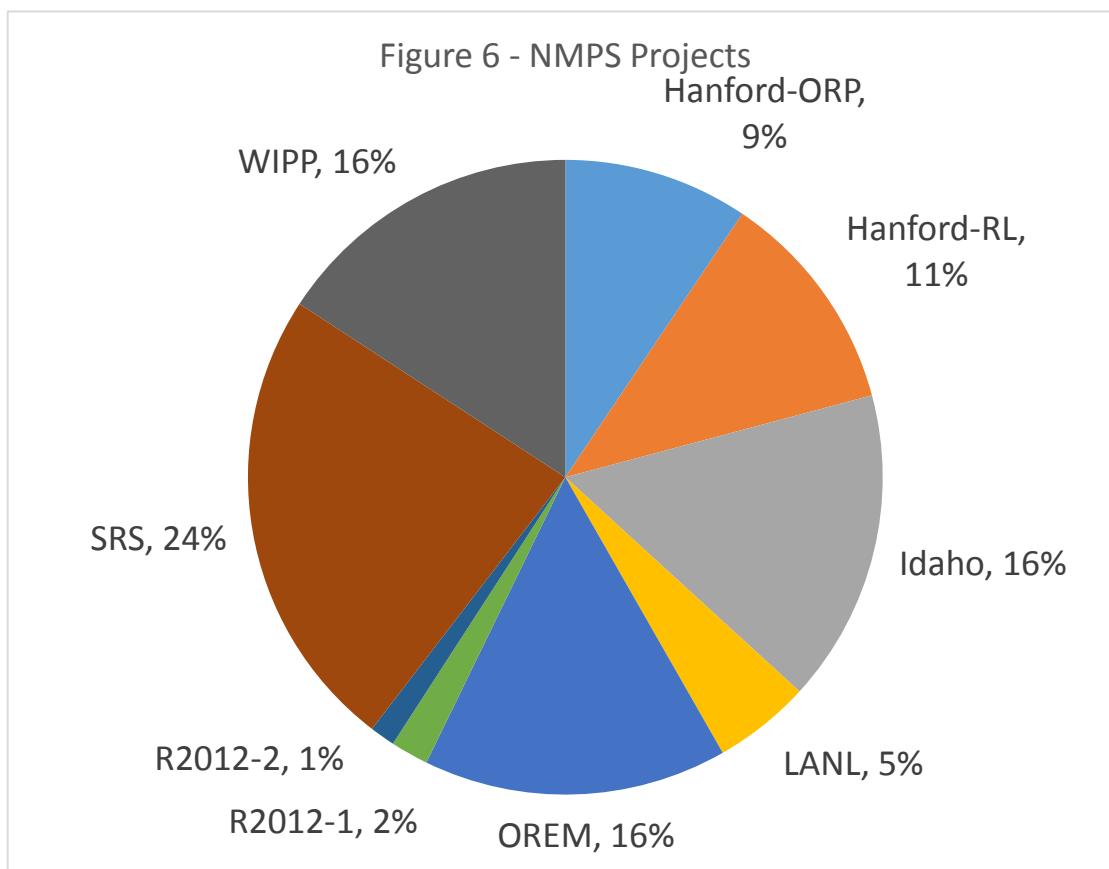
**Safety of Operations—Nuclear Materials Processing and Stabilization.**

*Overview*—The Board’s Nuclear Materials Processing and Stabilization Group performs independent and timely oversight of the safety of operations in cleanup of legacy defense nuclear wastes and facilities.

NMPS will conduct effective safety oversight through formal, well-planned safety reviews at DOE defense nuclear facilities. NMPS safety oversight activities will focus on ensuring that the health and safety of the public are adequately protected as DOE disposes of excess radioactive materials, cleans up surplus defense nuclear facilities, and begins operation of new EM facilities. In the course of these activities, NMPS will assist the Board in notifying

DOE of potential safety issues at DOE defense nuclear facilities, while maintaining a near-continuous oversight presence at SRS and the Hanford Site.

The NMPS FY 2018 work plan represents approximately 25 percent of the resources available across the technical staff. The NMPS portfolio of facilities consists of more than 70 nuclear facilities located at five EM sites. The work plan is focused on facility operations, in particular safety basis adequacy and implementation, operations safety, and processes and programs relied upon for safety. Figure 6 shows the distribution of effort in the NMPS work plan.



*Priority Activities*—Review of the adequacy and implementation of DSAs for EM facilities continues to be one of NMPS’s key priorities. This is a critical first step in implementing a systematic approach to EM facility safety. Selection criteria for reviews include: potential dose consequence to workers and the public, time since the previous DSA review, and a balanced approach across the various EM sites.

NMPS non-discretionary, priority 1, and priority 2 work activities are below. Note that NMPS personnel identified two priority 1 work activities at SRS. Appendix C, Figure C-2, shows a Gantt chart of NMPS’s non-discretionary, priority 1, and priority 2 work activities, with the exception of Board Visit Support and Site Cognizance

**Table 2: NMPS Non-Discretionary and Priorities 1 and 2 Activities**

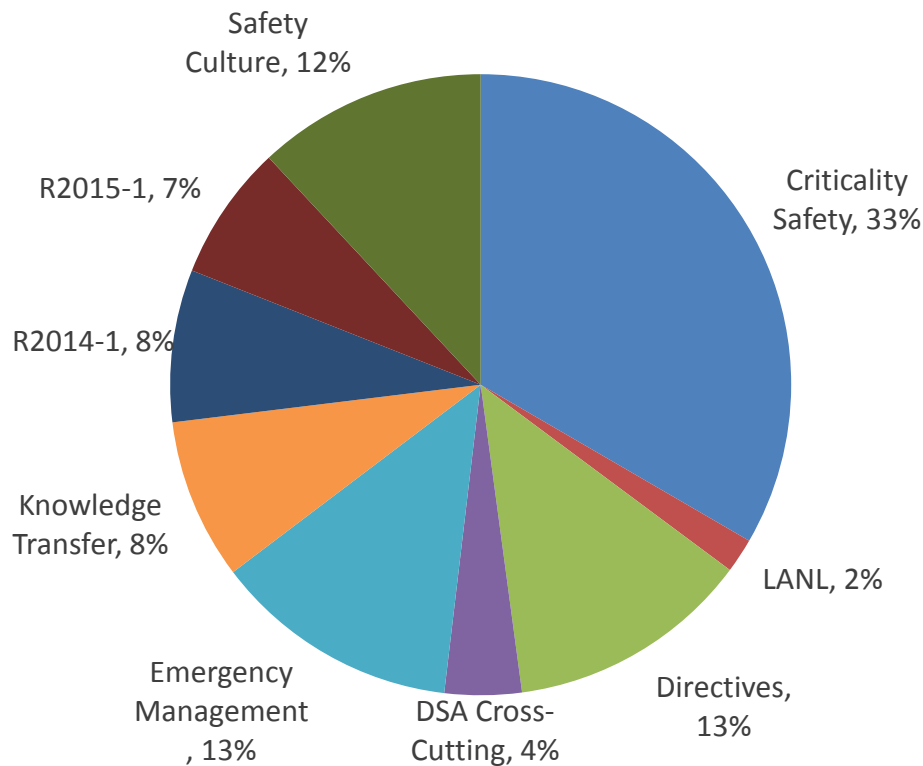
Non-Discretionary
<b>Board Visit Support.</b> Support Board site visits at multiple sites.
<b>Site Cognizance.</b> Conduct cognizant engineer duties (e.g., site cognizance visits).
<b>Oak Ridge Environmental Management (OREM) - Building 2026 Preliminary DSA Review.</b> Staff team will review the Conceptual Design Report, transition plan to the Office of Environmental Management, and safety basis updates for Building 2026.
<b>Savannah River Site (SRS) - Review Recommendation 2012-1.</b> Staff team will review DOE's progress in completing its Implementation Plan and the impact of the actions taken to date to address the safety issues specified in the Board's Recommendation. The staff team shall produce an info paper including the team's assessment of the safety impact of those actions on the public and co-located workers and any staff recommendations for additional Board action.
<b>Hanford Office of River Protection (ORP) - Review Recommendation 2012-2 FY18 Deliverables.</b> Staff team will review DOE's progress in completing its Implementation Plan and the impact of the actions taken to date to address the safety issues specified in the Board's Recommendation. The staff team shall produce an info paper including the team's assessment of the safety impact of those actions on the public and co-located workers and any staff recommendations for additional Board action.
Priority 1
<b>SRS - H-Canyon Exhaust Tunnel Integrity.</b> Staff team will evaluate the adequacy of DOE actions taken to address the safety issues identified in the Board's January 16, 2015, letter concerning the integrity of the safety-class H-Canyon exhaust tunnel.
<b>SRS - Fire Protection Program Review.</b> Staff team will review the fire hazard analyses, fire protection program requirements, and fire protection system upgrades at Savannah River National Laboratory and Tritium Facilities (233-H).
Priority 2
<b>SRS – Defense Waste Processing Facility (DWPF) Final Safety Analysis Report Revision (Glycolic Acid).</b> Staff team will review the safety basis changes to incorporate an alternate reductant into the DWPF flowsheet, resolve PISA on organic contribution to hydrogen generation, and resolve previously identified issues communicated to DOE in a Board letter.
<b>SRS - PISA/Unreviewed Safety Question (USQ) Review.</b> Staff team will evaluate SRS's site-wide USQ process, including a focus on the PISA entry condition.
<b>SRS - Safety System Evaluation.</b> Staff team will evaluate the design and performance of select SRS safety systems, identify performance trends indicating signs of degradation and/or inadequate maintenance or operations; and identify areas of safety system design and performance that warrant more in-depth staff review.
<b>Hanford Richland Operations Office (RL) – Sludge Treatment Project Operational Readiness Review.</b> Staff team will review the procedures, radiological control, maintenance, and emergency response.
<b>SRS - Solid Waste Management Facility DSA Review - Part 2.</b> Staff team will complete a safety basis review started in FY 2017.
<b>OREM – Transuranic Waste Processing Center Solid Waste Storage Area 5 Phase 1 Processing (Oxidation).</b> Staff team will review the equipment, hazard controls, safety basis, and readiness for process operations.

**Safety Standards—Nuclear Programs and Analysis.**

*Overview*—The Nuclear Programs and Analysis Group performs independent and timely oversight of the development, implementation, and maintenance of DOE regulations, requirements, and guidance for providing adequate protection of public health and safety at defense nuclear facilities, and the establishment and implementation of safety programs at defense nuclear facilities. NPA represents about 16 percent of the resource allocation in this work plan.

The NPA group’s efforts to support these objectives at individual defense nuclear facilities are primarily encompassed in the oversight plans developed by NWP and NMPS. However, NPA is responsible for programmatic review efforts addressing topics such as nuclear criticality safety, quality assurance, and emergency management across the DOE defense nuclear complex. These review efforts address the Board’s overarching mandate to ensure adequate protection of public health and safety. In FY 2018, NPA plans to evaluate two areas for potential cross-cutting issues: safety control implementation and readiness review process. These reviews are priority 3 activities and are not listed in Table 3. Figure 7 depicts the distribution of effort in the NPA work plan.

Figure 7 - NPA Projects



*Priority Activities*—NPA non-discretionary, priority 1, and priority 2 work activities are listed below. Appendix C, Figure C-3 shows a Gantt chart for these NPA work activities.

**Table 3: NPA Non-Discretionary and Priorities 1 and 2 Activities**

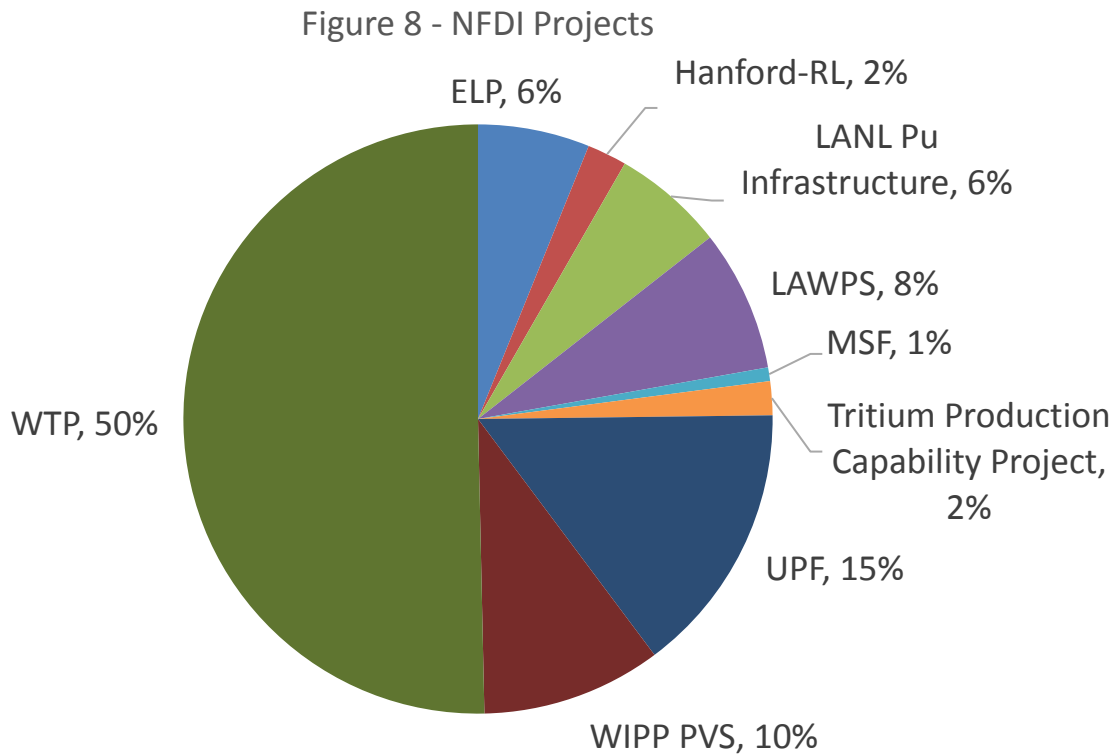
<b>Non-Discretionary</b>
<b>R2011-1 Analysis.</b> Staff team will review and analyze information and provide the Board a recommended path forward.
<b>R2011-1 Proposed Board Correspondence.</b> Staff team will develop and recommend correspondence, as appropriate.
<b>R2014-1 Proposed Board Correspondence.</b> Staff team will develop and recommend correspondence, as appropriate.
<b>R2014-1 Annual update.</b> Staff team will evaluate DOE actions.
<b>R2014-1 Review.</b> Staff team will review the Criteria and Review Approach Document.
<b>R2015-1 Proposed Board Correspondence.</b> Staff team will develop and recommend correspondence, as appropriate.
<b>R2015-1 Verification and Validation.</b> Staff team will review the effectiveness of actions taken to address the Recommendation.
<b>Board Task.</b> Details are controlled unclassified information.
<b>Major Defense Nuclear Facilities - Review of Emergency Preparedness and Response and Assurance.</b> The Review should rely on the Board’s staff work conducted over the past three years in support of now closed Recommendation 2014-1, Emergency Preparedness and Response. The Review should be focused on actual field execution of the applicable core requirements specified in DOE Order 151.1 D, minus LANL (recent formal communications to DOE) and Pantex (Open Recommendation in place) facilities. If the staff believes additional facility reviews are necessary to complete this task then those reviews should be prioritized through the staff’s normal work planning processes. Finally, the staff review should also include a section identifying the lesson’s learned for the DNFSB regarding its execution and oversight of Recommendation 2014-1.
<b>Priority 1</b>
<b>R2011-1 Progress Review.</b> Staff team will evaluate DOE actions on the Recommendation.
<b>R2014-1 Progress Review.</b> Staff team will evaluate DOE actions on the Recommendation.
<b>R2015-1 Progress Review.</b> Staff team will evaluate DOE actions on the Recommendation.
<b>Priority 2</b>
<b>Criticality Safety - Annual Nuclear Criticality Safety Review of DOE Complex.</b> Staff team will perform an analysis across the DOE complex to determine if any common concerns exist.
<b>Criticality Safety – Nuclear Criticality Accident Alarm System Condition Assessment.</b> Staff team will perform an alarm system condition assessment over the enduring DOE complex.
<b>Criticality Safety - SRS Nuclear Criticality Safety Program Review.</b> Staff team will review DOE oversight and implementation of the criticality safety program at SRS.
<b>Criticality Safety - Y-12 Nuclear Criticality Safety Program Review and Walkdown.</b> Staff team will evaluate the Y-12 Nuclear Criticality Safety Program including aging infrastructure, alarm system replacement, and improperly vetted inputs and assumptions in legacy criticality safety calculations.
<b>Emergency Preparedness and Response Exercise at Y-12.</b> Staff team will observe and evaluate DOE and contractor conduct of the annual exercise.
<b>LANL - Transportation Safety Document Review.</b> Staff team will review LANL’s onsite transportation safety document and supporting documents including hazards and accident selection, accident analysis, controls selection and adequacy, and Technical Safety Requirements.

**Safety in Design—Nuclear Facility Design and Infrastructure.**

*Board Direction*—The staff shall limit total work on WTP so as not to exceed 2.0 FTE, a reduction from approximately 3.4 FTE in the plan submitted to the Board (see Figure 3 on page6). In executing the 2.0 FTE, the staff shall prioritize activities required by Policy Statement 6. If further prioritization is required, the staff shall next prioritize activities according to when the specific facility is expected to begin operations. For example, activities related to LAW should be prioritized over those related to HLW. The staff shall notify the Board of the activities turned off as a result of this direction.

*Overview*—The Board’s Nuclear Facility Design and Infrastructure Group (NFDI) performs independent and timely nuclear safety oversight focused on the design and construction of defense nuclear facilities and major modifications to existing facilities. Work in this mission area represents approximately 22 percent of the resources in this work plan.

NFDI’s planned oversight activities support the Board’s Policy Statement 6, *Policy Statement on Oversight of Design and Construction of Defense Nuclear Facilities*. PS-6 requires staff to “execute independent oversight by performing reviews with defined scope and durations at specified and logical points in the process and document the review results in four formal reports to the Board.” Thus, the reviews that support these four formal reports are considered non-discretionary reviews for NFDI. Figure 8 depicts the distribution of effort in the NFDI work plan.



*Priority Activities*—NFDI non-discretionary and priority 2 work activities are listed below. NFDI personnel did not identify any priority 1 work. Appendix C, Figure C-4 shows a Gantt chart for these work activities, with the exception of Project Cognizance.

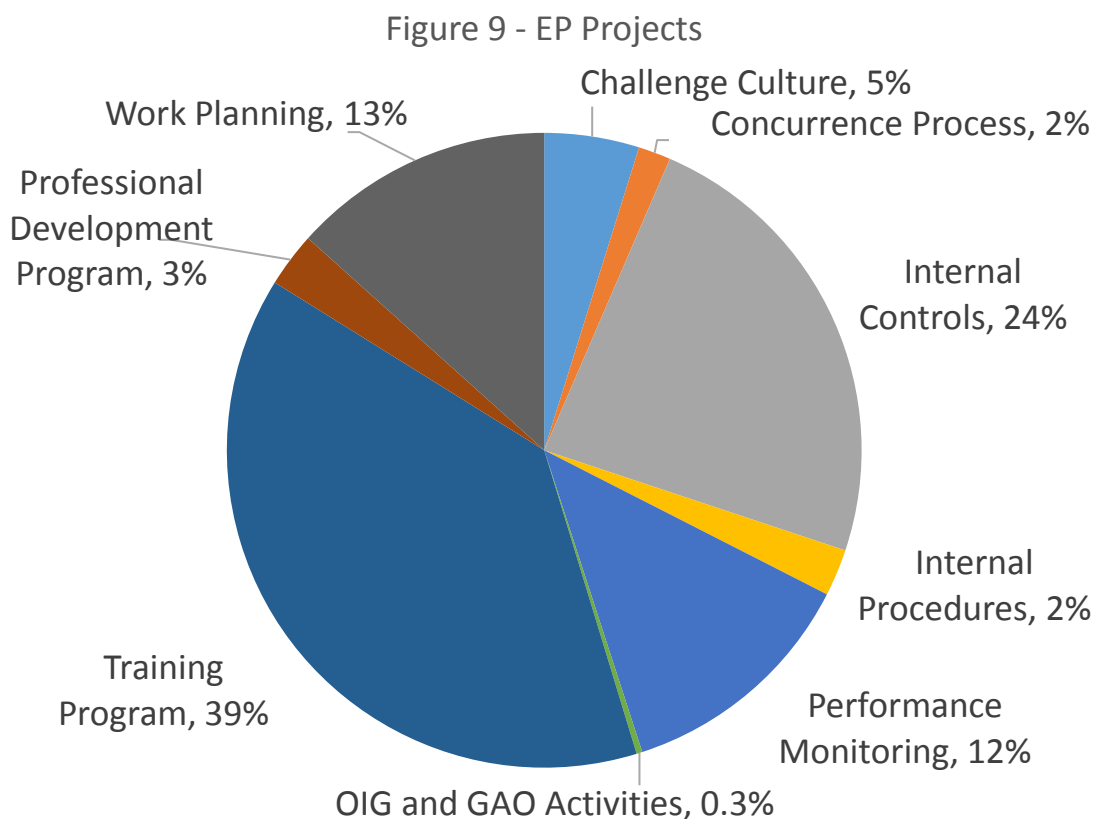
**Table 4: NFDI Non-Discretionary and Priorities 2 Activities**

Non-Discretionary
<b>Project Cognizance.</b> Conduct cognizant engineer duties.
<b>Extended Life Program (ELP) - Electrorefining Preliminary Documented Safety Analysis.</b> Staff team will review project safety documents.
<b>Hanford-RL – Waste Encapsulation and Storage Facility Capsule Storage System Conceptual Design.</b> Staff team will review the Critical Decision-1 milestone safety and design documents.
<b>Low Activity Waste Pretreatment System - Preliminary Documented Safety Analysis.</b> Staff team will review project safety documents.
<b>Tritium - Safety Design Strategy and Conceptual Safety Design Report.</b> Staff team will review the project safety strategy and conceptual design.
<b>Uranium Processing Facility (UPF) - Equipment Procurement.</b> Staff will evaluate the procurement process for safety significant and defense-in-depth controls.
<b>UPF - Preliminary Documented Safety Analysis.</b> Staff team will evaluate the project’s initial development of the facility’s Documented Safety Analysis.
<b>UPF - Construction Quality Assurance.</b> Staff team will review construction related activities will include the review of procedures, document and implementation of defense in depth, and safety significant controls for the Uranium Processing Facility.
<b>WIPP – Permanent Ventilation System (PVS) Quality Assurance Review.</b> Staff team will review construction quality assurance.
<b>WIPP - PVS Safety Significant Instrumentation.</b> Staff team will evaluate the reliability of the air monitoring system and pressure interlocks to meet the safety functional requirements of the PVS system.
<b>WTP - Erosion-Corrosion T5 Review Plan.</b> Staff team will review the adequacy of DOE’s resolution of Erosion/Corrosion Wear Allowances, Waste Treatment and Immobilization Plant, Board Letter and staff Issue Paper sent to DOE on January 20, 2012, as laid out in the T5 Erosion/Corrosion Design Completion effort.
<b>WTP – High Level Waste (HLW) Preliminary DSA.</b> Staff team will review the HLW Preliminary DSA update and supporting document such as the process hazard analysis.
<b>WTP – Low Activity Waste Preliminary DSA.</b> Staff team will review project safety documents.
Priority 2
<b>ELP - Complex-Wide Aging Management Program Review.</b> Staff team will compare the Y-12 Aging Asset Management Program and Extended Life Program with other sites’ similar programs.
<b>PF-4 - Nonlinear Dynamic Analysis.</b> Staff team will review the nonlinear analysis plans and implementation.
<b>WTP - Ashfall – National Oceanic and Atmospheric Administration Ash Resuspension Modeling.</b> Staff team will review the research team’s final report and findings.
<b>WTP - Ashfall – United States Geological Survey Ash Transport Modeling.</b> Staff team will review the research team’s final report and findings.
<b>WTP - Quality Assurance: Storage of Safety systems Follow-up.</b> Staff team will perform a follow-up review on storage conditions.



**Excellence in Management and Communication with Stakeholders—Engineering Performance.**

*Overview*—Work plan activities in the Engineering Performance (EP) mission area focus on elements of the Board’s fourth Strategic Goal, *Achieve Excellence in Management and Communication with Stakeholders*, associated with OTD. This includes the Board’s Strategic Objectives to improve management controls to achieve the Board’s mission efficiently and effectively, and to improve and sustain effective, transparent two-way communications between the Board and its stakeholders on safety issues in DOE’s defense nuclear complex and on the Board’s operations. Figure 9 shows the FY 2018 distribution of planned OTD work for this mission area. This mission area represents about 11 percent of the technical staff resource allocation.



*Priority Activities*—The EP non-discretionary work activities are listed below. EP personnel did not identify any priority 1 or priority 2 work. Appendix C, Figure C-5 shows a Gantt chart for these work activities.



**Table 5: EP Non-Discretionary Work Activities**

Non-Discretionary
<b>Challenge Culture Implementation and Quarterly Reviews.</b> Staff team will pursue actions to implement a robust challenge culture for the technical staff including quarterly reviews.
<b>Longstanding IACTS Review.</b> Staff team will review Board safety issues that were identified more than two years ago.
<b>Performance - Annual Performance Plan and Reports.</b> Staff team will review and report on performance goals.
<b>Support OIG Audit Implementation of Its Governing Legislation.</b> Staff team will support OIG audits.
<b>Training - Advanced Level Resident Inspector.</b> Staff team will develop training for resident inspectors.
<b>Training - Basic Level.</b> Staff team will develop training for conducting nuclear safety oversight activities.
<b>Training Guide – Nuclear Criticality Safety.</b> Staff team will develop a training guide for nuclear criticality safety oversight.
<b>Work Plan - Board Briefs.</b> Staff team will update the Board on work plan progress.
<b>Work Plan - FY 19 Planning and Metrics.</b> Staff team will evaluate work plan results and metrics to identify potential improvements for FY 2019.
<b>Work Plan - Update/Upgrades.</b> Staff team will evaluate options to improve the work planning process and tools.

**Appendix A. Project List**

<b>Project</b>	<b>Full Name</b>
Challenge Culture	Challenge Culture
Concurrence Process	Concurrence Process
Criticality Safety	Nuclear Criticality Safety
Directives	Directives
DSA Cross-Cutting	Documented Safety Analysis Cross-Cutting
ELP	Extended Life Program (Y-12)
Emergency Management	Emergency Management
Hanford-ORP	Hanford Site - Office of River Protection
Hanford-RL	Hanford Site - Richland Operations Office
Idaho	Idaho National Laboratory
Internal Controls	Internal Controls
Internal Procedures	Internal Procedures
Knowledge Transfer	Knowledge Transfer
LANL	Los Alamos National Laboratory
LANL Pu Infrastructure	LANL Plutonium Infrastructure
LAWPS	Low Activity Waste Pretreatment System (Hanford)
LLNL	Lawrence Livermore National Laboratory
MSF	Material Staging Facility (Pantex)
NNSS	Nevada National Security Site
OIG and GAO Activities	Office of Inspector General and Government Accountability Office Activities
OREM	Oak Ridge Environmental Management
Pantex	Pantex Plant
Performance Monitoring	Performance Monitoring
Professional Development Program	Professional Development Program
R2012-1	Board Recommendation 2012-1 (SRS)
R2012-2	Board Recommendation 2012-2 (Hanford)
R2014-1	Board Recommendation 2014-1
R2015-1	Board Recommendation 2015-1 (Pantex)
Safety Culture	Safety Culture
SNL	Sandia National Laboratories
SRS	Savannah River Site
Training Program	Training Program
Tritium Production Capability Project	Tritium Production Capability Project
UPF	Uranium Processing Facility (Y-12)
WIPP	Waste Isolation Pilot Plant
WIPP PVS	WIPP Permanent Ventilation System
Work Planning	Work Planning
WTP	Waste Treatment and Immobilization Plant (Hanford)
Y-12	Y-12 National Security Complex

## Appendix B. Acronyms<sup>4</sup>

CASTLE	Collaborative Authorization for the Safety-basis Total Lifecycle Environment
CDNS	Chief of Defense Nuclear Safety
DOE	Department of Energy
DSA	Documented Safety Analysis
DWPF	Defense Waste Processing Facility
EP	Engineering Performance
ESS	Evaluation of the Safety of the Situation
FSAR	Final Safety Analysis Report
FSS	Fire Suppression System
FTE	Full Time Equivalent
FY	Fiscal Year
HLW	High Level Waste
JCO	Justification for Continued Operations
LAW	Low Activity Waste
NA-LA	Los Alamos Field Office
NES	Nuclear Explosive Safety
NESS	Nuclear Explosive Safety Study
NFDI	Nuclear Facility Design and Infrastructure
NMPS	Nuclear Materials Processing and Stabilization
NNSA	National Nuclear Security Administration
NOAA	National Oceanic and Atmospheric Administration
NPA	Nuclear Programs and Analysis
NWP	Nuclear Weapon Programs
OIG	Office of the Inspector General
OTD	Office of the Technical Director
PDSA	Preliminary Documented Safety Analysis
PF-4	Plutonium Facility (LANL)
PISA	Potential Inadequacy of the Safety Analysis
PS	Policy Statement
PVS	Permanent Ventilation System
QA	Quality Assurance
SRNL	Savannah River National Laboratory
STP	Sludge Treatment Project
SWSA	Solid Waste Storage Area
TEF	Tritium Extraction Facility
TSR	Technical Safety Requirement
TWPC	Transuranic Waste Processing Center

<sup>4</sup> Does not include acronyms defined in the Appendix A Project List.

USGS	United States Geological Survey
USQ	Unreviewed Safety Question
WCFMC	Weapon Complex Falling Man Committee
WESF	Waste Encapsulation and Storage Facility

Appendix C. Gantt Charts

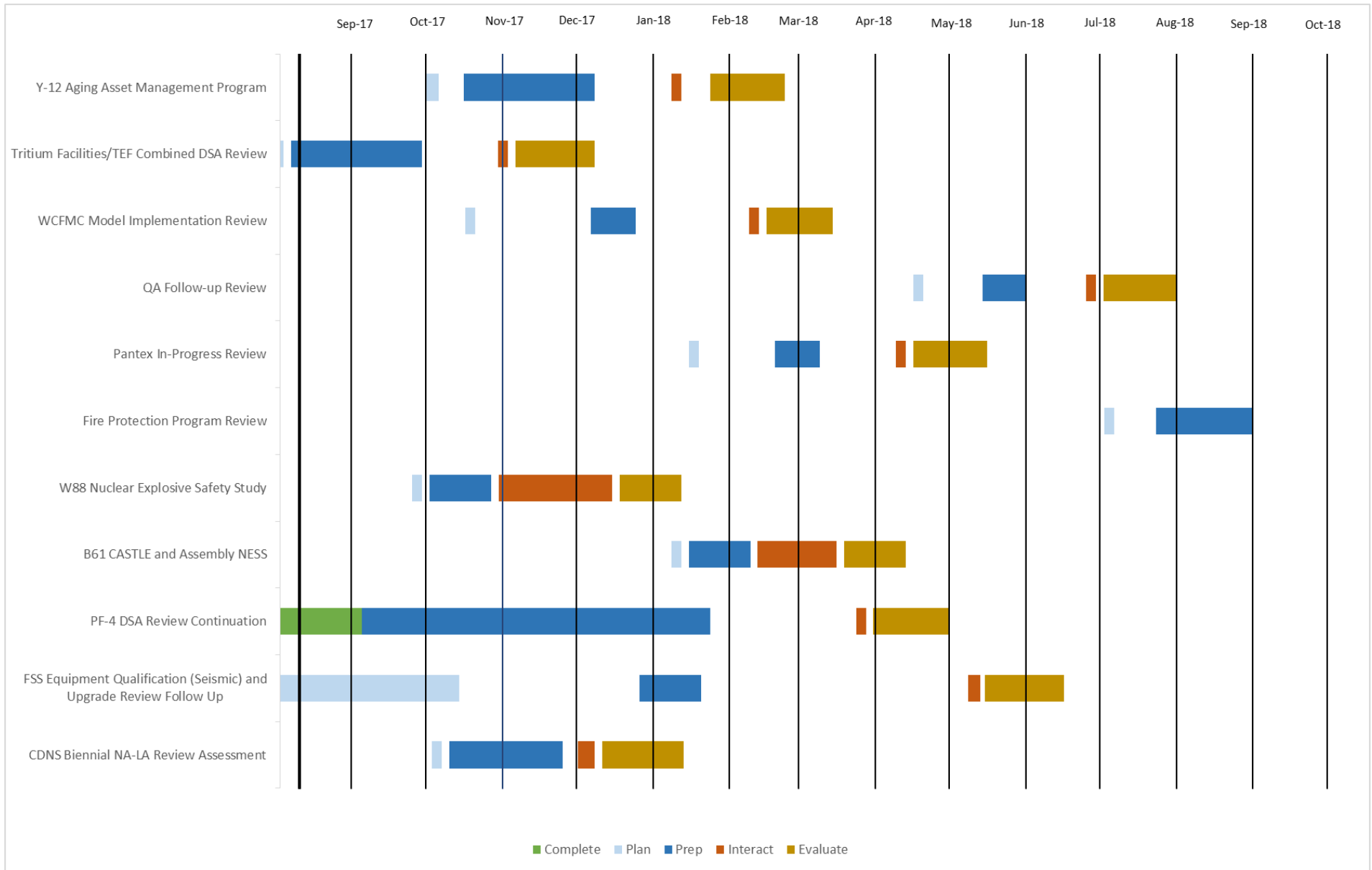


Figure C-1 – Nuclear Weapon Programs

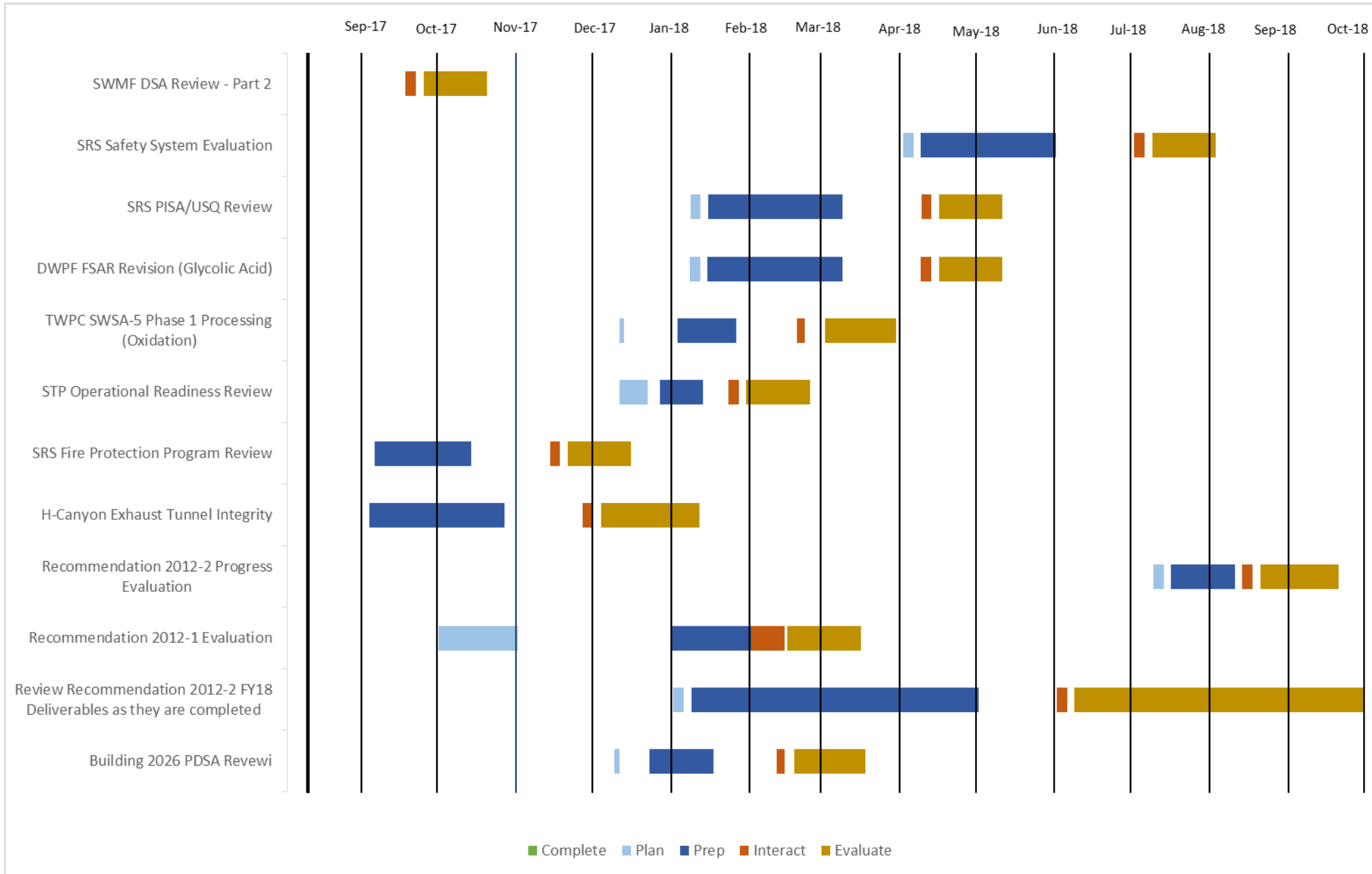


Figure C-2 – Nuclear Materials Processing and Stabilization

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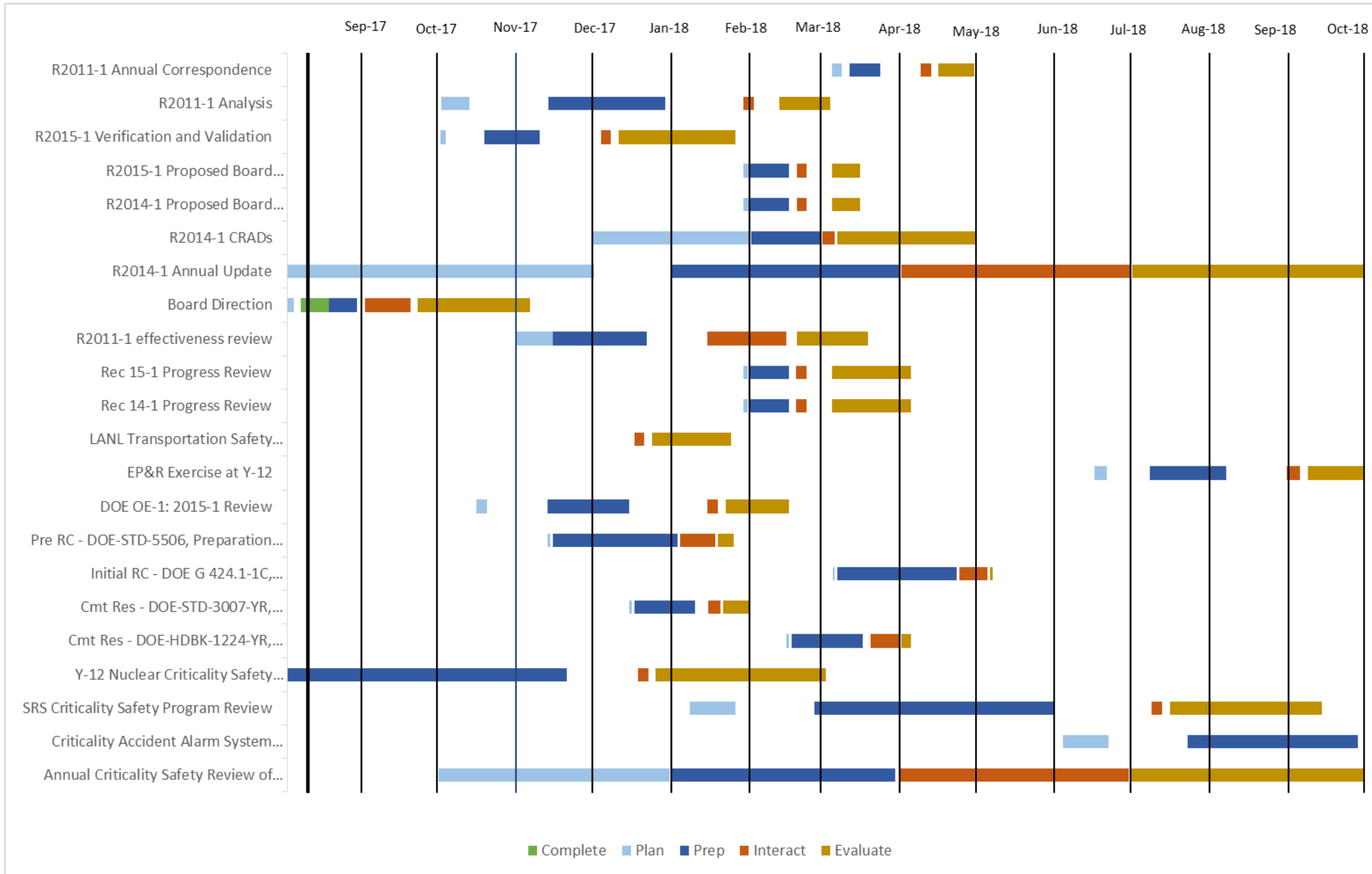


Figure C-3 – Nuclear Programs and Analysis

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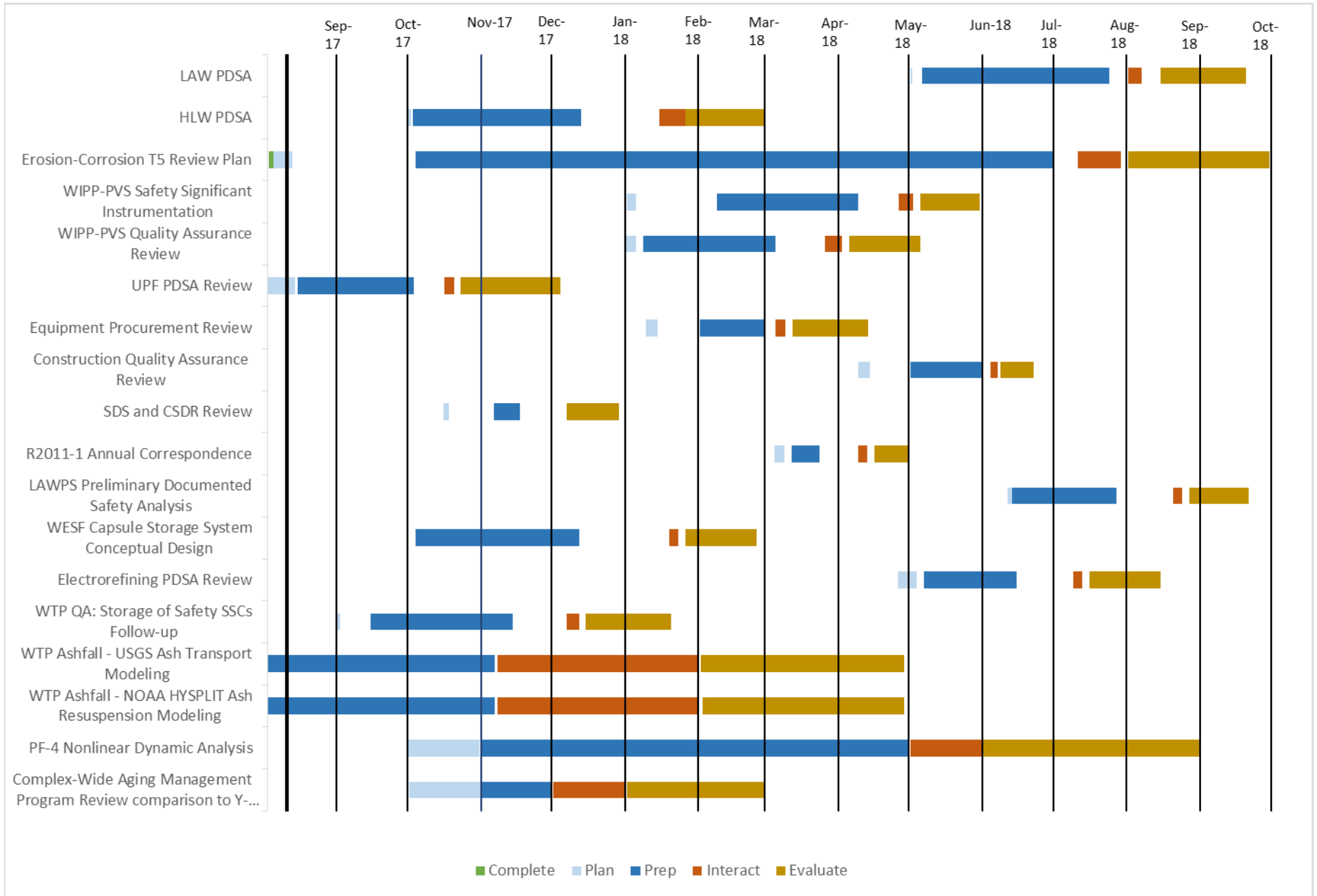


Figure C-4 – Nuclear Facility Design and Infrastructure



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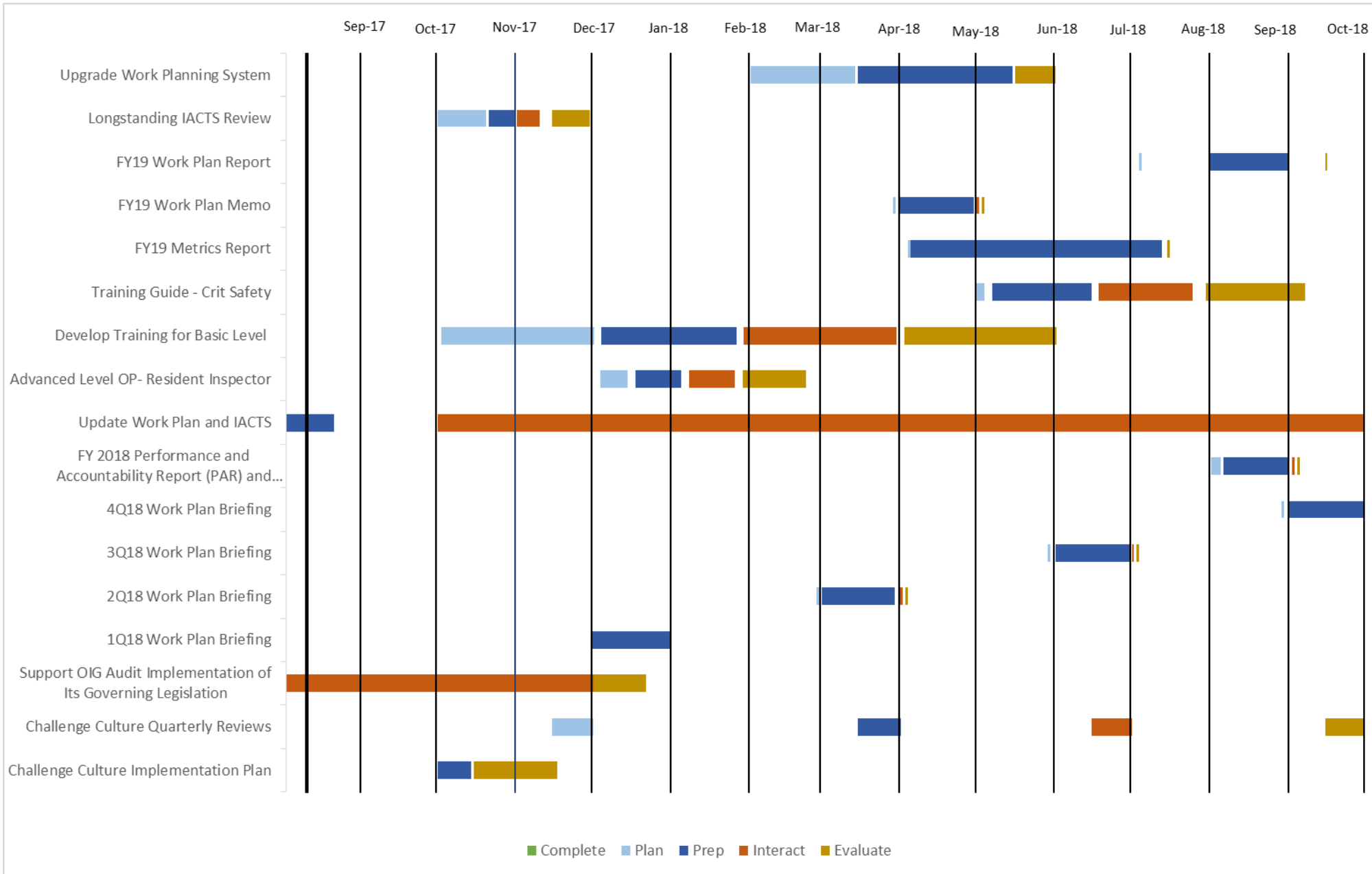


Figure C-5 – Engineering Performance

**AFFIRMATION OF BOARD VOTING RECORD**

**SUBJECT: OTD FY 18 Annual Work Plan**

**Doc Control#2017-300-115**

The Board, with Board Member(s) Sean Sullivan, Bruce Hamilton, Jessie H. Roberson, Daniel J. Santos, Joyce L. Connery *approving*, Board Member(s) none *disapproving*, Board Member(s) none *abstaining*, and Board Member(s) none *not participating*, have voted to approve the above document on October 17, 2017.

The votes were recorded as:

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIPATING*	COMMENT	DATE
Sean Sullivan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/16/17
Bruce Hamilton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/16/17
Jessie H. Roberson	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10/17/17
Daniel J. Santos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/16/17
Joyce L. Connery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/16/17

\*Reason for Not Participating:

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Board Members.

  
Assistant Executive Secretary to the Board

Attachments:

1. Voting Summary
2. Board Member Vote Sheets

cc: Board Members  
OGC  
OGM Records Officer  
OTD

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD  
NOTATIONAL VOTE RESPONSE SHEET**

**FROM:** Sean Sullivan

**SUBJECT:** OTD FY 18 Annual Work Plan

**Doc Control#**2017-300-115

**Approved**  **Disapproved**  **Abstain**

**Recusal – Not Participating**

**COMMENTS:** **Below**  **Attached**  **None**



**Sean Sullivan**

10/16/17

**Date**

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD  
NOTATIONAL VOTE RESPONSE SHEET**

**FROM: Bruce Hamilton**

**SUBJECT: OTD FY 18 Annual Work Plan**

**Doc Control#2017-300-115**

**Approved   X                        Disapproved                             Abstain**

**Recusal – Not Participating**

**COMMENTS:            Below                   Attached                   None   X**

  
**Bruce Hamilton**

16 OCT 2017  
**Date**

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD  
NOTATIONAL VOTE RESPONSE SHEET**

**FROM:** Jessie H. Roberson

**SUBJECT:** OTD FY 18 Annual Work Plan


**Doc Control#**2017-300-115

Approved   X                        Disapproved                             Abstain       

Recusal – Not Participating       

**COMMENTS:**            Below   X      Attached                             None       

**While I support the proposed plan, I believe the work planning and execution process will continue to improve as Policy Statement #6 is integrated into how design and construction oversight activities are organized and prioritized. Although the Board has abandoned its initiative to develop of a Policy for Standards Review, I consider it unfortunate and it would actually provide clearer expectations for the staff regarding the Board/Board Member oversight priorities in this area. Hopefully, this year the Board can develop a policy for operational oversight so that all of the Board's primary statutory functions and associated priorities are thoughtful and transparent to the staff, public, and DOE/NNSA.**

  
\_\_\_\_\_  
Jessie H. Roberson  
Oct 17 2017  
\_\_\_\_\_  
Date

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
**NOTATIONAL VOTE RESPONSE SHEET**

**FROM:** Daniel J. Santos


**SUBJECT:** OTD FY 18 Annual Work Plan

**Doc Control#**2017-300-115

**Approved**  **Disapproved** \_\_\_\_\_ **Abstain** \_\_\_\_\_

**Recusal – Not Participating** \_\_\_\_\_

**COMMENTS:** **Below** \_\_\_\_\_ **Attached** \_\_\_\_\_ **None**

  
\_\_\_\_\_  
**Daniel J. Santos**  
  
10/16/17  
\_\_\_\_\_  
**Date**

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
**NOTATIONAL VOTE RESPONSE SHEET**

**FROM:** Joyce L. Connery

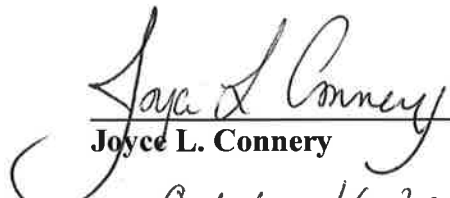
**SUBJECT:** OTD FY 18 Annual Work Plan

**Doc Control #2017-300-115**

**Approved**  **Disapproved**  **Abstain**

**Recusal – Not Participating**

**COMMENTS:** **Below**  **Attached**  **None**

  
\_\_\_\_\_  
**Joyce L. Connery**  
October 16, 2017  
\_\_\_\_\_  
**Date**