National Nuclear Security Administration

Savannah River Nuclear Solutions, LLC

Fiscal Year 2015 Performance Evaluation Report (PER)

NNSA Savannah River Field Office

Performance Period:
October 1, 2014 – September 30, 2015

November 19, 2015

Executive Summary

This Performance Evaluation Report (PER) provides the assessment of Savannah River Nuclear Solutions, LLC (SRNS) performance for the period of October 1, 2014 through September 30, 2015, as evaluated against the objectives defined in the Fiscal Year (FY) 2015 Strategic Performance Evaluation Plan (PEP). The National Nuclear Security Administration (NNSA) took into consideration and consolidated all input provided (e.g. CAS, Program Reviews, etc.) from NNSA Program and Functional Offices both at Headquarters and in the field. The Performance Objectives (POs) in the PEP were graded using adjectival ratings as described in the Federal Acquisition Regulation (FAR). The POs were then considered in the aggregate to provide an overall adjectival rating and percentage of fee earned for the contract. Comments on the performance of each Contributing Factor (CF) and Site Specific Outcomes (SSO) under each PO identified in the PEP are provided as well.

SRNS submitted a Performance Self-Assessment Report that covered the rating period. SRNS is to be commended for the thoroughness of their report which embraced the expectation of being self-critical as well as highlighting accomplishments. NNSA reviewed the self-assessment report and considered it in conducting our evaluation.

PO-1: Manage the Nuclear Weapons Mission (27% of At-risk fee) was rated as Excellent. Overall, SRNS's performance was above expectations in management of the Nuclear Weapons Mission. SRNS exceeded expectations in demonstrated performance of the assigned work scope through completion of scheduled milestones and delivery of tritium-filled reservoirs to support the nuclear weapons stockpile needs. Performance in quality assurance exceeded expectations and resulted in a Product Acceptance Unit Efficiency of 99.73%, which reduced the Cost of Non-Conformance to 0.21%.

PO-2: Reduce Global Nuclear Security Threats Mission (25% of At-risk fee) was rated as Satisfactory. Overall, SRNS's performance met expectations in management of the Global Nuclear Security Threats Mission. SRNS met expectations in demonstrated performance of the work scope through their efforts to minimize the proliferation of nuclear materials. However, SRNS did not meet expectations for plutonium oxide production to support the AFS-2 mission.

PO-3: This PO was not applicable to SRNS.

PO-4: Science, Technology, and Engineering (ST&E) (5% of At-risk fee) was rated as Very Good. Overall, SRNS's performance above expectations in its ability to manage the Science, Technology, and Engineering. SRNS exceeded expectations in demonstrated performance of the work scope through increased collaboration with the design agencies and being proactive in Life Extension Program (LEP) activities. Over 400 1P inert reservoirs were unloaded early using the function tester in SRNL. Using this approach maintained the reservoirs as "clean" and allows for future reuse which represents a savings versus manufacturing new reservoirs.

PO-5: Operations and Infrastructure (33% of At-risk fee) was rated as Good. Overall, 'SRNS's performance met expectations in meeting the DOE/NNSA mission by ensuring Site Operations and Infrastructure are maintained, through demonstrated performance of work activities in a safe and secure manner. SRNS had no significant safety or health items to report for the year. SRNS made significant progress in establishing a more disciplined operational culture during the year. In the area

of Nuclear Safety, the annual Documented Safety Analysis (DSA) updates were issued on time and were quality products. Overall performance in the security arena exceeded expectations. SRNS continued to effectively manage budget throughout the year with no significant issues. The Waste Solidification Building (WSB) achieved CD-4 and was placed in layup mode.

PO-6: Leadership (10% of At-risk fee) was rated as Very Good. Overall, SRNS's performance exceeded expectations in meeting the DOE/NNSA mission by ensuring Leadership is effectively managing programmatic concerns within a fiscally constrained and uncertain environment. This was demonstrated by SRNS's efforts to continue to improve disciplined operations and a just safety culture. SRNS management also supported Nuclear Security Enterprise (NSE) strategic risk based investment initiatives, such as BUILDER and G2, and is now seen as leading the NSE in these areas.

Specific observations for each of the Performance Objectives are provided in the following pages.

Performance Objective 1: Manage the Nuclear Weapons Mission

Summary

Manage the Nuclear Weapons Mission (27% of At-risk fee) was rated as Excellent. Overall, SRNS's performance was above expectations in management of the Nuclear Weapons Mission. SRNS exceeded expectations in demonstrated performance of the Implementation Plan work scope (Level 2 milestones) funded through the fiscal year. Specific observations follow:

Above expectations:

SRNS completed all mission deliverables on schedule and with exceptional quality to the military and Nuclear Security Enterprise (NSE) customers. SRNS experienced no product rejects from the customers, continuing a trend of quality excellence in mission deliverable products. Internally to the tritium process, SRNS demonstrated a continuing improvement trend of internal quality management performance, realizing an internal Product Acceptance Unit Efficiency of 99.73%. As a result of this quality performance, the tritium program realized efficiency through a reduction of the Cost of Non-Conformance for War Reserve Components to 0.21%. SRNS supports this metric through continued work planning, management involvement and a focused emphasis on product quality throughout SRNS, reducing mission product cost and risk. (CF 1.1)

SRNS performed above expectations throughout FY15 for the Advanced Manufacturing Development program by delivering all Level 2 milestones, three of the nine milestones were completed six months ahead of schedule. Late appropriations complicated SRNS's efforts, receiving funding for five of those nine milestones in March 2015. However, SRNS was able to recover both costs and schedule during this compressed timeline. In addition, through improvements to the SRNS procurement process for special material, SRNS saved approximately $250K in programmatic funds. (CF 1.1)

SRNS performed above expectations for the Scope Risk Options Risks Excursions (SCORE) by delivering analyses ahead of schedule in support of the Execute the Enterprise Modeling and Analysis Consortium (EMAC) program. SRNS performed Production Support & Recapitalization Activities enabling on-time completion of Directed Stockpile Work (DSW) deliverables by ensuring sufficient Process Equipment Availability throughout FY15. (CF 1.1)

SRNS performed above expectations for FY15 for each of the stockpile weapons systems maintenance project deliverables and requirements and did so within site budget allotment and IAW directive documents. Additionally, SRNS performed above expectations for the "*Getting the Job Done*" FY15 Gas Transfer System (GTS) limited life components by completing the associated activities for the B61, B83, W78, W80, W87and W88 weapon systems by ensuring on time delivery shipments. Finally, SRNS prepared and delivered reservoirs within a 60-day or less NNSA notification (typically a 90 day notification) to accommodate changing Department of Defense (DoD) maintenance schedules. (CF 1.3)

SRNS exceeded expectations for scheduled surveillance activities, deliverables, and requirements in accordance with each applicable weapons system approved Integrated Evaluation Team (IWET) Plan and associated directive documents and did so within budget. SRNS supported the W87 ALT

360 program improvements by successfully loading the Aging Study Units and initiated reclamation activities to provide additional schedule margin. SRNS also completed tritium loading of a first group of reservoir components to study the aging effects of tritium exposure in the Life Storage Program in advance of planned deployment in FY19 in support of the W87 ALT 360 program. To accomplish this special loading, the Savannah River Tritium Enterprise (SRTE), which consists of SRNS Tritium and Savannah River National Laboratory (SRNL) personnel, collaborated to prepare fixtures and hardware, revise procedures, and modify computer systems. SRNS completed the W88 weapon system GTS design, development, and production activities within budget. SRNS continues to meet expectations for the dismantlement program by establishing a well-defined process resulting in eliminating legacy material on schedule. (CF 1.3)

SRNS performed above expectations for the B61-12 through the rapid implementation of the recommendations from the Integrated Baseline Review. The response included detailed plans for addressing each issue and a schedule for implementation. SRNS has provided the leadership required to identifying and managing risk in accordance with the B61-12 Life Extension Program (LEP) Risk and Opportunity Management Plan. SRNS submitted monthly site reports, site earned value (EV) reports, and site schedule updates in the requested format to the B61 LEP Federal Program Manager. SRNS is adhering to the NNSA Burn-Down Plan to refine site contributions to the Baselined NNSA Integrated Master Schedule (NIMS). SRNS supported cost management boards for the B61-12 LEP in October 2014 and April 2015 and have initiated unit cost tracking with PRTs at component reviews. (SSO 1.1)

SRTE provided exceptional scientific support, plant leadership and expert analysis to improve the NNSA programmatic understanding of tritium supply chain requirements and sustainment risks. (CF 1.4)

Faced with increasing employee retention challenges due to an aging workforce, SRNS launched a SRS Knowledge Management initiative to capture best practices across SRS and the NSE regarding tritium technical knowledge for the next generation employees, to mitigate the knowledge loss to increasing attrition rates and reduce long-term sustainment risks. (CF 1.5)

Meets expectations:

SRNS met expectations for the FY15 requirement to Extract Cycle 11B Tritium Producing Burnable Absorber Rods (TPBARs) in support of the *"Getting the Job Done"* requirement to extract new tritium consistent with the *'FY2015 Tritium Program Implementation Plan'*. SRNS continues to meet expectations and is slightly ahead of schedule for the recycle and recovery of tritium from limited life components (LLCs). (CF 1.1)

SRNS performance on equipment recapitalization met expectations. With limited funds in the beginning of the year, the Material Recycle and Recovery (MRR) program began procurement of four new diffusers which are an important recapitalization component for tritium gas processing and the Thermal Cycling Absorption Process (TCAP) bed replacement project. SRNS contracted a vendor for the diffusers; however, vendor delays have pushed expected delivery to January 2016. SRNS installed two new process hydride beds this fiscal year with two more in process and installation expected to be completed by November 2015. SRNS is on-schedule to place the procurement requisition for the replacement water trap. (CF 1.1)

To improve the material management of the tritium facilities, SRNS formed new planning group called the Mission Assurance Working Group (MAWG) to coordinate large maintenance activities and projects within the production facilities, which promises improvement in the significant number of complicated recapitalization efforts. (CF 1.1)

SRNS completed all work tasks for the Final Safety Analysis Report for Packaging (SARP) of the Bulk Tritium Shipping Package (BTSP). The final BTSP SARP will be submitted in FY16. (CF 1.1)

SRNS met expectations for the FY15 Stockpile Services programs' scope, cost, and schedule without issues. Specifically, SRNS re-configured the Enterprise Consortium Warehouse for the new Information-based Enterprise Need-To-Know (ENTK) workflow. SRNS met expectations by delivering weapons system required monthly reports on time and in sufficient detail. (CF 1.1)

SRNS made progress in reclaiming SP1101 reservoirs despite significant capacity and funding challenges. Specifically for the W87, SRNS completed the FY14 deferred SLT28-1 and 28-2 function tests in Quarter 2. SRNS completed all Enhanced Surveillance milestones, which included delivery or annual material aging studies, support for implementation of W76 reservoir ultrasonic testing capability, and installation of the Hydrogen Fracture Toughness Tester which provides capability for fracture mechanics testing in a high pressure hydrogen environment. (CF 1.2)

SRNS continues to meet expectations for sustainment and strengthening of facility capabilities and skills. Field analysis of process gas samples utilizing Tritium Instrumentation Demonstration Station (TIDS) was conducted during the first and second quarters, and the system is pending completion of permanent design and NQA-1 evaluation and compliance. TIDS provides a means to test alternative analytical technologies for in-line, real-time process system sampling within the tritium facility. In support of tritium facility process needs, SRNL fabricated and completed testing of two new calorimeters and delivered the units to the tritium facility for installation. SRNS has continued to support oxygen monitor components (Delta-F main boards) sustainment through the refurbishment of unsupported equipment parts, to maintain the continued monitoring capability pending replacement of outmoded oxygen monitors. SRNS conducted on-site and offsite testing of a wireless Tritium Air Monitoring (TAM) cart, to evaluate the applicability for use with nuclear Safety Significant system service during Quarter 4. Data and performance evaluation is being completed for NNSA approval. If proven acceptable for service, the wireless TAM cart can provide significant cost savings compared to traditional wired systems in worker safety applications. As another cost savings initiative, SRNS began using an SRNL-based environmental chamber in a new application to unload inert (i.e. non-tritium) reservoirs for possible reclamation and reuse by the Kansas City National Security Campus (NSC). All scheduled unloads were completed approximately two months earlier than scheduled. (CF 1.5)

SRNS met expectations for the W76-1 LEP in support of the *"Getting the Job Done*" requirement to deliver W76-1 LEP War Reserve (WR) warheads to the Department of the Navy in accordance with the FY15 delivery schedule, ensuring production program completion by FY19. Specifically, SRNS completed all WR production workload requirements on schedule in accordance with directive schedules. (CF 1.6)

SRNS continues to meet expectations for NIMS implementation in support of the B61-12 LEP. (SSO 1.2)

Needs Improvement:

Nothing to report.

Performance Objective 2: Reduce Global Nuclear Security Threats Mission

Summary

Reduce Global Nuclear Security Threats Mission (25% of At-risk fee) was rated as Satisfactory. Overall, SRNS's performance met expectations in management of the Global Nuclear Security Threats Mission in demonstrated performance of the work scope funded through this Fiscal Year. Specific observations follow:

Above expectations:

Overall, the HB-Line Ventilation Modification General Plant Project strictly managed design and estimating cost, scope, schedule, and risks to complete scheduled activities for the period, utilizing weekly project reviews, SRNS Leadership meetings, and adhering to the trend process. SRNS overcame newly discovered existing facility conditions to deliver a final design and project baseline package before the June 30, 2015 milestone. The package included supplementary documentation which improves the quality of the baseline and reduces technical and project execution risks. It is important to recognize the due diligence and transparency of the contractor in the execution of the design and baseline review and issue resolution processes. (SSO 2.2)

Following a two-year period of not having received any Foreign Research Reactor used fuel shipments, SRNS successfully received four Foreign Research Reactor used fuel shipments in one month. (CF 2.1)

SRNS hosted a team of seven Russian monitors in June for a Plutonium Production Reactor Agreement (PPRA) monitoring mission to ensure the three shutdown SRS plutonium production reactors still subject to PPRA monitoring do not resume operations. This visit entailed significant coordination by SRNS among several government agencies (Department of Energy, Department of State, and DTRA), as well as coordination with Russia and the IAEA. All aspects of the visit were well planned and well received by the attendees. (CF 2.4)

Export control technical reviews in support of Department of Commerce and State export license applications, and reviews of scientist engagement projects for export control and proliferation concerns provided by SRNS was above expectations for FY15. These reviews require coordination between several agencies (Energy, Commerce, and State), as well as the company that wishes to export a technology or equipment to a foreign entity and generally are required to be completed in a timeframe of thirty days or less. (CF 2.3)

Meets expectations:

SRNS met expectations in completing the removal of 36 kg of highly enriched uranium (HEU) spent fuel from the Institute of Nuclear Physics (INP) in Almaty, Kazakhstan during the first quarter of FY15. This complex operation was the culmination of a multi-year effort between the United States, Kazakhstan, Russia and the International Atomic Energy Agency (IAEA). (CF 2.1)

SRNS has successfully performed its authorized work scope in support of NNSA's Material Management and Minimization (M^3) Reactor Conversion program's Fuel Fabrication Capability,

Mo-99 Program, Gap Removal Program, Russian-origin return program, and Emerging Threats Program within the agreed upon budget. Additionally, in support of meeting significant 2016 Nuclear Security Summit deliverables, SRNS supported material removal programs and gap materials by providing continued technical support to two European partner countries during stabilization and packaging operations and by providing on-site reviews and technical guidance for an Asian partner dealing with packaging and characterization protocol. (CF 2.1)

SRNS met expectations in its efforts to remove, eliminate and minimize the use of Russian-origin nuclear materials. SRNS initiated the planning process within the Institute of Atomic Energy in Kazakhstan to remove HEU spent nuclear fuel from the IVG reactor to the Mayak facility in Russia. However, continued delays associated with the shipment of NRU/NRX fuel from Canada could contribute to M^3 being at risk of not meeting its Agency Priority Goal. (CF 2.1)

SRNL provided SMEs for a PPRA monitoring mission to Russia, to ensure shutdown plutonium production reactors do not resume operations and the plutonium they produced after the Agreement was signed in 1997 is not used in weapons. Savannah River subject matter experts were key participants in the July 2015 monitoring visit to three shutdown reactors at two Russian sites. (CF 2.5)

Needs Improvement:

HB-Line was not able to achieve consistent plutonium oxide production operations as planned in FY 2015. After resuming operations this year HB-Line produced a small amount of additional Pu oxide; however operations were once again paused in September following procedural violations involving another nuclear criticality safety control requirement. SRNS leadership took action not only in HB-Line but also implemented a SRS-wide pause based on other indicators across the site. SRNS leadership is taking a comprehensive, methodical approach to address the incident and to resume operations. (SSO 2.1)

Due to the SRS wide pause, SRNS was unable to receive/unload shipments for Foreign Research Reactor fuel as part of the U.S.-origin Removal program. The operational pause is having direct financial and schedule impacts on NNSA programs. (CF 2.1)

Performance Objective 3: DOE and Strategic Partnership Project Mission Objectives

Summary

DOE and Strategic Partnership Project Mission Objectives (0% of At-risk fee). This PO is not applicable to Savannah River Site.

Performance Objective 4: Science, Technology, and Engineering (ST&E)

Summary

Science, Technology, and Engineering (ST&E) (5% of At-risk fee) was rated as Very Good. Overall, SRNS's performance was above expectations in its ability to manage the Science, Technology, and Engineering. SRNS exceeded expectations in demonstrated performance of the work scope funded through the fiscal year. Specific observations follow:

Above expectations:

SRNS performed above expectations in supporting Gas Transfer System (GTS) tritium R&D in Enterprise partnership with Sandia National Laboratories (SNL) and Los Alamos National Laboratory (LANL). An effective interface with the design agencies continued via the Tritium R&D Steering Committee. A new activity, the Tritium R&D Implementation Team, was initiated to ensure R&D operational capability and schedule availability on a not-to-interfere basis with mission deliverables. For SNL, significant activities included W87 ALT 360 GTS development including aging unit loading and function testing, preparations (fixtures and procedures) for FY16 surrogate material (i.e. hydrogen/deuterium), development activities, and experiment planning for W80-4 R&D in FY16-18. In support of LANL, significant activities included completion of surrogate material development for the B61-12 LEP GTS and technology transfer of laboratory methodologies to the operating tritium facilities for the Life Storage Program and production activities. (CF 4.2)

SRNS completed, almost two-months early, the unloading of more than 400 excess inert gas-loaded 1P reservoirs that were returned from the field, using the "Big Blue" function tester in SRNL. By innovatively repurposing this clean equipment (normally used only for GTS R&D), the reservoirs can be transferred to the Kansas City NSC to be processed for alternative uses, representing a cost savings versus manufacturing new reservoirs. The strong collaboration between SRNL, Operations, and Engineering assisted in planning, coordinating and implementing this operation. (CF 4.2)

The Savannah River Tritium Enterprise (SRTE) (Tritium Programs in conjunction with SRNL) worked in collaboration with the other laboratories, universities, and technical societies/ publications to provide opportunities for researchers to engage with their peers outside of the Nuclear Security Enterprise (NSE) in an effort to leverage expertise and resources to advance tritium technology to meet mission requirements and to support mentoring opportunities with local schools and universities. Examples include support to Oak Ridge National Laboratory Spallation Neutron Source Facility for a He-3 physics experiment, support to the Thomas Jefferson National Accelerator Facility for tritium effects on aluminum, and on-going mentoring of Augusta University students with a focus on nanotechnology research. (CF 4.4)

Meets expectations:

SRNS met expectations for Technology Management Council leadership in guiding support for tritium R&D and facility technology requirements. The Technology Management Plan Implementation Working Group supported early development activities for a methodology, the

SRTE Strategic Investment Process, to ensure tritium competencies and capabilities are available to meet long-term mission requirements (CF 4.1/CF 4.5)

Needs Improvement:

Nothing to Report

Performance Objective 5: Operations and Infrastructure

Summary

Operations and Infrastructure (33% of At-risk fee) was rated as Good. Overall, SRNS's performance met expectations in performance of the DOE/NNSA mission by ensuring Site Operations and Infrastructure are maintained, through demonstrated performance of work scope through the fiscal year. Specific observations follow:

Above expectations:

The SRTE Quality Assurance (QA) program continued to improve during the year with very strong leadership in place. Product quality for the year was extremely High (nearly 100%). SRTE Quality Metrics were presented to the ADA for Stockpile Management and will be used to develop the baseline for the NSE quality program metrics. The QA self-assessments conducted by SRNS were of high quality. The cost of nonconformance for the year was very low, less than one -quarter of a percent, and the program risk remains low. Fewer resources spent on re-work means more money was available to complete other work activities. (CF 5.4)

SRNS assisted in the development of the Tritium Production Capability (TPC) line item Mission Need Statement (MNS) and the Program Requirements Document (PRD) that supports the tritium modernization program, which permitted the successful authorization of the CD-0 project milestone. This effort is essential in developing a long-term risk reduction plan for the tritium infrastructure. (SSO 5.1)

SRNS delivered effective and responsive environment, safety and health (ES&H) management and processes. No environmental release limits were exceeded and there were no significant safety or health issues to report for the year. A sound ES&H program provides a benefit to overall production and meeting of mission. (CF 5.1)

Concertina wire installation was completed during FY15 as part of the "Low Level" Threat enhancement. This type of wire was a significant deterrent at Y-12 and provides similar deterrence at the Tritium Facilities. This work incorporated lessons learned from Y-12 and was completed under budget and on schedule. (CF 5.3)

SRNS continues to maintain the E3S security system. Replacement parts are not available from the manufacturer, so SRNS is proactively replacing parts from other areas on-site and building new ones in-house. These efforts have been very successful in keeping maintenance downtime low and reducing the need for Security Police Officer overtime as compensatory measures until a replacement system can be installed. (CF 5.3)

SRNS Safeguards and Security program exceeded expectations and demonstrated proactive engagement during the period. SRNS used continuous improvement initiatives, safety briefings, the targeted group Security briefings, attendance at shift turnover meetings, and Security Blitzes throughout the year to reinforce security awareness. SRNS varies the security topics to include controlled and prohibited articles, door alarms, protecting classified information, active shooter, and Unmanned Aerial Vehicles. These activities were very beneficial during the opportunities of

great distraction caused by the November and December holiday periods and the operational pause conducted by SRNS. By highlighting security responsibility, these engagements have ensured personnel keep security first and foremost in their job performance. (CF 5.3)

SRNS Tritium Facilities led the site in justifying and implementing Argus as the access control and intrusion detection system for safeguards and security. Based on a conceptual design from 2012, SRNS outlined an approach that will achieve implementation of Argus in the Tritium Facilities in two-years and at a significantly reduced cost. SRNS has Argus operating in A-Area and will extend it to H-Area. The existing cabling and NEMA enclosures will be reused as much as possible to enable Argus to be a replacement-in-kind project. SRNS received financial concurrence for this approach and is working aggressively on detailed design. (CF 5.3)

SRNS has embraced the new program and reporting requirements for the Recapitalization Program. After much discussion with the program, SRNS modified their minor construction program in the Tritium Facilities to comply with the two-year requirement and to report costs in a manner that is consistent across the NNSA complex. SRNS took on the challenge of fully populating the G2 database and was instrumental in identifying and resolving programming issues that impacted all sites. Additionally, SRNS led the complex in the implementation of BUILDER. SRS was the only site to complete the required condition assessments and data entry to meet the original milestone. These initiatives are important to improve enterprise risk evaluation and capitalization investment priorities. (CF 5.4)

SRNS performed above expectations in the area of Cyber Security. All annual assessments and quarterly vulnerability scans were completed on schedule. There was a significant increase in the number of data calls in FY15, all of which were completed within the requested timeframes (many were very quick turnarounds). The Cyber Implementation Factors (IFs) were not tracked and reported in accordance with the FY15 Cyber Performance Execution Guide for the first quarter. SRNS, upon notification of this deficiency, immediately addressed the discrepancy and developed a process to track the twelve identified IFs and reported quarterly as required for the remainder of FY15. NA-IM noted the SRNS performance improvement in meeting all goals outlined within the IFs for the year. (CF 5.7)

Over the course of the year, SRNS evaluated requirements and developed a process to address long-term sustainment of facility capabilities and staff competencies to meet mission requirements by addressing recognition of facility operational needs and communication of the needs through alignment of budget requests and planning document inputs. SRNS introduced asignificant transfomation in the process of risk identification for the Tritium process systems, changing from an annual engineering risk evaluation of process systems, to a more dynamic, holistic, and continuous critical assessment and risk identification process of continuous information flow. To ensure integration of information and to provide strategic direction to SRTE, two new entities were established. They are the SRTE Strategic Leadership Council (SLC), tasked with development and implementation of key policy and strategy decisions for SRTE, and the SRTE Mission Assurance Working Group (MAWG), tasked with implementation of SLC decisions including follow-on actions and necessary updates to the SRTE Vision and Strategic Roadmap. SRNS met expectations by implementing the new process in the fourth quarter. However, through aggressive utilization of the process, SRNS exceeded expectations and has been able to achieve early benefits such as: the use of risk information to support additional recapitalization funding in the FY17-FY21 FYNSP;

development of a Strategic Staffing Plan to ensure appropriately sized critical skills pipelines and hiring authorization; and leadership engagement early in the FY17 SSMP Update process. Based upon on-going interaction between the SLC and the MAWG, the SRTE Strategic Roadmap should transition to a living document driven by proactive leadership rather than simply receiving periodic, routine updates. (SSO 5.2)

Meets expectations:

SRNS made significant progress in establishing a more disciplined operational culture during the year. The reaction to several Conduct of Operations (CONOPS) issues in late FY14 and early FY15 resulted in a fundamental re-evaluation of how operational excellence is assured. Detailed investigations and vertical assessments were used to self-identify the most significant organizational weaknesses, including opportunities for improvement in procedure development and execution, training and qualifications, and personnel/leadership engagement and accountability. SRNS employed numerous organizational improvement tools, like the "A3" process and Apollo Root Cause Analysis, to identify organizational gaps and weaknesses as well as develop corrective actions. SRNS continues to implement the corrective actions necessary to establish and maintain operational excellence, although the effort is currently in the early stages and is expected to continue well into the future. (SSO 5.3)

SRNS personnel responded to and overcame numerous abnormal events in the facilities (loss of HVAC and process cooling in HANM, loss of steam, and loss of three phase power). In spite of these challenges, SRNS continued to safely operate the nuclear facilities under its cognizance with no TSR violations in FY15, while still meeting customer commitments. However, issues that were prevalent in the beginning of the year began to re-emerge late in the year when operations personnel discovered that five Life Storage Program (LSP) reservoirs had been improperly unloaded. Continued effort is required in order to fully realize a sustained improvement in operational excellence. It is critical for the SRNS leadership team to address and reinforce consistent operational discipline, inter-organizational communication, and management presence and engagement in operations. Late in FY15, SRNS management exhibited good leadership by choosing to take an operational pause along with the Environmental Management operations at the site, affording them the opportunity to re-evaluate the operational culture and disciplined operations progress. (CF 5.4)

SRNS performance in the areas of Nuclear Safety, Fire Protection, and Engineering met expectations for the year. The annual Safety Basis Updates were issued on schedule and the documents were of high quality with minimal comments. Engineering also completed a fire analysis on building 236-H which will allow for the removal of the safety significant fire suppression system in the building. The study analyzed allowable combustibles to show that 234-H will not be impacted should a fire occur. Engineering also completed a review of non-moving spare parts in stores to determine which components should be excessed. Conclusion of the effort resulted in a significant cost savings and reduced the number of components stored for SRTE. (CF 5.4)

Performance in the facility maintenance program met expectations for the year. SRNS experienced a high rate of attrition within the maintenance organization in late FY14, which resulted in negative trends in maintenance metrics. SRNS has aggressively pursed hiring actions to improve staffing levels within the maintenance organization, but the time required to train, qualify, and obtain

clearances for mechanics tends to delay the benefits of such efforts. Substantial challenges continue for the Corrective Maintenance Backlog, which increased sharply in the beginning of the fiscal year. The contractor arrested the adverse trend through a combination of actions, including an increase in the utilization of targeted overtime as well as an on-going initiative to improve efficiency. Efforts to improve the efficiency of the maintenance planning and performance process continued throughout the year, with considerable focus given to improving mechanic utilization rates by ensuring work was released in a timely manner. In order to accomplish timely work release, daily planning meetings were structured to ensure adequate work packages were developed and approved, replacement components were inspected and staged, and the facilities were properly configured to support maintenance. This effort has been partially successful, although it is on-going and considerable room for improvement exists. SRNS management continues to focus on the overall status of the maintenance program and is providing periodic status updates to SRFO management. (CF 5.4)

SRNS effectively integrates the security program across multiple organizations through frequent coordination and engagement meetings to resolve current and future areas of concern and develop lessons learned. This integration encouraged open and honest discussions and was a tremendous benefit to ensuring shared focus from the entire site on all areas of security. (CF 5.3)

SRNS is on the leading edge of the SRS initiative to improve workplace security. SRNS and the Security Guard Proforce (Centerra) conducted an integrated 'Active Shooter' performance exercise within the Tritium facility, which was the first attempt to exercise this security capability at SRS. The exercise was an overall success, and offered room for thoughtful and innovative ideas to improve exercise scope and performance. (CF 5.3)

SRNS met expectations and deadlines for Operations, Maintenance and Recapitalization and provided information consistent with the NNSA Infrastructure Program Management Plan guidance issued September 2014. Several infrequent evolutions were safely conducted including an open Glovebox Maintenance in the Tritium Extraction Facility, the removal and disposal of old calorimeters, and repair of a lathe in the reclamation facility. SRNS also met expectations for program management initiatives, including participating in the newly established Site Portfolio Manager Interface meetings. (CF 5.4)

SRNS met expectations and objectives as outlined in the FY15 IT Program Guidance. (CF 5.5)

SRNS supported additional infrastructure modernization initiatives. A project risk assessment process for the Reservoir Storage (Vault) Relocation project has been developed and will identify all of the major risks and their associated impact (cost and/or schedule) to the project. This information, along with the ongoing hazards analysis, will be used to develop a conceptual estimate. Site preparation to support the Air Handling Unit (AHU) replacement project that will provide air conditioning for building 234-7H and 233-1H has begun, and procurement of the electrical substation is ongoing. (SSO 5.1)

The SRNS Incident of Security Concern (IOSC) program met expectations for the year. The SRNS IOSC program makes the effort to report all incidents to federal oversight, going beyond the established requirements to maintain a high level of transparency across the NSE. The total IOSC

for FY15 is one Category B incident. For the past four years, SRNS has reduced the total amount of security incidents and current trending was another year of reduced incidents. (CF 5.3)

SRNS has replaced the safeguards and security NAPs with the DOE orders on the contract. Review of these orders identified five deviations that require approval. Developing and justifying these deviations was slowed by the death of the security manager and the multiple changes in security personnel. (CF 5.3)

Business Management (Business Operations and Legal Management) met expectations for the year. SRNS began FY15 successfully with no significant budget issues and appropriately managed costs during the continuing resolution (CR) and in the face of the delay in the FY15 Omnibus appropriations. SRNS legal counsel orchestrated the successful settlement of the Waste Solidification Building (WSB) litigation by, among other things, ensuring Fluor executive leadership were properly prepared for negotiating the settlement with plaintiffs. (CF 5.5)

With SRTE as a driving force, SRNS began a comprehensive review of its purchasing, acquisition and contracting process in an attempt to streamline the process, reduce cycle times, eliminate backlogs and ensure availability of critical spares. While it is still early in the process, a series of company-wide efforts appear to be having a positive impact. SRNS set a savings goal of $4M for purchases made using the NNSA Supply Chain Management Center tools. For the year, SRNS achieved a savings of $6.7M site-wide. SRNS continues to make progress on procurement of critical spare parts and has reduced the Purchase Order cycle time by 50%, and made substantial progress in reducing the backlog in the system. (CF 5.6)

Needs Improvement:

SRNS did not meet expectations on the Waste Solidification Building (WSB) project. Performance for the fourth quarter of FY15 Met Expectations with the CD-4 achievement and SRNS' success in negotiating settlement of requests for equitable adjustment (REAs) within project's revised Total Project Cost. However, FY15 cumulative performance is below expectations as reflected by the three previous quarters. Beginning in the 3rd and continuing through the 4th quarter, the project recovered delays experienced in the first two quarters and completed startup testing, and the readiness-to-operate assessment. Delays that occurred in prior years impacted project performance metrics through completion and project costs currently exceed the Contract Budget Base by approximately $16M and is estimated to exceed it by $54M based on the Federal Project Director's Estimate At Completion, which includes the cost of a proposed settlement that the M&O contractor has negotiated with the construction contractor related to the $74M in REAs. (CF 5.2)

SRNS continued to spend a large amount of time in the design phase of minor construction and project activities with little field and construction activities being performed. This was due to not having a pipeline of designs completed and ready for execution at the start of the fiscal year. Relocation of the hydroburst testing equipment was not completed as scheduled because the burst vessel failed during pre-installation testing. It was determined that the design did not consider the proper pressures and did not require that the vessel be ASME certified. (CF 5.4)

Performance Objective 6: Leadership

Summary

Leadership (10% of At-risk fee) was rated as Very Good. Overall, SRNS performance was above expectations in meeting the DOE/NNSA mission by ensuring Leadership is effectively managing programmatic concerns within a fiscally constrained and uncertain environment.

Above expectations:

SRNS made significant progress in identifying or addressing required improvements to weak areas identified in FY14 performance through a holistic evaluation of training, procedures, and personnel/leadership engagement, to create an improving environment of disciplined operations and a just safety culture. Through the development of a robust evaluation of latent organizational weaknesses, SRNS began to make positive strides in addressing significant cultural and behavior challenges that have plagued the site for many years. The SRNS leadership team utilized both organic and independent expertise from across the site and the LLC parent partners to focus and reform the operational culture of the tritium enterprise. Through a disciplined evaluation process, SRNS developed a roadmap to improve disciplined operations through:

- Holistically identifying the critical focus areas to pursue that will remove latent organizational weaknesses and improve organization and personnel performance. These three initial focus areas include procedure improvement, quality and type of training improvements, and improved management engagement at all levels of the organization. These efforts will drive the gap analysis in detailing further efforts through the employment of Procedures and Optimization teams that cross-cut across the SRTE, both vertically and horizontally.
- Develop procedural changes to site-wide procedures (EM controlled) that will remove unnecessary barriers and procedural confusion across the many independent SRNS organizations.

These organizational improvements in Tritium will take time to institutionalize, but the leadership team is fully engaged and accountable to the execution of the efforts. Late in FY15, the SRNS leadership team took the opportunity to include the Tritium Facilities in a larger site-wide operational pause due to identification of site-wide operational weaknesses. SRNS developed a plan to restore the operational culture across the site, including a long-term sustainment action plan that includes EM operated facilities that support NNSA mission work. (CF 6.2/6.5)

SRNS leadership significantly improved their performance supporting NSE initiatives such as BUILDER and G2 throughout FY15, and now is seen as leading the NSE in the implementation of these enterprise risk evaluation and performance/program management tools. SRS was the only site to meet required condition assessment and database population milestones for this enterprise objective. (CF 6.4)

The SRNS team was proactively engaged, developed and communicated a strategic and informative basis for responsibly managing the aging infrastructure of the Tritium Facility, and thereby mitigate the increasing risks to the nuclear deterrent through infrastructure improvements. The detailed

analysis conducted was instrumental in ensuring NNSA leadership and program sponsors are fully cognizant of the risks to the deterrent from an aging tritium infrastructure. SRNS was instrumental in achieving the CD-0 Mission Needs milestone supporting the Tritium Production Capabilities line item project, and was very supportive of CD-1 Analysis of Alternatives (AoA) development. (CF 6.1)

The SRNS leadership team aggressively pursued continuing improvements initiatives that were focused on cost savings and efficiencies, resulting in $10.6M in cost savings for FY15, an over 400% improvement from FY14, and 132% of their challenging FY15 efficiency cost savings goal. This improvement is consistent with their challenge to improve the business operating practices and remove barriers to efficient business practices. (CF 6.4)

SRNS management was very proactive in identifying initiatives to increase facility utility and production of plutonium oxide in support of the AFS-2 mission. Three lean improvement initiatives were initiated in early FY15 that have and will continue to benefit facility operations. These include:

1) Implemented a comprehensive set of changes to HB-Line equipment and processes (procedural and administrative) that improved the availability and reliability of the plant to support production. An example of this is the "mini-outage" approach with thorough planning and preparations to maximize the effect of short-duration outages and minimize production downtime;

2) Accelerated four-shift operations training/implementation by carefully identifying the minimum required training/qualifications, creating parallel training opportunities and adjusting staffing to make it easier to release shift personnel for training. SRNS achieved four-shift operations nearly four-weeks ahead of the August 2015 WAEP milestone;

3) SRNS developed plans to improve the production process by increasing product loading in each can, which when implemented in FY16 will result in significant program cost avoidance. (CF 6.2)

Meets expectations:

SRNS developed and began implementation of a new and more holistic strategic management plan to improve and institutionalize the Tritium program processes based upon a formal risk assessment and engineering analysis of facility systems to better schedule and manage strategic investment for theTritium Facilities. This improved risked based process enhanced senior leadership engagement to ensure the sustainment of facility capabilities and staff competencies are addressed to meet long-term enterprise requirements. (CF 6.1)

The SRNS leadership team and the SRNS corporate Board of Directors (BOD) responded rapidly to the CONOPS challenges experienced in early 2015 and conducted two independent investigations, including a BOD sponsored independent investigation from a third party company with extensive experience in high hazard nuclear work. The corporate response and engagement demonstrated significant BOD engagement in the resolution to address legacy latent organizational weakness, both within the Tritium Facilities and across the SRS. (CF 6.2)

SRNS continued to leverage additional corporate resources to address significant weakness in procurement and logistics management. This was a significant deficiency noted in FY14, whose efforts continued through FY15 to fundamentally change the procurement process that was stymied

in ineffectiveness and a quagmire of procurement backlog. This effort was first driven by the SRNS-Tritium leadership team, and the efforts in improving the procurement process have been significant and have resulted in a better trained organization now responding in a judicious and efficient manner to procurement requirements. (CF 6.4)

SRNS resolved all of the construction contractor's certified Requests for Equitable Adjustment (REA) ($73M) on the Waste Solidification Building (WSB) project which had previously posed a significant risk to the Total Project Cost. SRNS reached a settlement agreement with the subcontractors at approximately 50% of the REA value. Once NNSA granted SRNS REA settlement authority, SRNS worked aggressively to obtain final agreement with subcontractors. (CF 6.4)

SRNS was an active leader in supporting Enterprise Risk Management (ERM) and Weapons Quality improvement initiatives supporting NSE risk decision making and weapons quality program management tools that will result in better resource allocations and enterprise efficiencies. (CF 6.4)

SRNS effectively utilized a Management Assurance System (MAS) to permit both contractor and federal oversight of business, operations, maintenance, and quality assurance performance. Partnering closely with the SRFO in making MAS improvements, the SRNS team improved the mission execution performance, effectiveness, efficiency and transparency of resource utilization and program effectiveness. The development of this program is critical to improving resource allocation and risk management of the tritium enterprise and it is expected to continue in FY16. (CF 6.3)

Needs Improvement:

SRNS needs to improve their ability to forecast and respond to HB Line anomalies to achieve an operating state in the facilities.