

Contractor Assurance Task Group Work Shop

Contractor Assurance System Effectiveness

DOE Order 226.1B requires that:

“The contractor must establish an assurance system that includes assignment of management responsibilities and accountabilities and provides evidence to assure both the Department of Energy’s (DOE) and the contractor’s managements that work is being performed safely, securely, and in compliance with all requirements; risks are being identified and managed; and **that the systems of control are effective** and efficient. (Bold added by author)

Based on this requirement, SRNS needs to be able to demonstrate that its systems of control (Contractor Assurance System being one of many) are effective.

The following provides information regarding how Savannah River Nuclear Solutions, LLC (SRNS) and Savannah River Remediation, LLC (SRR) measure CAS Effectiveness.

Basic Site / contractor data

- 1) Savannah River Site statistics:
 - 310 square miles
 - Primary contractors:
 - M&O - Savannah River Nuclear Solutions, LLC (~5,500 employees)
 - Liquid Waste - Savannah River Remediation, LLC (~2,300 employees)
 - DOE-SR & NNSA - ~350 employees
- 2) Primary SRS missions:
 - Environmental Stewardship (M&O and LW contractors)
 - National Security (M&O)
 - Science and Energy (M&O)
- 3) Number/ type of Hazard Category 1 & 2 nuclear facilities
 - Savannah River Tritium Enterprise (SRTE) - National Defense mission
 - Savannah River National Laboratory - Supports all three SRS missions
 - K-Reactor - Nuclear materials receipt and storage
 - L-Reactor - Spent Nuclear Fuels receipt and storage
 - H-Canyon - Nuclear materials processing
 - HB-Line - Nuclear materials processing
 - 235-F - shutdown, undergoing D&D
 - F-Canyon - shutdown, awaiting D&D
 - Central Laboratory (772-F) - supports Environmental Stewardship & National Security missions
 - XXXXX
- 4) SRNS Program people -
 - Director, Operational Excellence
 - Manager, Quality Assurance & Contractor Assurance

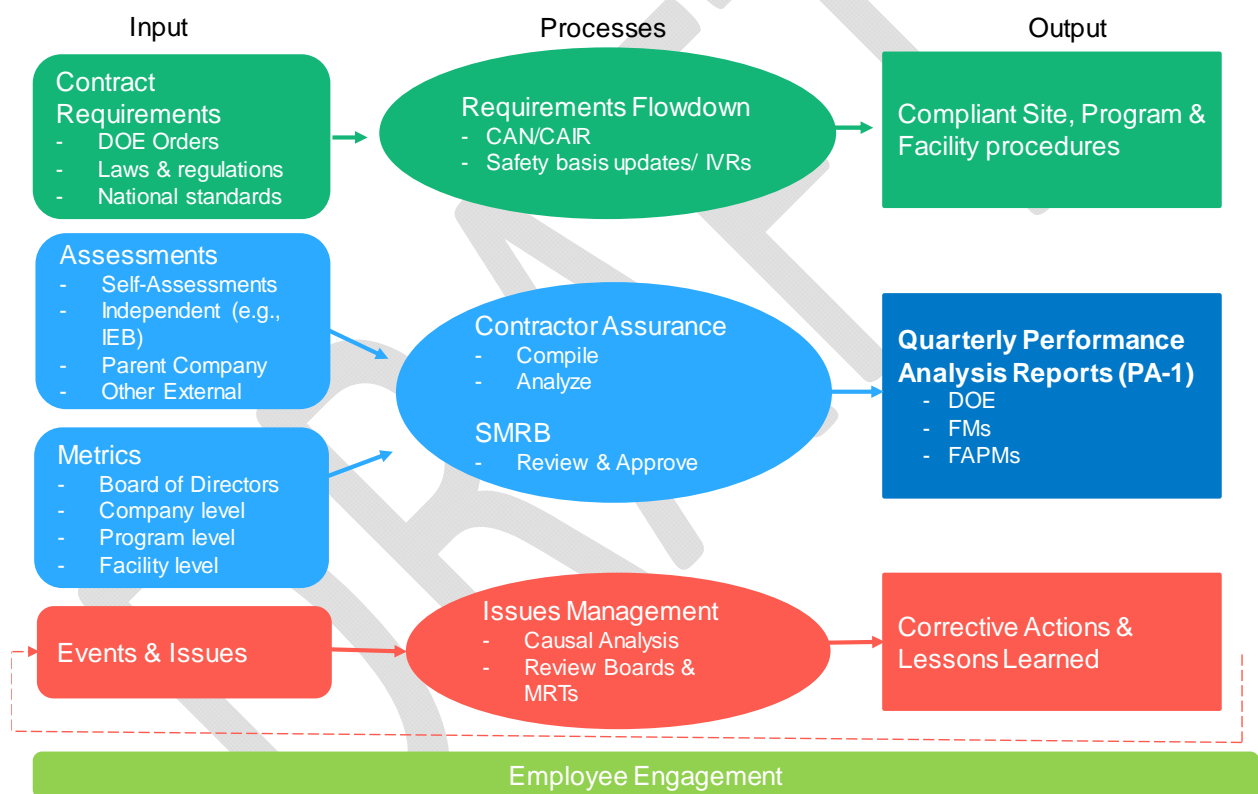
- CAS Manager
- CAS Technical Advisor

5) SRR Program people

- Manager, Quality Assurance
- Contractor Assurance Manager

CAS Effectiveness process summary (Various processes defined in numerous Site procedures)

- Per informal guidance received from DOE-SR, CAS effectiveness should correlate directly to contract performance, both in safe, secure execution of work as well as mission accomplishment.
- The SRNS Contractor Assurance Process is summarized in the following very simplified diagram.



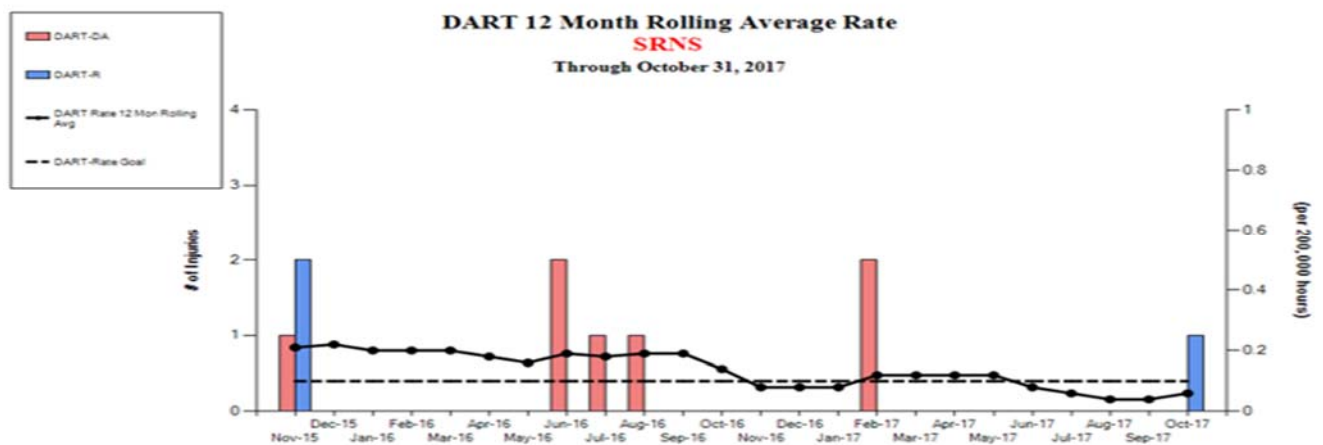
- CAS is a compilation of management processes and programs defined by DOE O 226.1B and the contract.
 - Metrics, Scorecards and Dashboards
 - Self-Assessments
 - Performance Analysis and Trending
 - Senior Management Review Board
 - Independent Evaluation Board
 - Management Review Board

Performance data / results

- CAS has identified a number of areas where the company has taken action to improve performance.
 - Industrial Safety
 - Radiation Protection
 - Chemical Management
 - Hazardous Energy Control
 - Fire Impairments, NCRs
 - Emergency Management
 - Technical Safety Requirements
 - Oral Board Improvements
 - Scenario Based Training
 - Procedures, Equipment, Plant

Some example metrics include:

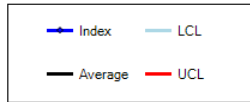
- **Safety Performance**



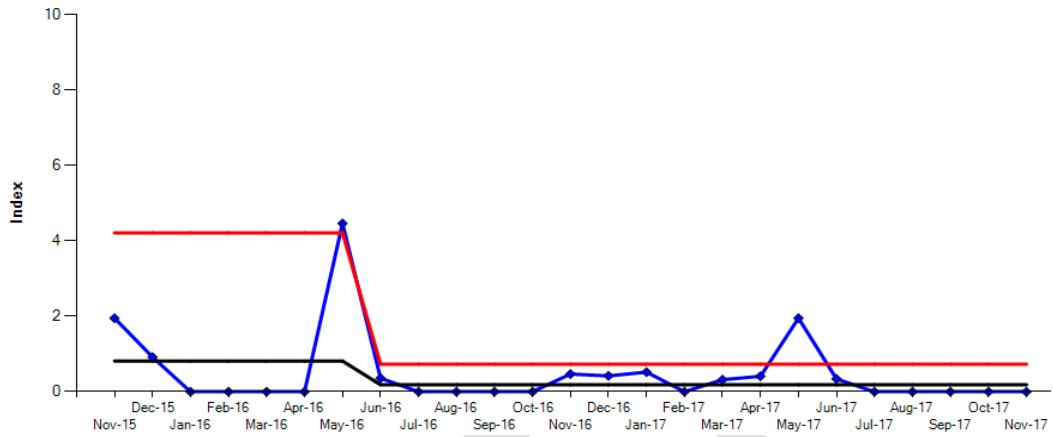
Constant Focus, Analysis and Management Attention

- Reduced DART from 7 (FY16) to 2 (FY17)
- Focus on hazards analysis & prevention
- LSIT actions & initiatives
- Implemented Slips / Trips/ Falls Simulator program (~ 650 personnel completed)
- Received VPP Recertification
- SRNS received the National Safety Achievement Award from the National Safety Council

- **Radiological Protection**

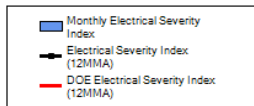


**Radiological Severity Index
Savannah River Nuclear Solutions
Through November 30, 2017**

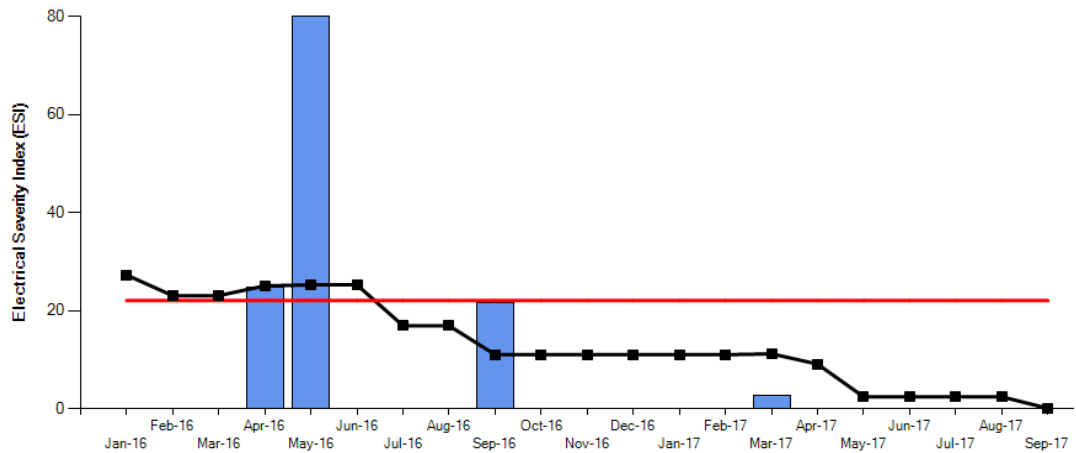


CAS identified Radiological Protection as an area To Be Monitored (4Q FY16)

- Identified to SMRB
 - Common Cause
 - Improved Metrics and Self-Assessments
 - More Targeted MFOs (management presence in the field)
 - Better Engineered Controls
 - ✓ Better Planning
 - ✓ Roll back of radiological areas
 - Radiological Protection Program Review to SMRB (Self-Assessments), Metrics, MFOs
 - Quarterly Analysis (PA-1)
 - Corrective Actions & Causal Analysis
- **Hazardous Energy Control**



**Electrical Severity Index
SRNS
Through September 30, 2017**

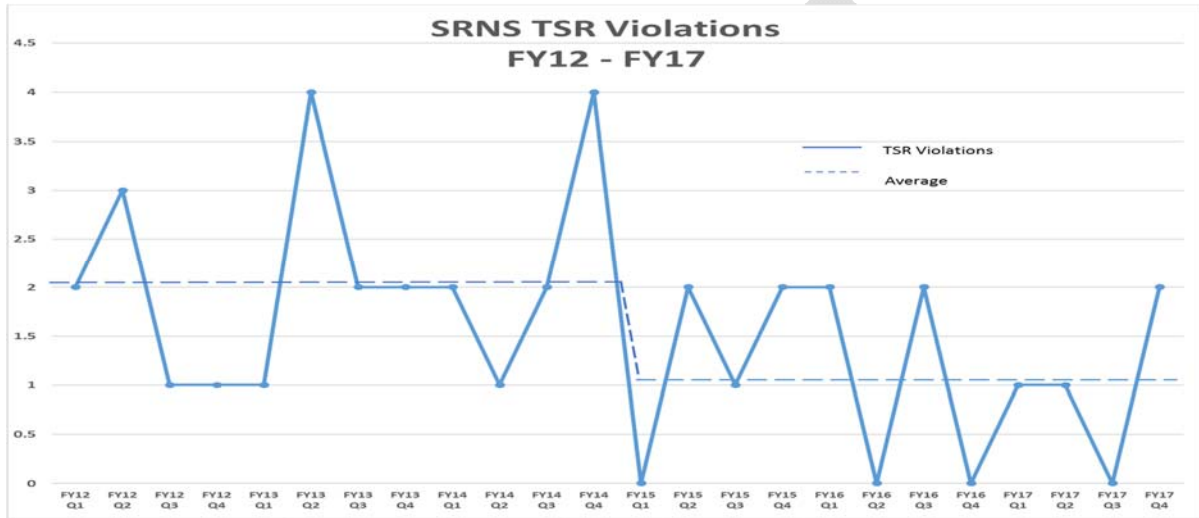


CAS identified HEC as a Cross Cutting Issue (4Q FY16)

- Rewrote 18Q Procedure 2
- Re-Trained all Qualified Workers
- Only one ORPS 2E Reportable

The DOE Complex reported 30 shock events during FY17 – SRNS had ZERO

- **Technical Safety Requirements**
 - Statistical improvement in number of TSR events



CAS identified TSR Knowledge as a Top Cross Cutting Issue (1Q FY17)

EMO Performance is strong

Actions taken at Tritium

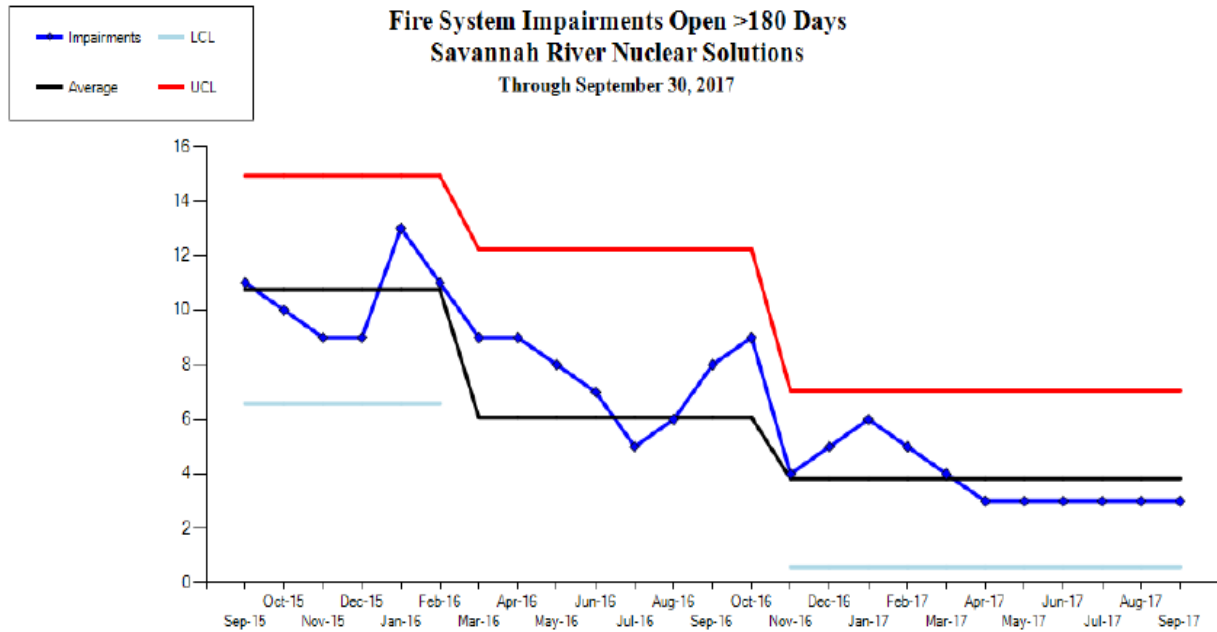
Training improvements:

- ✓ ~100 scenario based seminars
- ✓ Revised Safety Basis training

LCO and Surveillance database project

Piloting Safety System Impact Statements and LCO conditions in CM

- **Fire System Impairments**



Fire Impairments > 180 Days Old

- Decreased from 13 in FY16 to 1 in Sept. 2017
- Management Focus
- Procedure change to address > 180 day impairments

Metrics used to measure performance of CAS Effectiveness

- In early FY17, SRNS Performance Metrics have been used to inform DOE and SRNS senior management regarding the health of the Safety Management Programs (SMPs). These metrics are summarized in a Dashboard format for easy management review.
- In addition to the SRNS Performance Metrics shown in the previous section, SRNS has adopted a set CAS Health Metrics, similar to that developed and used by SRR. These metrics are shown on the attached. They monitor the process performance and output quality of each of the CAS Order elements. These "CAS Health Metrics" have been reviewed with DOE-SR. Comments were received and are being addressed. Follow-up meetings will be held with DOE-SR PAD to ensure adequate resolution of these comments then issue the "CAS Health Metrics".

Known issues with current process

- None