



Savannah River
Nuclear Solutions, LLC
A Fluor Daniel Partnership

Assessment Integration at Savannah River Site

Tim Bolen
Savannah River Nuclear Solutions, LLC.
5/6/09



Objective of this Presentation

To describe how Savannah River Nuclear Solutions, LLC. (SRNS) successfully integrated multiple assessment requirements into one overall review.

Assessment Drivers

- Primary Requirement
 - **Conduct a Phase II (Implementation) Verification of Integrated Safety Management System (ISMS)**
 - **Contract transition commitment by Savannah River Nuclear Solutions Management to DOE**

Assessment Drivers

- Secondary Requirement
 - **Assessment of Voluntary Protection Program (VPP) Criteria to prepare for Recertification of STAR status**
 - **Assessment of Human Performance Improvement (HPI) initiatives to satisfy Site HPI Strategic Plan**
 - **Assessment of Behavior Based Safety (BBS) performance relative to BBS principles**
 - **Assessment Pilot of DOE/EFCOG Safety Culture Task Team criteria**



Assessment Plan Development

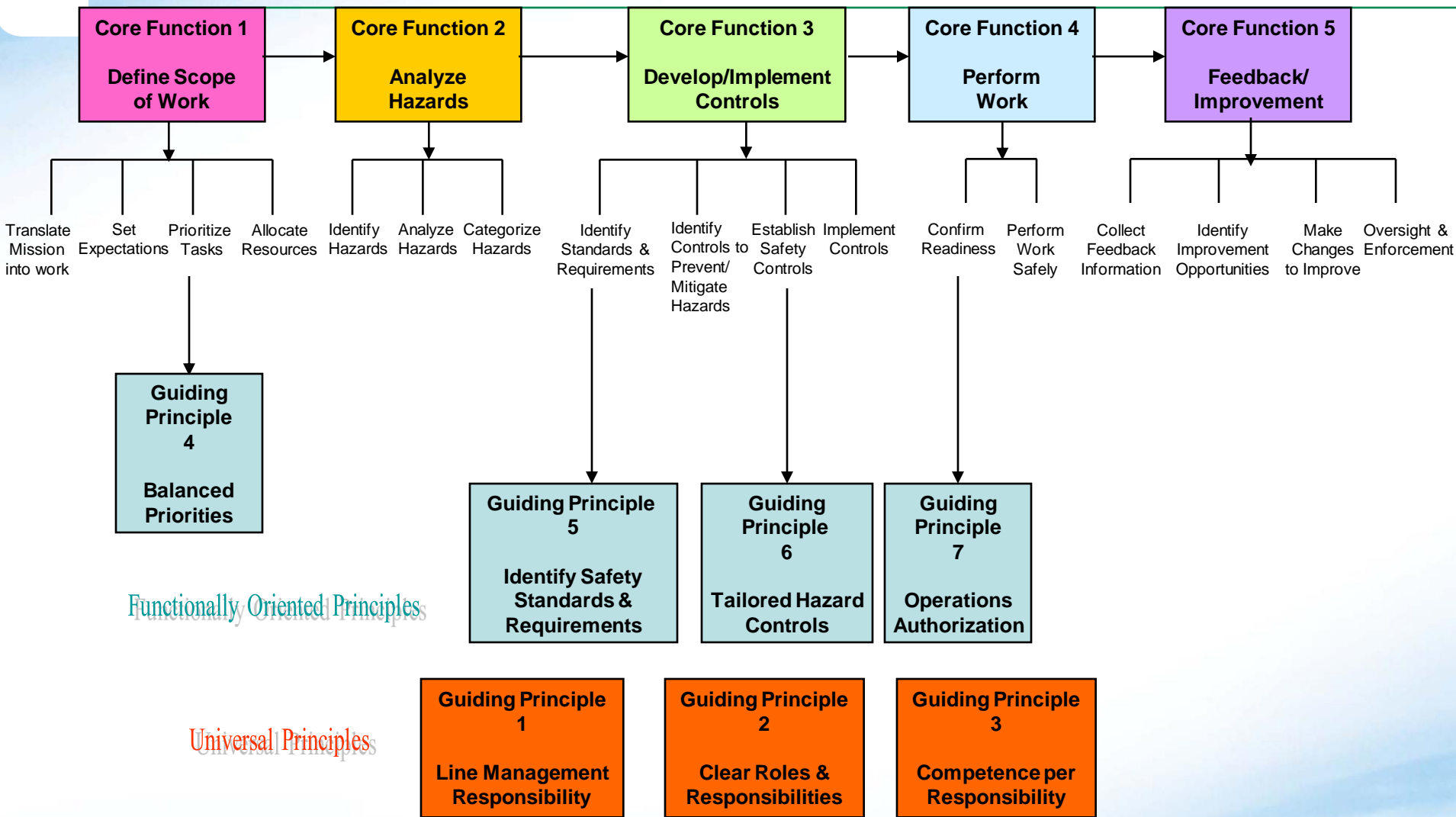
- ISMS Phase II Verification Plan per Department of Energy Team Leader Handbook
- Cost Effectiveness was a primary concern
 - Team of 25 with contracted consultants



Assessment Structure

- Verification Team Composition
 - **Principal Team Leader**
 - **CRAD Team Leaders**
 - **Safety Initiative SMEs**
 - **ISMS Assessment Areas selected for review verification**
 - **Hazard Identification and Standard Selection (HAZ)**
 - **Management (MG)**
 - **Operations (OPS)**
 - **Quality Assurance (QA)**
 - **Subcontractor (SUB)**

ISM Functions and Principles



Functionally Oriented Principles

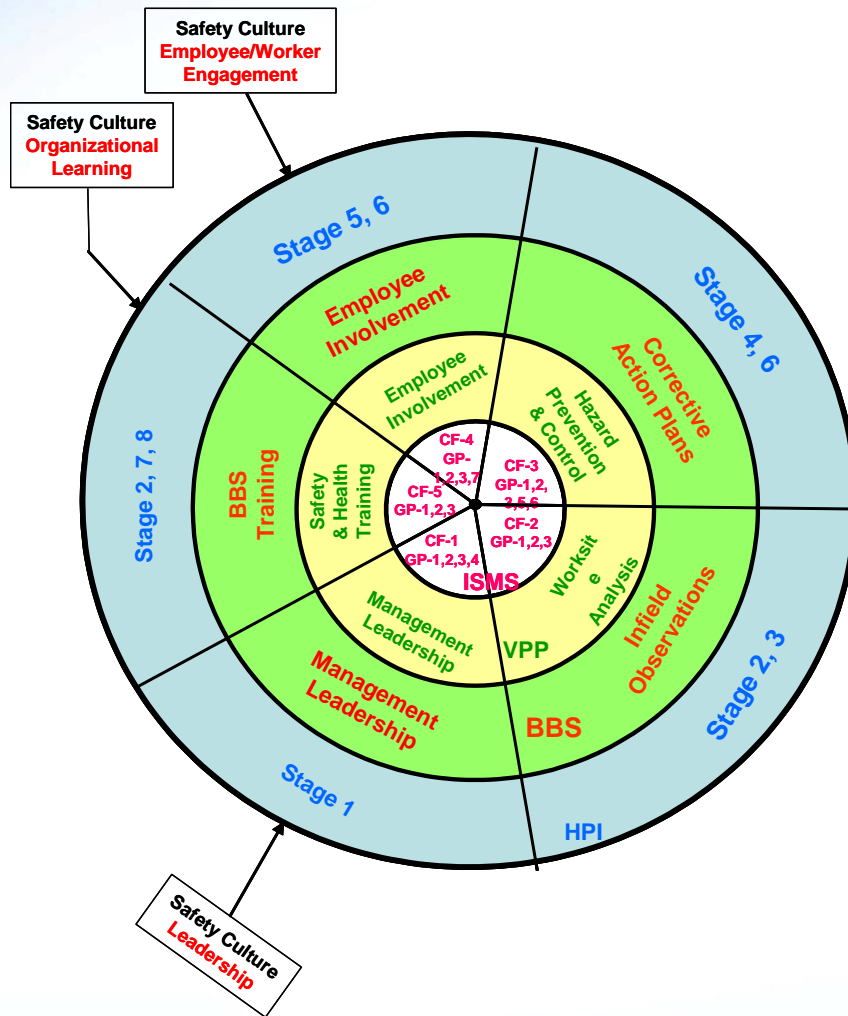
Universal Principles



Approach to Integration

- Developed relationships relating ISM Core Functions and Guiding Principals to the following:
 - **Tenets of VPP,**
 - **Stages of HPI,**
 - **Principles of BBS,**
 - **Attributes of the Safety Culture Task Team**

Safety Initiative Relationships



ISMS

Core Functions:

1. Define Scope of Work
2. Analyze Hazards
3. Develop and Implement Controls
4. Confirm Readiness / Perform Work
5. Feedback and Continuous Improvement

Guiding Principles:

1. Line Management Responsibility for Safety
2. Clear Roles and Responsibilities
3. Competence Commensurate with Responsibilities
4. Balanced Priorities
5. Identification of Safety Standards and Requirements
6. Hazard Controls Tailored to Work Being Performed
7. Operations Authorization

Relationships Between ISMS, VPP, BBS and HPI

HPI

- Stage 1: Obtain senior management commitment
- Stage 2: Establish oversight committee
- Stage 3: Identify the gaps to excellence
- Stage 4: Develop a human performance improvement plan
- Stage 5: Communicate with and engage stakeholders
- Stage 6: Implement human performance strategy and associated improvement plan
- Stage 7: Evaluate the effectiveness of human performance improvement plan
- Stage 8: Maintain the right picture of excellence in Human performance



First Stage of Integration

- Developed Lines of Inquiry (LOIs) to address Criteria and Review Approach Document (CRAD) Objectives and Criteria for ISMS Verification
- New approach to ISM Verification for SRS

Second Stage of Integration

- Developed cross-walk between ISMS Verification LOIs and specific criteria or lines of inquiry for VPP, HPI, BBS, Safety Culture Task Team Criteria
 - **Team Leaders and Safety Initiative SMEs**
 - **Did not obtain 100% coverage**

Sample of LOI Cross-walk

Name:	Title: Facility Manager	Additional Applicability*
11 (MG.2.Int-1) What is your role within the facility or activity to ensure that safety is maintained at all levels?		VPP-12, 15, 26, 209 HPI- BBS- SC-
12 (MG.2.1) What mechanisms/procedures are in place to define clear roles and responsibilities within the facility or activity to ensure that safety is maintained at all levels? (If not already provided, obtain copy)		VPP-25, 29
13 (MG.2.2) What facility or activity procedures specify that line management is responsible for safety? (If not already provided, obtain copy)		VPP-28a, 28b
14 (MG.2.3) What mechanisms/procedures are in place that ensure that personnel who supervise work have competence commensurate with their responsibilities? (If not already provided, obtain copy)		VPP-208, 211, 212, 217
15 (MG.2.4) What mechanisms/procedures are in place that ensure that personnel performing work are competent to safely perform their work assignments? (If not already provided, obtain copy)		VPP-218, 219, 223, 226
16 (SME.1.2(b)) How is Quality Assurance effectively integrated with line support managers to ensure that line managers are responsible for safety?		

Third Stage of Integration

- Performed basic ISM training for the team and included Safety Initiative SMEs
 - **Initiated teaming of ISM Team and Safety Initiative SMEs**
 - **Validated approach to integration of LOIs and Safety Initiative questions**

Performance

- Integrated the SMEs into all facets of the ISM Review as team members
 - Assessment Performance
 - Full access to data given to Safety Initiative SMEs
 - Review of Daily and Weekly status meetings fully transparent
 - SMEs,
 - Customer

Example of Integrated LOI with HPI

- HAZ.1.8 When unexpected changes in work activities or scope require re-analysis of hazards, how does the worker/planner ensure all of the necessary analytical disciplines are involved in the reanalysis? How do the results of the re-analysis get incorporated in the work control documents?
 - **PJB.8 - Did the Person In Charge reinforce Timeout for unexpected results, changing conditions, change in work scope, etc.?**

Example of Integrated LOI with HPI

- OP.1.9 What is your understanding of HPI principles and how HPI principles are integrated into the performance of work?
 - ERT.2 - Can the workers identify the error reduction tools for the site?
 - ERT.3 - Was Self Checking (STAR) used during the task?
 - Stop
 - Think
 - Act
 - Review
 - ERT.4 - Do the workers perform the Peer Checking observes before and during execution?

Example of Integrated LOI with VPP

- OP.1.5 What procedures/mechanisms are in place which ensure that adequate performance measures and indicators, including safety performance measures are established for the work? **Are operating procedures reviewed and updated, as necessary, at least annually?**



Lessons Learned

- Review generated a very large data set. Imperative to set up easily retrievable data storage bins.
- Rigor of Assessment is maintained by giving foundation LOIs for multiple facilities and functional groups
- Continued involvement by SMEs in review process is critical for full effectiveness of integration

Conclusions

- **Efficiency was gained by the process**
 - This type of complex integrated assessment requires large time commitment by the team
 - 100% Coverage for all Initiative assessment areas did not occur but overall a success story for integration.
 - HPI – Estimated 15% gap remaining
 - VPP – Estimated 40% gap remaining