



**An Independent Assessment of  
Safety Culture at  
Savannah River Nuclear Solutions**

External Safety Culture Assessment Team:

George Jackson, Fluor, Retired  
Dr. Jennifer Farris, Texas Tech University  
Bill Laz, Newport News Nuclear  
Bill Harrison, Fluor Power  
Don Fitzpatrick, Honeywell, Kansas City Plant  
Kevin Allgeyer, Honeywell, Kansas City Plant

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## **An Independent Assessment of Safety Culture at Savannah River Nuclear Solutions**

### **A.1 Introduction**

This report describes the results of an independent assessment of the existing Safety Culture at the Savannah River Site, Savannah River Nuclear Solutions (SRNS), M&O. This effort was commissioned by the SRNS Board of Directors. The sample population of the assessment was from SRNS employees involved in executing the work scope within SRNS; SRNL, EM Operations, ARRA and the support groups such as Environmental, Safety, Security and Health. The assessment was conducted between March 12<sup>th</sup> and 16<sup>th</sup>. The objective of the assessment was to gather and analyze information regarding the status of the safety culture components at SRNS. The assessment approach methodology was similar to that DOE used to assess the culture at the Hanford Site Waste Treatment and Immobilization Plant which also included aspects of the current U.S. Nuclear Regulatory Commission (NRC) procedures for independent safety culture assessment. In specific, the first reference noted was used as a model for the assessment and final report. Positive observations and areas in need of attention with respect to the traits necessary for a healthy safety culture are presented. Conclusions regarding the results of the information collected on the safety culture traits are also presented to facilitate the identification of improvement strategies. These main conclusions were as follows:

- The overall safety culture at SRNS is healthy and improving
- A chilled environment adverse to safety or management suppression of technical dissent does not appear to exist
- Employees and managers don't allow production or schedule to compromise safety
- Interview analyses resulted in both positive and areas in need of leadership / management attention as noted in the below traits sections

Finally, recommendations are provided for some initial steps that the Independent Safety Culture Assessment Team believes are necessary to effectively implement and execute the actions that will result in improved safe and reliable performance.

### **A.2 Background**

Evaluating the safety culture of a particular organization poses some challenges. Cultural assumptions, which influence behavior and, therefore, safety performance, are not always clearly observable. Schein (1992) presents a model of culture that helps in understanding how the concept can be assessed. In Schein's model, culture is assumed to be a pattern of shared basic assumptions, which are invented, discovered or developed by an organization as it learns to cope with problems of survival and cohesiveness.

According to Schein's three-level model, an organization's safety culture can be assessed by evaluating the organization's artifacts, claimed values, and basic assumptions. On the first level of the model are the organization's artifacts. Artifacts are the visible signs and behaviors of the organization, such as its written mission, vision, and policy statements. The second level consists of the organization's claimed or espoused values. Examples of claimed values might include mottos such as, "safety first" or "maintaining an open reporting work environment." The third

level is comprised of the basic assumptions of the individuals within the organization. Basic assumptions are the beliefs and attitudes that individuals bring into the organization or that are developed because of experience within the organization. Examples of basic assumptions may include, “safety can always be improved” or “everyone can contribute to safety.” The organization’s basic assumptions regarding safety culture are less tangible than the artifacts and claimed values. They are often taken for granted within the organization that shares the culture. Artifacts, claimed values, and basic assumptions are evaluated to identify the presence or absence of the safety culture traits that have been found to be important for the existence of a healthy safety culture within a nuclear facility (INSAG-15, 2002; INPO Principles for a Strong Nuclear Safety Culture, 2004; NRC Inspection Manual 0305, 2006). The NRC and its stakeholders have recently agreed upon nine traits which are viewed to be necessary in the promotion of a positive safety culture. These include:

- **Leadership Safety Values and Actions**
- **Problem Identification and Resolution**
- **Personal Accountability**
- **Work Processes**
- **Continuous Learning**
- **Environment for Raising Concerns**
- **Effective Safety Communication**
- **Respectful Work Environment**
- **Questioning Attitude**

Particular behaviors and attitudes have been identified to evaluate the extent to which the organization has attained these attributes. A variety of different methods are employed to collect information about the various behaviors and attitudes identified.

Most of the methodology used in this assessment was originally developed with the support of the NRC (1991) to assess the influence of organization and management on safety performance. The methodology entails collecting a variety of information that is largely based upon the perceptions of the individuals in an organization. Perceptions are often reality when it comes to influencing behavior and understanding basic assumptions. Therefore, the data collected regarding individuals’ perceptions are critical to this type of assessment.

### **A.3 Scope of Safety Culture Assessment**

The scope of this safety culture assessment was defined to be a collective representation of SRNS employees. The Independent Safety Culture Assessment Team was on site between March 12 and March 16, 2012. The Independent Safety Culture Assessment Team was made up of independent SRNS, LLC corporate personnel experienced in nuclear plant management and operations, nuclear and industrial safety, industrial engineering, DOE facility safety culture review, employee concern programs, nuclear safety management and authorization bases.

This safety culture assessment is a ‘point in time’ snapshot of SRNS and was limited to interviews of a cross-section of SRNS employees. No field observations were performed as a component of this review.

## **A.4 Methodology**

The complete details of the methodology used in this assessment are presented elsewhere (Haber and Barriere, 1998), but are briefly described in this section. Five methods are used to collect information on the organizational behaviors associated with the safety culture traits. Two of these methods used for this assessment are:

- Functional Analysis
- Semi-Structured Interviews and Focus Groups

The use of multiple methods to assess any organizational behavior assures adequate depth and richness in the results obtained. In addition, confirming the results obtained through the use of one method with results obtained through the use of another method provides convergent validity for the results. A brief description of each method is provided below.

### **A.4.1 Functional Analysis**

The purposes of the Functional Analysis are to: (1) clearly identify the organizational units of SRNS, (2) gain an understanding of each organizational unit's functions and interfaces, (3) examine the way in which information flows within and among units, and (4) identify the key supervisory and managerial positions of each organizational unit. Information to support this activity was obtained primarily through the review of the documentation identified below, some semi-structured interviews, and some observations of organizational activities. The organizational behaviors to be evaluated were identified from the information collected during this analysis.

#### **Organizational Behaviors**

Based upon the information obtained from the Functional Analysis, the following organizational behaviors were identified for assessment:

Attention to Safety – Attention to Safety refers to the characteristics of the work environment, such as the norms, rules, and common understandings that influence site personnel's perceptions of the importance that the organization places on safety. It includes the degree to which a critical, questioning attitude exists that is directed toward site improvement.

Communication – Communication refers to the exchange of information, both formally and informally, primarily between different departments or units. It includes both the top-down (management to staff) and bottom-up (staff to management) communication networks.

Coordination of Work – Coordination of Work refers to the planning, integration, and implementation of the work activities of individuals and groups.

Formalization – Formalization refers to the extent to which there are well-identified rules, procedures, and/or standardized methods for routine activities as well as unusual occurrences.

Organizational Learning – Organizational learning refers to the degree to which individual personnel and the organization, as whole, use knowledge gained from past experiences to improve future performance.

Performance Quality – Performance quality refers to the degree to which site personnel take personal responsibility for their actions and the consequences of the actions. It also includes commitment to and pride in the organization.

Problem Identification and Resolution – Problem identification and resolution refers to the extent to which the organization encourages facility personnel to draw upon knowledge, experience, and current information to identify and resolve problems.

Resource Allocation – Resource Allocation refers to the manner in which the facility distributes its resources including personnel, equipment, time and budget.

Roles & Responsibilities – Roles and responsibilities refer to the degree to which facility personnel’s positions and departmental work activities are clearly defined and carried out.

Time Urgency – Time urgency refers to the degree to which facility personnel perceive schedule pressures while completing various tasks.

These behaviors are then used to provide information on the nine traits according to the following framework:

- Leadership Safety Values and Actions – Attention to Safety; Time Urgency
- Problem Identification and Resolution – Problem Identification and Resolution
- Personal Accountability – Performance Quality; Roles and Responsibilities
- Work Processes – Coordination of Work; Formalization
- Continuous Learning – Organizational Learning
- Environment for Raising Concerns – Safety Conscious Work Environment (SCWE)
- Effective Safety Communication - Communication
- Respectful Work Environment – Trust
- Questioning Attitude – Attention to Safety.

#### **A.4.2 Semi-Structured Interviews**

A semi-structured interview protocol was derived from a database of interview questions. A particular subset of questions can be selected to provide a predefined focus to an interview or focus group session. The Independent Safety Culture Assessment Team selected a set of questions to gather information related to the safety culture traits from the organizational behaviors identified from the Functional Analysis.

A total of 75 individual interviews and 6 focus groups were conducted as part of the assessment. A total of 126 individuals were involved in one these activities. Each interview and focus group lasted approximately one hour and a few less formal follow-up interviews were conducted to provide further clarification when necessary.

### **A.5 Results**

The results presented below summarize the insights gained from the assessment team’s analyses of the semi-structured interviews and focus groups. The results are presented in terms of the safety culture traits for SRNS. Positive Observations and Areas in Need of Attention related to each trait are presented and provide the observations and insights to understand their impact on

the overall health of the safety culture. In addressing needed safety culture improvements, SRNS should focus on recommendations in this report and address the examples in the Areas in Need of Attention, including exceptions noted in the Positive Observations, within that larger framework. Resolution of the issues should be managed in accordance with the SRNS corrective action management program. It is not the intention that each Area in Need of Attention necessarily result in a corrective action. Developing numerous corrective actions in this area perpetuates a compliance mentality which does not foster a ‘healthy safety culture’.

## **1. Leadership Safety Values and Actions**

*Leaders demonstrate a commitment to safety in their decisions and behaviors.*

### **Positive Observations**

- One significant positive is that there is an obvious push from senior management to address avoiding complacency. For example, two interviewee quotes:

Source: Engineer with less than five years of experience at the site -

*“Safety is everywhere; meetings, emails, to posters on the commode doors. You would have to make an active effort to become complacent.”*

Source: Craftsman with more than 20 years of experience on the site –

*“I worry about complacency. Each week I come prepared and with a lively safety brief. I want them to see it is important to me; and therefore, should be important to them.”*

- There were various examples provided by interviewee’s of complacency fighting techniques, but the common thread was senior management participation.
- A second significant positive was that personnel openly acknowledge the increased emphasis on safety by Senior Leadership.
- A third significant positive was that personnel believe that the Local Safety improvement Team (LSIT) champions / sponsors for each LSIT are doing a good job facilitating employee involvement in the various SRNS safety initiatives.
- Non managers interviewed related that their management reinforced the safety program by supporting employee participation in the behavior-based safety observation program. The non-managers interviewed related that positive reinforcement included public praise and other awards. Generally, the non-managers interviewed did not articulate any specific examples of negative reinforcement. The primary driver seems to be peer on peer pressure to accept safety as an individual character trait. Essentially, it isn’t cool not to be safe.
- Non managers interviewed expressed that management is very consistent in sending the message that safety must not take a back seat to production. Non managers highly praised management’s support for the “time out” policy. One non-manager related an instance where a time out was called when an employee slipped in the mud injuring a shoulder, and upon restart a second time out was called when the load being manipulated by a mobile crane caused the concrete pad on which it was riding to show signs of cracking. The employee speculated that in times past, the decision to take a time out may have been less likely. No non managers could recollect any instance where production goals trumped safety. Non managers related that daily plan of the day meetings establish production goals and those

responsible managers convincingly communicate that the priority is safety over meeting goals.

- Non managers interviewed expressed strong praise for management treating them with professional dignity and respect and that their managers genuinely value the technical expertise the employee brings to the table regarding safety issues they or other employees raise. Non managers interviewed related that their managers actively seek to understand issues raised by the work group and probe the issues sufficiently if they initially don't fully understand all technical aspects. Non managers interviewed related that it is common practice that managers stress that they don't just want them to identify issues, but also to identify solutions.
- Managers were cognizant of performance metrics relating to action item tracking and the emphasis placed on minimizing overdue corrective action program action items. Generally, the managers expressed that the genesis for many of the corrective action items they were responsible for was performance assurance reviews and independent oversight activities that are routinely conducted.
- Each manager interviewed provided specific details on how they promote effective pre-job briefings. Some conduct the briefings themselves; others related how they used the management field observation program to document the effectiveness of these briefings. Generally, managers provide a consistent safety message with respect to their expectations for the use of time outs, see something say something, practicing an open door policy, and focusing on safety first.
- Managers related that they are able to routinely provide candid feedback and coaching to individuals and groups that do not demonstrate expected safety behaviors through the behavior based safety program and management field observations. The managers interviewed could not recall recent examples where observed behaviors were significantly out of line with management expectations such that radical course correction was called for.
- Managers interviewed did not relate any instances where the screening and categorization of problems process failed to ensure the reporting of important problems as well as non-consequential near misses. The managers generally support the notion that a characteristic of a strong problem identification and resolution program is one with high-volume and low threshold.
- Managers interviewed related that through the behavior based safety and the management field observation programs that they feel they are providing visible leadership in the field, and are in a position to provide coaching, mentoring, reinforcement of standards, and are able to promptly correct deviation from expectations.
- Managers discussed how they use the automated job hazards analysis processes, as well as rapport with safety personnel and workers for input into the decision making process on how best to monitor and provide field oversight of high risk work, validate expected conditions, and to be in a position to intervene when and as necessary. They also related the strong acceptance by the work force in support of them using the time out process without fear of reprisal.

- Managers showed a fundamental understanding of human performance tools and methods. The managers pointed to strong pre job briefings and the time out policy that helps ensure workers and support personnel fully understand the impact on nuclear safety, defense-in-depth, the scope of work, critical steps, termination criteria and required notifications prior to beginning work.

### **Areas in Need of Attention**

- One interviewee related that four of the five person team sent to assess the material and procedural adequacy of rolling scaffold equipment use did not seem to be fully aware of how the equipment worked or the requirements for use. This team was sent out following a full inspection by site rigging organization subject matter experts. The interviewee expressed that a significant amount of time was expended proving that several of this team's findings had no technical basis.
- Some interviewees indicate that they have received mixed messages with respect to whether participation in behavior based safety observations is mandatory or voluntary and are uncertain what the term "participate in" actually means. One person mentioned that current leadership appeared to be more numbers focused than people focused.
- Some interviewees described that there seems to be a double standard with respect to discipline for adverse drug screening results between organizations. Apparently it is the interviewee's perception that their group will be terminated for a first offense while another group will receive 30 days off for first offense and are terminated only after a repeat offense.
- Some employees indicated they would get nervous when upper management visits the floor. The team feels that the more this occurs the more comfortable people will feel.
- Some employees related that leadership wants active participation in behavior based safety observations and local safety improvement teams; however the financial support for these seems inconsistent. The message being sent boils down to actions speaks louder than words.
- Multiple employers (both managers and non-managers) expressed concern that all of the restructuring activities may be having a negative effect on employee morale.
- Some local safety improvement team members expressed that the behavior based safety observation programs is struggling in some areas. e.g., lack of participation, lack of quality in observation reports indicating people may be just going through the motions. In addition, there appears to be general uncertainty regarding how much time employees are allowed to spend on LSIT activities, or how LSIT participation will factor into performance evaluations, with a few employees expressing concern that some employees might be discouraged from participating in an LSIT lest it take too much time away from their regular duties. Management should consider evaluating methods to improve marketing of the program.
- Consider standardization of resources (budget) allocated to LSIT teams across the site. Currently, budget variation exists across the site, as some divisions are providing budget resources to area LSITs and some are not. In addition, consider developing standard policies regarding time allowed for employees to work on LSIT activities.

- Personnel indicate that the consistency of leadership involvement in MFOs can be improved across the site – the organization should clearly define expectations for leadership participation in MFOs.

## **2. Problem Identification and Resolution**

*Issues potentially impacting safety are promptly identified, fully evaluated, and promptly addressed and corrected commensurate with their significance.*

### **Positive Observations**

- Interviewees were very knowledgeable of the local safety improvement team and behavior based safety processes. There was confidence that problems would be identified by the process and follow-up through resolution. The “Local” aspect of the process encourages ownership.
- Interviewees related that the Site Tracking and Analysis and Reporting (STAR) process is the primary tool for documenting and tracking issues. Interviewees related that the STAR system provides linkages for the examination and communication of problems among organizations.
- Personnel interviewed expressed confidence that issues entered into the STAR issues management/corrective action program were prioritized correctly.
- Personnel interviewed expressed confidence that corrective/preventive actions taken as a result of investigating employee concerns are appropriate and are managed in a timely manner and in accordance with procedures. However, personnel admitted limited knowledge of or experience with the differing professional opinions process.
- Personnel interviewed expressed that they believe that the corrective action program is successful in addressing issues that are submitted. Examples provided included getting a side walk repaired, a motorcycle parking area established, and lighting installed in a canyon staircase. The personnel interviewed did not indicate any involvement in being assigned to evaluate the effectiveness of the implemented corrections.
- Personnel interviewed expressed satisfaction that they are properly included in the issues management/corrective action process for issues they raise and that this is necessary.
- One employee indicated that only certain persons can enter an issue into the issues management/corrective action program. None of the personnel interviewed indicated that they were aware of any issue that someone wanted to enter into the issues management program but a supervisor or higher level manager disapproved the entry.
- Personnel interviewed were knowledgeable of and many have participated in fact findings processes.
- Personnel related that they are confident that anomalies are thoroughly investigated, promptly mitigated, and periodically analyzed in the aggregate, and that trends are looked for which sometimes lead to additional corrective actions.

- Personnel interviewed provided examples from the past year in which they and their respective supervisor or manager stopped work (time out) or delayed completing a task because of a safety issue or concern. The nature of these instances include the following:
  - Halting temporary breathing air installation and startup when it was discovered that an action item was performed prior to completing all required pre-requisites;
  - Stopping the transport of a heat exchanger when cracking of the concrete slab was observed below the crane treads;
  - Suspending gate installation work when a dispute regarding a lock out, tag out arose; and
  - Stopping overhead movement of materials when personnel were observed walking under the suspended load.
- There were no examples provided where there was a lack of satisfaction with the resolution.
- Managers interviewed indicated they had no reservations with respect to questioning decision-makers to fully understand the bases of operational and management decisions should the decision appear to be contrary to nuclear safety.
- Managers related that employees embrace involvement in the corrective action program, self-assessments, benchmarking and training to improve nuclear safety as a matter of course and that extraordinary action to solicit involvement is seldom required.
- Managers interviewed indicated that employees embrace personal responsibility for safety, feel free to challenge unsafe behavior and unsafe conditions and, as managers, that it is an expectation that they fully support personnel when they stop plant activities for safety reasons.

#### **Areas in Need of Attention**

- Several interviewees indicated that until very recently they were not aware that the site had a differing professional opinion (DPO) process, however, but none indicated a need for its use.
- A surprising number of interviewees either didn't know about or were only somewhat aware of the purpose of the employee concerns program. The vast majority of those interviewed indicated it would be extremely unlikely they would ever contemplate using the employee concerns program to report an issue. (Most non-manager employees indicated that concerns are communicated to and handled by the immediate supervisor.
- One non manager expressed that the STAR program, while being good tool, is misused with respect to the threshold being too low. Essentially, the employee believes there are too many trivial issues cluttering up the system. Another non-manager used terms like “cumbersome” and “a night mare” when referring to the STAR process.
- Some managers related that there is a stigma and a sense of dread attached to getting a “STAR” action assigned to them and the unhappiness expressed when they assign a STAR action to a subordinate.

- A non-manager indicated during the interview that he was uncertain whether the organization has an issues management system. A couple of other employees used words to the effect of “I’m sure they probably do but I’m not sure since I’m not in management.”
- Personnel were not aware of any recent formal assessments being conducted or planned to measure safety culture. In addition, the managers interviewed had not previously attempted to assess the safety culture in their work areas.

### **3. Personal Accountability**

*All individuals take personal responsibility for safety.*

#### **Positive Observations**

- Personnel identified a strong personal accountability associated with their roles and responsibilities while executing work assignments, including willingness to question, intervene and or call a ‘Time-Out’ when necessary.
- Work Control - The expectations to follow work order and/or procedural requirements in the execution of work are understood and mature across the site. Deviation from a work order or procedure is not an issue – employees understand the work control process and risk associated with deviation from the process.
- Personnel recognize and validated the Senior Leadership commitment and value placed on overall site safety.

#### **Areas in Need of Attention**

- Personnel expressed a common theme that there is a ‘double-standard’ or different set of safety requirements for subcontractors performing work on the site. Multiple personnel voiced concern associated in particular with “new subcontractor employees” performing work at the site.
- BBS expectations are not clear among personnel – is participation in the program voluntary or is it an expectation of all employees? And, multiple employees mentioned that some employees in the plant do not yet see the benefits of BBS.
- During a joint interview interviewees expressed concern that safety professionals at times invoke differing hazard control requirements for the same hazard. For example, the interviewees cited that extensive testing was conducted by one industrial hygienist to determine the respiratory and airborne controls requirements; however a replacement hygienist invoked more restrictive respiratory control requirements discarding the previous testing.

### **4. Work Processes**

*The process of planning and controlling work activities is implemented so that safety is maintained.*

#### **Positive Observations**

Overall, interviewees’ generally made positive comments on safety with respect to work processes and adherence to the guiding principles and core function of the integrated safety

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management system (ISMS). Specifics, from pre-job work package preparation, pre briefs, shift briefs, post-job briefs and “time-out” procedures. Related comments include:

- Area “walk downs” as part of the pre job process were beneficial.
- Pre job processes have been improving; more lessons learned have been included from previous post-job briefs.
- Daily plan of the day/tool box meetings with safety always included helped avoid safety complacency particularly with routine jobs.
- Multiple employees mentioned the use of three-way communication.
- One employee mentioned reverse briefs were performed in some areas—the operator explains activities to be performed instead of the manager.

#### **Areas in Need of Attention**

- Several LSIT members expressed concerns with their ability to effectively balance their responsibilities as LSIT participants and their professional duties and responsibilities. At a group interview with LSIT chairs, two members commented that, while they received senior management support, they also received comments from their supervisors like “you spend an awful lot of time doing LSIT stuff.”
- More than one employee expressed concern that current facility staffing is inadequate to support the recent increase in work scope, and that an historic weakness in discipline of operations and a history of frequent turnover of personnel serves only to amplify this vulnerability.
- Multiple interviewees expressed concerns that the reduction in safety professionals may be jeopardizing the ability to optimize quality of the oversight provided by safety professionals. Specifically, the interviewee related that it is common for one hygienist to participate in the development of the hazard analyst; however, only to have another hygienist assigned to oversee the work package implementation. This interviewee expressed that a “cradle to grave” approach for work hazard analysis and oversight of job field implementation would be a preferred approach.
- One employee mentioned that managers can’t ensure rules are being followed on the floor.
- Interviewee related that electrical PPE suits have hood visibility problems that could lead to a worker violating barrier criteria during work.

#### **5. Continuous Learning**

*Opportunities to learn about ways to ensure safety are sought out and implemented.*

#### **Positive Observations**

- There were numerous comments on the need for continuous training and execution methodologies. One program stood out as a Best Practice during an “EM Operations” interview. Their quarterly “Refocus Sessions” were described:

- Breakfast—enhances attendance
  - Management attendance—highlights seriousness
  - Safety topic inputs—from both managers and LSIT/BBS plus recent lessons learned
  - Assigned seating—mixed group and ensure meeting others
  - Interactive presentation—ensures participation e.g. games, “quiz shows”
- The common thread in these unique continuous learning events was the support/attendance of senior management.
  - Bringing in outside experts helps keep interest. Two examples given were Pepperidge Farms and ergonomics subject matter experts.
  - Several interviewees mentioned relevant videos, particularly the “I turned the other way” video.
  - The training program appears thorough and effective. For the most part employees do not perceive the need for more training.

#### **Areas in Need of Attention**

- Several interviewees expressed concern with the adequacy of training on hazard recognition provided to new employees and subcontractors. It was a common opinion that more “bang for the buck” could be obtained focusing on this area.
- Several interviewees expressed concerns that the level of detail provided by management with respect to the root cause(s) for the K Area Fall and the recovery status of the co-worker involved has been less-than-adequate. The interviewees acknowledge there are privacy issues related specific medical information to be considered; however, they would like to have as much information on how the co-worker is doing and what caused the event to occur.
- Every interviewee was able to discuss their continuing training requirements fluently. However, a significant number forgot Consolidated Annual Training (CAT) until prompted. It appeared that some just considered CAT as a post-holiday requirement that had to get done in January. It was recognized, as a positive, that a quiz with grades forwarded to management was instituted this year (eliminating the mindless slide clicking option). A recommendation might be to split the CAT in two: half in January; half in July. This might reinforce the importance of CAT and allow more frequent update of core items. This would not increase training overhead. Additionally, data/trend analysis of grades vs. years at SRS could provide refocus points for the continuous learning program.
- Some LSIT members recommend that they receive refresher or more in-depth safety training to be able to do a better job in both conducting and reporting on LSIT activities. In addition, they believe this training will help them better promote site safety priorities, especially in terms of assisting other employees in maintaining a focus on safety, i.e., acting as “safety ambassadors” for their work areas.
- No formal internal assessments of safety culture versus safety in general.
- Other than internal safety-related initiatives (LSIT/BBS, STAR, etc.), the organization was not reported to use other systematic problem-solving methods such as Six Sigma.

## **6. Environment for Raising Concerns**

*A safety conscious work environment is maintained where personnel feel free to raise safety concerns without the fear of retaliation, intimidation, harassment, or discrimination.*

### **Positive Observations**

- Personnel identified no recent (current contract) history of “retaliation” by leadership for expressing safety concerns. Multiple employees had viewed the WTP slide presentation, had awareness of the recent incidents, were aware of safety improvement initiatives – e.g. “Call to Action” – and reviewed lessons learned through a number of venues. A “chilled work environment” does not appear to exist.
- Personnel are aware of the employee concerns program or other avenues available to them for reporting safety concerns, and are comfortable raising safety concerns. Most employees indicate that they raise concerns to their immediate supervisor and responses are both adequate and timely.
- Personnel are empowered to call a “time-out” (Stop Work) and are clearly comfortable with the use of this policy if unforeseen hazards are identified during work execution. Employees indicate that disposition and correction of “time-out” issues has been to their satisfaction (to date) and understand their right and methods to escalate concerns that are not adequately addressed. (K&L areas maintain a time out database where employees can review and discuss timeouts performed in those areas.)
- Pre-Job (tool box or plan of the day) meetings were referred to by personnel interviewed as a common forum for raising concerns / questioning planned work activity. Personnel expressed comfort in questioning planned work activity during the pre-job meeting.
- Personnel feel their immediate managers are competent and responsive, encourage and support safety initiatives, and actively supervise work in the field.

### **Areas in Need of Attention**

- Most employee concerns are addressed by the first-line manager. A method to capture concerns and feedback should be considered to enable trending and visibility to issues and resolution.
- Increase employee awareness to the employee concern program (ECP). The majority of interviewees were only somewhat aware of the purpose of the employee concerns program. The vast majority of those interviewed indicated it would be extremely unlikely they would ever contemplate using the employee concerns program to report and issue.
- Several interviewees indicated that until very recently they were not aware that the site had a differing professional opinion (DPO) process.
- At least two interviewees expressed concern with the adequacy of training provided to new hires on how to effectively challenge co-workers and especially veteran workers on observed improper safety behaviors. The interviewees believe that management does not fully recognized exactly how much courage it takes meet the expectation that they responsible to challenge a co-worker. One interviewee, a seasoned LIST team member cited an instance where a challenged worker responded inappropriately, e.g., words to the effect “you ain’t my

mother and I don't report to you". This event occurred during a recent reduction in force when tensions across the site were strained. The challenged individual subsequently, on his own volition, apologized for his behavior.

- Some interviewees still harbor a residual fear that some managers have a "shoot the messenger" attitude. A specific example cited was a strong reaction when a potential inadequacy in the safety analysis (PISA) was declared.

## **7. Effective Safety Communication**

*Communications maintain a focus on safety.*

### **Positive Observations**

- Personnel identified multiple avenues through which Safety Communications are shared. These avenues include:
  - Newsletters
  - Weekly Safety Meetings
  - Insight
  - Pre-Job/Post-Job Briefings
  - Emails of Lessons Learned and Safety Alerts
  - Face-to-Face Interactions
  - Videos
  - LSITs (Local Safety Improvement Teams)
  - Senior Management Safety Meetings
  - MFOs (Manager Field Observations)

### **Areas in Need of Attention**

- Coordination between LSITs needs to be strengthened in order to better communicate and prioritize issues identified. LSITs throughout the site need to meet on a frequency to share lessons learned and best practices.
- Leadership support of LSIT's is necessary to maintain energy of the LSITs.
- It was noted that email is a popular method to distribute lessons learned and safety alerts throughout the organization. Various craft personnel do not have access to email or a computer. The fear is that they are not receiving this information. A low-cost method to improve safety communication would be to ensure all personnel have email access, and provide designated common computer locations or kiosks in certain area.
- There appeared to be an inconsistent awareness of the "Call to Action teams". If the activities performed by these teams are considered important aspects of the Safety Program, they need to be communicated throughout the organization. Team participation should include leadership as well as employees.

## **8. Respectful Work Environment**

*Trust and respect permeate the organization.*

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### **Positive Observations**

- Nearly all interviewees felt they worked in an environment of mutual trust and respect.

### **Areas in Need of Attention**

- Some interviewees felt trust and respect could be improved with new/younger employees and subcontractors. There appears to be some trust/respect issues with a few managers either new or in the past.
- There is a feeling from some nuclear safety analysts of fear that leadership has a “shoot the messenger” attitude when a potential inadequacy is identified in safety analysis.
- The Spot Award Program was identified as an employee recognition program. Additional recognition programs appear to be in work as deliverables from one of the CTA teams. Ensure employee are made aware of these programs and the positive affects they can provide to employees and the overall safety culture.

## **9. Questioning Attitude**

*Individuals avoid complacency and continuously challenging existing conditions and activities in order to identify discrepancies that might result in error or inappropriate action.*

### **Positive Observations**

- Personnel maintain a respect for the risk and potential consequences associated with the work performed at the site. Pre-job meetings facilitate awareness to hazards and controls and enable questioning regarding planned work.
- Personnel are empowered to ‘Time-Out’ (Stop Work) and are clearly comfortable with the expectation if unforeseen hazards are identified during work execution. Employees indicate that disposition and correction of ‘Time-Out’ issues has been to their satisfaction (to date) and understand their right and methods to escalate concerns that are not adequately addressed.

### **Areas in Need of Attention**

- Personnel recognize the hazards associated with complacency in the workplace, but feel that complacency is not a significant issue in the current work environment. Management awareness of and attention to the potential for complacency should be factored into work planning and control activities.

## **A.6 Conclusions/Recommendations**

The results of this assessment have been presented using the nine traits recently identified by the U.S. NRC and their stakeholders for evaluating the attributes important for a healthy safety culture. The integration of those results can be formulated into several conclusions for SRNS.

The Independent Safety Culture Assessment Team recognizes that contract and budget changes, layoffs, organizational and leadership changes and changes to facility safety bases are factors affecting the SRNS safety culture. Further, the Independent Safety Culture Assessment team also recognizes that SRNS recently received additional work scope and funding; however, with this

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added scope comes an influx of new less experienced workers and subcontractors. These distractions would have an effect on the safety culture of any organization.

Overall, the Independent Safety Culture Assessment Team finds that the safety culture at SNRS is healthy and improving. There is an attitude of “safety first” that permeates the organization starting with senior management through the front-line workers. Employees report more frequent management presence in the field and greater engagement with them when they are out there. The Independent Safety Culture Assessment Team senses that there is a level of excitement being caused by a reinvigorated recognition of and participation in the local safety improvement teams. Workers credit management with doing a good job explaining the need for policy and process changes, i.e., they recognize effectiveness in the management of change process.

The Independent Safety Culture Assessment Team determined that a chilled environment adverse to safety or any management suppression of technical dissent does not appear to exist as SRNS. This conclusion is based on several factors including a willingness to report concerns to management, positive manager – employee relationships, frequent use of and management positive reaction to timeouts – pauses in work evolutions, and a pervasive questioning attitude shown by interviewees.

The Independent Safety Culture Assessment Team found that employees and managers together do not allow production goals to override or compromise safety. The evidence of this safety first climate includes the widespread and frequent embrace of the use of timeouts or pauses by management with no negative reaction. Workers and managers were very articulate and convincing when it came to describing how pre-job briefing and work planning and control processes emphasize safety. Additionally, workers and managers were equally convincing that great care was exercised once the job has started to ensure co-workers fitness for duty, i.e., keeping an eye on your buddy, and the need for maintaining awareness of changing work site conditions.

Finally, the Independent Safety Culture Assessment Team analysis of documents reviewed, safety program presentations, and personnel interviews is that while on balance the safety culture is healthy and improving at SRNS there are areas in need for leadership-management attention. The anecdotal evidence of needs is provided as “areas in need of attention” in section A-5 of this report. With respect to Independent Safety Culture Assessment Team recommendations they are as follows:

- Continue along the current path of Senior Management personal emphasis on safety priority and improvement initiatives;
- Complete the “Call to Action” deliverables and the resulting safety improvement initiative;
- Strengthen communication regarding safety improvement initiatives overall and evaluate methods that will focus the SRNS safety culture vision on new employees and subcontractors; and
- Strengthen management support of Local Safety Improvement Teams, particularly at the first and second line manager level.
- As a follow up to this assessment, SRNS should conduct a robust employee safety culture survey and perform a focused on-site assessment of work activities across the site to validate

the safety culture, employee work practices, and safe execution of work. Consistent application of the Management Field Observation program would be an excellent method to validate the safety culture and afford leadership the opportunity to coach and re-enforce expected safe behaviors.

## **A.7 References**

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## **A.8 Appendices**

A.8.1 Interview Matrix

A.8.2 Interview Questions

## A.8.1 Interview Matrix

SRNS Corporate Safety Culture Assessment – March 2012

#	Time	Location	Name	Contact Info	Manager Name	Requested Group
1	3/13: 8 a.m.	766-H 1035				Support Services
2	3/13: 9 a.m.	766-H 1035				EM Operations
3	3/13: 10 am	766-H 1035				NNSA Programs
4	3/13: 1 p.m.	766-H 1035				Construction Craft
5	3/13: 2 p.m.	766-H 1035				Nuclear Safety
6	3/13: 8 a.m.	766-H 1044				Support Services
7	3/13: 9 a.m.	766-H 1044				EM Operations
8	3/13: 10 am	766-H 1044				NNSA Programs
9	3/13: 1 p.m.	766-H 1044				Construction Craft
10	3/13: 2 p.m.	766-H 1044				Nuclear Safety
11	3/13: 8 a.m.	730-1B 204A				SRNL
12	3/13: 9 a.m.	730-1B 204A				Support Services
13	3/13: 10 am	730-1B 204A				ESSH
14	3/13: 1 p.m.	730-1B 204A				Construction Craft
15	3/13: 2 p.m.	730-1B 204A				Nuclear Safety
16	3/13: 8 a.m.	730-1B 204B				SRNL
17	3/13: 9 a.m.	730-1B 204B				Support Services
18	3/13: 10 am	730-1B 204B				ESSH
19	3/13: 1 p.m.	730-1B 204B				Construction Craft
20	3/13: 2 p.m.	730-1B 204B				Nuclear Safety
21	3/13: 8 a.m.	730-1B 327				SRNL
22	3/13: 9 a.m.	730-1B 327				Support Services
23	3/13: 10 am	730-1B 327				EM Operations
24	3/13: 1 p.m.	730-1B 327				Construction Craft
25	3/13: 2 p.m.	730-1B 327				Nuclear Safety
26	3/14: 8 a.m.	766-H 1035				EM Operations
27	3/14: 9 a.m.	766-H 1035				NNSA Programs

SRNS Corporate Safety Culture Assessment – March 2012

#	Time	Location	Name	Contact Info	Manager Name	Requested Group
28	3/14: 10 am	766-H 1035				Support Services
29	3/14: 1 p.m.	766-H 1035				EM Operations
30	3/14: 2 p.m.	766-H 1035				NNSA Programs
31	3/14: 8 a.m.	766-H 1044				ESSH
32	3/14: 9 a.m.	766-H 1044				EM Operations
33	3/14: 10 am	766-H 1044				Support Services
34	3/14: 1 p.m.	766-H 1044				EM Operations
35	3/14: 2 p.m.	766-H 1044				NNSA Programs
36	3/14: 8 a.m.	730-1B 204A				SRNL
37	3/14: 9 a.m.	730-1B 204A				ESSH
38	3/14: 10 am	730-1B 204A				Support Services
39	3/14: 1 p.m.	730-1B 204A				ESSH
40	3/14: 2 p.m.	730-1B 204A				Support Services
41	3/14: 8 a.m.	730-1B 204B				SRNL
42	3/14: 9 a.m.	730-1B 204B				Support Services
43	3/14: 10 am	730-1B 204B				ESSH
44	3/14: 1 p.m.	730-1B 204B				Support Services
45	3/14: 2 p.m.	730-1B 204B				ESSH
46	3/14: 8 a.m.	730-1B 327				SRNL
47	3/14: 9 a.m.	730-1B 327				ESSH
48	3/14: 10 am	730-1B 327				Support Services
49	3/14: 1 p.m.	730-1B 327				Support Services
50	3/14: 2 p.m.	730-1B 327				ESSH
51	3/15: 8 a.m.	766-H 1035				EM Operations
52	3/15: 9 a.m.	766-H 1035				NNSA Programs
53	3/15: 10 am	766-H 1035				Support Services
54	3/15: 1 p.m.	766-H 1035				ESSH

SRNS Corporate Safety Culture Assessment – March 2012

#	Time	Location	Name	Contact Info	Manager Name	Requested Group
55	3/15: 2 p.m.	766-H 1035				LSIT Chair or Vice Chair
56	3/15: 8 a.m.	766-H 1044				SRNL
57	3/15: 9 a.m.	766-H 1044				NNSA Programs
58	3/15: 10 am	766-H 1044				EM Operations
59	3/15: 1 p.m.	766-H 1044				ESSH
60	3/15: 2 p.m.	766-H 1044				LSIT Chair or Vice Chair
61	3/15: 8 a.m.	730-1B 204A				ESSH
62	3/15: 9 a.m.	730-1B 204A				Support Services
63	3/15: 10 am	730-1B 204A				ESSH
64	3/15: 1 p.m.	730-1B 204A				ESSH
65	3/15: 2 p.m.	730-1B 204A				LSIT Chair or Vice Chair
66	3/15: 8 a.m.	730-1B 204B				ESSH
67	3/15: 9 a.m.	730-1B 204B				Support Services
68	3/15: 10 am	730-1B 204B				ESSH
69	3/15: 1 p.m.	730-1B 204B				SRNL
70	3/15: 2 p.m.	730-1B 204B				LSIT Chair or Vice Chair
71	3/15: 8 a.m.	730-1B 327				Support Services
72	3/15: 9 a.m.	730-1B 327				ESSH
73	3/15: 10 am	730-1B 327				SRNL
74	3/15: 1 p.m.	730-1B 327				SRNL
75	3/15: 2 p.m.	730-1B 327				LSIT Chair or Vice Chair
76	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
77	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
78	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
79	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
80	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
81	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
82	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
83	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
84	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety

SRNS Corporate Safety Culture Assessment – March 2012

#	Time	Location	Name	Contact Info	Manager Name	Requested Group
85	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
86	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
87	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
88	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
89	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
90	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
91	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
92	3/13: 4 p.m.	730-1B 204 A/B				Nuclear Safety
93	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
94	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
95	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
96	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
97	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
98	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
99	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
100	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
101	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
102	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
103	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
104	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
105	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
106	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
107	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
108	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
109	3/14: 4 p.m.	730-1B 204 A/B				Construction Craft
110	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
111	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
112	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
113	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
114	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
115	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
116	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
117	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
118	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair

SRNS Corporate Safety Culture Assessment – March 2012

#	Time	Location	Name	Contact Info	Manager Name	Requested Group
119	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
120	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
121	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
122	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
123	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
124	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
125	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair
126	3/15: 4 p.m.	730-1B 204 A/B				LSIT Chair or Vice Chair

Support Services	17
EM Ops	9
NNSA	7
Const Craft	22
Nuclear Safety	22
SRNL	10
ESSH	17
LSIT	22
Total	126

## A.8.2 Interview Questions

## Interview Questions for All:

#	Question	Leadership	Learning Culture	Worker Involvement	NRC Trait
A 39	Explain your group's safety program. Are there clear safety goals? How is this understood by your group (is there a procedure, posted, other)? Is there a vision/mission statement/policy that addresses safety? Is it clearly visible and understood? Where is that statement/policy located? What goals does that statement/policy specify?	1	1	1	4,7
A 9	How does your management reinforce the Safety Program? Is there positive reinforcement (Praise, or other awards)? Is there negative reinforcement (Performance ratings, reprimands, etc.) How are the safety policies reinforced? (e.g., by management?, goals?, incentives? accountability?)	1	1	1	1,8
A 24	How does the organization avoid complacency and cultivate a continuous learning environment?		1		5
A 32	Do individuals understand and demonstrate responsibility for safety? Are safety and its ownership apparent in everyone's actions and deeds? Are workers actively involved in identification, planning, and improvement of work and work practices? Do workers at any level stop unsafe work (Take a Time-out) or work during unexpected conditions?		1	1	3,9
A 33	Are work hazards identified and controlled to prevent or mitigate accidents, with particular attention to high consequence events with unacceptable consequences? Do workers understand hazards and controls before beginning work activities?		1	1	4,9
A 7	Can you think of an instance from the past year in which you approached a supervisor, manager, or coworker about a safety issue? If so, please describe the circumstances. What was the nature of the discussion? Was a decision made to change anything about how work is performed as a result of the discussion? If so, please describe. If not, what was the reason(s) the decision was made not to make any changes?		1	1	6,8
A 1	Do you participate in corrective action program evaluations, self-assessments, benchmarking, training, and oversight organizations to help identify performance issues and provide input to solutions?			1	4,5

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#	Question	Leadership	Learning Culture	Worker Involvement	NRC Trait
A 2	In your experience, how well do the managers communicate in a clear way that safety is a high priority? Please provide an example of an effective communication. Did it change anything about how you think about your work or how you do it? If so, what changed?	1			7
A 3	Do support personnel (RadCon, Maintenance, Rigging, etc.) understand expected work behaviors and required actions associated with their jobs necessary to maintain safety and defense-in-depth (more than one thing can go wrong before an event/accident)?			1	4
A 4	Is candid dialogue and debate encouraged when safety issues are being evaluated? Are robust discussion and healthy conflict recognized as a natural result of diversity of expertise and experience?		1		5,6,8
A 5	How do your managers balance production and safety? Can you give an example of a good balance between production and safety? A real unacceptable example? If your work group has production goals, are these goals communicated in a manner that reinforces safety?	1			1,4
A 6	Are investigations of employee concerns and/or differing professional opinions thoroughly performed without conflict of interest and with the involvement of technical expertise (e.g., Subject Mater Experts) as appropriate?		1	1	4,6
A 8	Based on your experiences, does your manager/supervisor fully understand technical (or your area of expertise) and safety issues that you or members of your work group raise? How does your manager handle if she or he doesn't understand your issue? Is your input solicited during the problem resolution if you enter an issue into the issues management program?	1		1	1,2
A 10	People make mistakes. Are there multiple layer of defenses that help avoid significant injuries, process upsets, or other events? Are organizational systems and processes are designed to provide layers of defenses, recognizing that people are fallible? Are prevention and mitigation measures used to preclude errors from occurring or propagating? Are error-likely situations sought out and corrected, and recurrent errors carefully examined as indicators of issues within an organization (Procedure issues, training issues, etc.)latent organizational weaknesses? Do Managers aggressively correct issues latent organizational weaknesses and measure the effectiveness of actions taken to close the gaps?	1	1		4

SRNS Corporate Safety Culture Assessment – March 2012

#	Question	Leadership	Learning Culture	Worker Involvement	NRC Trait
A 11	Are processes established to identify and resolve issues within an organization (Procedure issues, training issues, etc.) latent organizational weaknesses that can aggravate relatively minor events if not corrected? Are Linkages among problems and organizational issues examined and communicated?		1		2,4
A 12	Are issues entered into the issues management / Corrective Action program prioritized correctly? Please explain.		1		2
A 13	Are corrective/preventive actions taken as a result of investigating employee concerns and differing professional opinions processes appropriate and managed in a timely and normal manner in accordance with procedures?	1	1		2
A 14	Do you believe that the corrective action program is successful in addressing issues that are submitted? Can you provide an example related to your answer? Is the effectiveness of the implemented corrective actions evaluated? How? How frequently?		1		2
A 15	How and at what point are employees who raised issues included in the issues management / corrective action process? Is this necessary?			1	2,7
A 16	Can anyone enter an issue into the issues management / Corrective Action program? When someone enters an issue into the issues management program, does the entry have to be approved by a supervisor? Does anyone higher up also have to approve the entry before it goes through the remainder of the issues management program? Are you aware of any issues that someone wanted to enter into the issues management program, but a supervisor or higher-level manager disapproved the entry? Please describe the situation.		1	1	2,4
A 17	Do management plant walk-throughs result in safety improvements?	1			4,6
A 18	Are reviews (fact finding) conducted promptly after an incident to ensure data quality and identify improvement opportunities?		1		2,9
A 19	What are the organization's policies regarding preventing and detecting retaliation and/or chilling effect (an environment in which employees are afraid to raise safety concerns for fear of retaliation)?			1	4,6

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#	Question	Leadership	Learning Culture	Worker Involvement	NRC Trait
A 20	Are you aware of any actions taken by your management to prevent and detect retaliation and/or a chilling effect (an environment in which employees are afraid to raise safety concerns for fear of retaliation)? If so, were their actions effective in addressing the situation? Do you believe that management's handling of the issues is consistent?	1			6
A 21	Are you aware of any instances in which another individual experienced a negative reaction for raising a safety issue? If yes, please describe the incident, including any information conveyed by management concerning the incident.	1			6
A 22	Are you aware of any specific instances in which another employee (or contractor) submitted an issue to the issues management program or Employee Concerns Program (ECP) and was retaliated against for pursuing the issue? Please describe the situation.			1	6,8
A 23	How does your management prevent retaliation or the perception of retaliation associated with disciplinary actions or changes to the plant organization to ensure actions do not chill others (e.g., communicate reasons for discipline)?	1			6
A 25	Are anomalies thoroughly investigated, promptly mitigated, and periodically analyzed in the aggregate (looking for trends that may lead to additional corrective actions)?		1		2
A 26	Do individuals question deviations, and avoid complacency or arrogance based on past successes? Do team members support one another through both awareness of each other's actions and constructive feedback when necessary?			1	8,9
A 27	Do individuals hold themselves personally accountable for modeling safety behaviors, including the standards for procedure use, the use of error reduction tools (questioning attitude, self check, three-way communication), and stopping (Taking a Time Out) when unsure or when conditions are not as expected?			1	3
A 28	Can you think of any safety issues which exist that in the past year either have not been appropriately evaluated or whose corrective actions have been inappropriately extended? Please describe the situation. Do you know the reasons for delay in resolving the issue?	1			5

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#	Question	Leadership	Learning Culture	Worker Involvement	NRC Trait
A 29	Please describe an example from the past year in which you, your supervisor or manager stopped work (Time Out) or delayed completing a task because of a safety issue or concern. What was the nature of the issue? How was it identified? How was it resolved? Were you personally satisfied with the resolution? If not, what would you have liked to see happen?	1	1	1	2,4,6
A 30	Is equipment meticulously maintained well within design or other requirements ?		1		4
A 31	Do you actively participate in prejob briefings? Do you understand the impact on safety, defense-in-depth, potential error traps, the scope of work, critical steps, priority error reduction tools, termination criteria, and required notifications to the area / facility control room and supervision associated with the assigned activity?			1	4
A 34	Does training to broaden individual capabilities and to support organizational learning available and encouraged? (To appreciate the potential for unexpected conditions; to recognize and respond to a variety of problems and anomalies; to understand complex technologies and capabilities to respond to complex events; to develop flexibility at applying existing knowledge and skills in new situations; to improve communications; to learn from significant Site, industry and DOE events)		1		5
A 35	Have you received training concerning safety policies? Describe what it covered. What did you think of this training (e.g. useful/not useful, effective/not effective)? When did you last receive such training? Have any of your other training courses referred to the priority of safety? Which courses and which policies?		1		5
A 36	Are people treated with dignity and respect?	1			6,8
A 37	Do managers regularly communicate to the workforce important decisions and their bases, as a way of building trust and reinforcing a healthy safety culture?	1			7
A 38	Are people comfortable raising and discussing questions or concerns? Are good news and bad news both valued and shared?	1	1		6
<b>Last</b>	<b>Any other comments on the following?</b>				
	1) Can you bring safety concerns to your management and obtain a satisfactory answer?			1	6,7
	2) Are you aware of an alternate path to present your safety concerns and obtain a resolution?		1		6

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#	Question	Leadership	Learning Culture	Worker Involvement	NRC Trait
	3) Has there been retaliation on any of the safety concerns that you have raised? Do you know of this happening in any other recent events?	1			8
	4) Do you think your organization learns from mistakes that are made?		1		5
	5) Do you receive feedback after you have raised a safety concern?		1		7
	6) Any other concerns that you would like to discuss?			1	2
	7) Any other points you would like to raise about the safety program?			1	2
<b>Totals</b>		17	24	20	

**NRC Traits**

1. Leadership Safety Values and Actions	3
2. Problem Identification and Resolution	12
3. Personal Accountability	2
4. Work Processes	14
5. Continuous Learning	6
6. Environment for Raising Concerns	14
7. Effective Safety Communication	6
8. Respectful Work Environment	7
9. Questioning Attitude	4

## Interview Questions for Managers:

#	LOI Criteria	Leadership	Learning Culture	Worker Involvement	NRC Trait
M 1	Do you participate in and assign employees to corrective action program evaluations, self-assessments, benchmarking, training, and oversight organizations to help identify performance issues and provide input to solutions?	1	1	1	1
M 2	Do your performance assurance reviews consists of robust, frequent, and independent oversight, conducted at all levels of the organization? Performance assurance includes independent evaluation of performance indicators and trend analysis.	1	1	1	1,3,4,7
M 3	Are periodic safety culture assessments conducted and used as a basis for improvement?	1	1		4,5,7
M 4	How do you communicate and teach desired nuclear safety behaviors to your work groups, including supplemental personnel? Share examples of how individuals can positively and negatively affect nuclear safety, and verify that the intended messages were actually heard and understood.	1			7
M 5	How do you promote effective prejob briefings?	1	1		1,4,7
M 6	Do you question decision-makers to fully understand the bases of operational and management decisions that appear to be contrary to nuclear safety?	1			2,3,9
M 7	How do you solicit active employee involvement in the corrective action program, self-assessments, benchmarking, and training to improve nuclear safety?	1			2,5
M 8	How do you encourage personnel to challenge unsafe behavior and unsafe conditions, and support personnel when they stop plant activities for safety reasons?	1			2,6,8
M 9	How do you provide candid feedback and coaching to individuals and groups that do not demonstrate expected nuclear safety behaviors? Do you take prompt and decisive action when leaders do not meet expectations?	1	1		1,7,8
M 10	Do you publicly praise and reward behaviors in peers, colleagues, and direct reports that reflect a strong safety culture?	1	1		7,8
M 11	Have processes been established to identify and resolve latent organizational weaknesses that can aggravate relatively minor events if not corrected?	1			4
M 12	How do you look for and eliminate organizational and system-induced contributors to events and weaknesses.	1	1		4,5

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#	LOI Criteria	Leadership	Learning Culture	Worker Involvement	NRC Trait
M 13	How do you ensure the reporting of important problems as well as nonconsequential near misses?	1	1	1	1,2
M 14	How do you demonstrate visible leadership in the field by placing “eyes on the problem,” coaching, mentoring, and reinforcing standards? Deviations from expectations are corrected promptly.	1	1	1	1,3,7,8
M 15	How do you monitor and provide field oversight to high-risk work to validate expected conditions and to intervene as necessary?	1	1	1	1,6,9
M 16	How do you maintain high standards of personal conduct that promote teamwork, continuous improvement, a questioning attitude, and a positive work environment?	1	1		3
M 17	How do you actively monitor for potential distractions that adversely affect nuclear safety and operational focus during periods of major change?	1			7,9
M 18	Do you routinely challenge operators and engineers to demonstrate an understanding of declining trends and provide support for projects and initiatives that reverse those trends?	1	1	1	8,9
M 19	How do you seek out relevant operating experience and obtain appropriate approvals before starting work? How do you verify that assigned individuals are fit and qualified to perform activities?	1			5,7
M 20	How is expertise in root cause analysis applied effectively to identify and correct the fundamental causes of events?	1	1	1	5,7
M 21	How do you demonstrate interest in plant operations and actively seek out the opinions and concerns of workers at all levels?	1	1	1	5,7
M 22	How is single-point accountability maintained for important safety decisions, allowing for ongoing assessment and feedback as circumstances unfold?	1			3,4
M 23	How do you ensure workers and support personnel fully understand the impact on nuclear safety, defense-in-depth, potential error traps, the scope of work, critical steps, applicable error reduction tools, termination criteria, and required notifications prior to beginning work?	1			1,4,7
M 24	How do you maintain a safety-conscious work environment by providing opportunities for open discussion of nuclear safety and identification of perceived unsafe behavior and unsafe conditions?	1	1	1	6,7
M 25	How do you reinforce the performance of job-site reviews to identify and correct conditions that could impede the safe completion of the assigned task or the safe operation of the plant?	1	1	1	5

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#	LOI Criteria	Leadership	Learning Culture	Worker Involvement	NRC Trait
M 26	Do you ask questions to fully understand anomalies in plant conditions, especially how rigorously and the extent to which these anomalies are investigated?	1			9
M 27	How do you reinforce the management of defenses and stay more than one error away from an event of consequence?	1		1	4
M 28	Do you review procedures and instructions prior to work to validate that they are appropriate for the scope of work and that required changes are completed prior to beginning work?	1			4,9
M 29	How do you obtain the training and education necessary to understand plant operation, including safety systems designed to maintain critical safety functions?	1			5
M 30	Do you make strategic and day-to-day operational decisions that reflect nuclear safety as the overriding priority.	1			1,3
M 31	How do you ensure that you don't discourage the reporting of issues when there is pressure to meet production goals?	1			6,8
<b>Last</b>	<b>Any other comments on the following?</b>				
	1) Can you bring safety concerns to your management and obtain a satisfactory answer?			1	6,7
	2) Are you aware of an alternate path to present your safety concerns and obtain a resolution?		1		6
	3) Has there been retaliation on any of the safety concerns that you have risen? Do you know of this happening in any recent events?	1			8
	4) Do you think your organization learns from mistakes that are made?		1		5
	5) Do you receive feedback after you have raised a concern?		1		7
	6) Any other concerns that you would like to discuss?			1	2
	7) Any other points you would like to raise about the safety program?			1	2
<b>Totals</b>		32	19	12	

**NRC Traits**

1. Leadership Safety Values and Actions	9
2. Problem Identification and Resolution	6
3. Personal Accountability	6
4. Work Processes	9
5. Continuous Learning	9
6. Environment for Raising Concerns	6
7. Effective Safety Communication	15

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#	LOI Criteria	Leadership	Learning Culture	Worker Involvement	NRC Trait
					8. Respectful Work Environment 7
					9. Questioning Attitude 6

## Interview Questions for Nuclear Safety:

#	LOI Criteria	Leadership	Learning Culture	Worker Involvement	NRC Trait
NS 1	Are differing opinions welcomed and respected? When needed, are fair and objective methods used to resolve conflict and unsettled differing professional opinions?		1	1	6,8
NS 2	When previous operational decisions are called into question by new facts, are the decisions and associated underlying assumptions reviewed to improve the quality of future decisions?	1	1	1	6,8
NS 3	Is the line of authority and responsibility for nuclear safety defined from senior management to the individual contributor? Do these positions have clearly defined roles, responsibilities, and authorities, designated in writing and understood by the incumbent?	1	1	1	4
NS 4	Do support groups, such as human resources, labor relations, and business and financial planning, understand their roles in contributing to nuclear safety?		1	1	4,7
NS 5	Are design and operating margins carefully guarded and changed only with great thought and care? Is special attention placed on maintaining fission product barriers and defense-in-depth?	1	1	1	4,9
NS 6	Are insights from probabilistic risk analyses considered in daily plant activities and plant change processes?	1		1	4,9
<b>Last</b>	<b>Any other comments on the following?</b>				
	1) Can you bring safety concerns to your management and obtain a satisfactory answer?			1	6,7
	2) Are you aware of an alternate path to present your safety concerns and obtain a resolution?		1		6
	3) Has there been retaliation on any of the safety concerns that you have risen? Do you know of this happening in any recent events?	1			8
	4) Do you think your organization learns from mistakes that are made?		1		5
	5) Do you receive feedback after you have raised a safety concern?		1		7
	6) Any other concerns that you would like to discuss?			1	2
	7) Any other points you would like to raise about the safety program?			1	2
	8) Do you know of the Differing Professional Opinion procedure? Have you used it or know of anyone that has used it? What were the results?			1	4
	<b>Totals</b>	5	8	10	

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#	LOI Criteria	Leadership	Learning Culture	Worker Involvement	NRC Trait
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**NRC Traits**

- 1. Leadership Safety Values and Actions 0
- 2. Problem Identification and Resolution 2
- 3. Personal Accountability 0
- 4. Work Processes 5
- 5. Continuous Learning 1
- 6. Environment for Raising Concerns 4
- 7. Effective Safety Communication 3
- 8. Respectful Work Environment 3
- 9. Questioning Attitude 2