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NEVADA ENTERPRISE SAFETY/SECURITY CULTURE ASSESSMENT

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EXECUTIVE SUMMARY

In June of 2013, a Safety/Security Culture Assessment (S/SCA) was performed to determine the current health of the safety and security culture across the Nevada Enterprise (NvE), which comprises the group of organizations responsible for management, oversight, and operation of the Nevada National Security Site (NNSS).

For the purpose of this assessment, and consistent with presentations made by the U.S. Department of Energy (DOE) Office of Health, Safety and Security (HSS) to the Energy Facility Contractors' Group (EFCOG) and the Defense Nuclear Facilities Safety Board (DNFSB), the NvE Safety/Security Culture is defined as the values and behaviors modeled by NvE leaders and internalized by its members, which serve to make safe and secure performance of work the overriding priority to protect the workers, the public, and the environment.

The S/SCA Team was composed of representatives from the National Nuclear Security Administration (NNSA) Nevada Field Office (NNSA/NFO); National Security Technologies, LLC (NSTec); Navarro-Intera (N-I); and WSI-Nevada. In addition, two Team Advisors served on the team, as well as a representative from the NNSA Office of Safety and Health (NA-SH-1) and a Safety Culture Subject Matter Expert (SME).

The S/SCA Team obtained data through personnel interviews, evaluation of employee surveys, document reviews, and facility walk-downs. The assessment process evaluated the topical areas of Leadership, Employee/Worker Engagement, Organizational Learning, and Performance Measures and Contract Incentives.

This assessment report summarizes the results of that effort, including strengths and stressors from a safety/security culture perspective. This report also provides several recommendations that could further enhance the NvE safety and security culture.

Overall, the assessment team determined that while work is being accomplished in a safe and secure manner, stressors to the overall culture were identified that could preclude NvE from achieving organizational excellence. Therefore, the overall expectations associated with a robust safety/security culture were partially met.

Table 1 below summarizes the status of the four Focus Areas (Leadership, Employee/Worker Engagement , Organizational Learning, and Performance Measures and Contract Incentives), using a color-gradient system that ranks the focus areas and their attributes:

- Green [ ] = Expectations Met.
- Yellow [ ] = Expectations Partially Met.
- Red [ ] = Expectations Not Met.

Table 1. S/SCA Focus Areas and Attributes

Focus Area 1: Leadership	*overall color:*	
Attributes	1.A. Demonstrated safety and security leadership	
	1.B. Risk-informed, conservative decision making	
	1.C. Management engagement and time in field	
	1.D. Staff recruitment, selection, retention, and development	
	1.E. Open communication and fostering an environment free from retribution	
	1.F. Clear expectations and accountability	
Focus Area 2: Employee/Worker Engagement	*overall color:*	
Attributes	2.A. Personal commitment to everyone's safety	
	2.B. Teamwork and mutual respect	
	2.C. Participation in work planning and improvement	
	2.D. Mindful of hazards and controls	
Focus Area 3: Organizational Learning	*overall color:*	
Attributes	3.A. Credibility, trust, and reporting errors and problems	
	3.B. Effective resolution of reported problems	
	3.C. Performance monitoring through multiple means	
	3.D. Use of operational experience	
	3.E. Questioning attitude	
Focus Area 4: Performance Measures and Contract Incentives	*overall color:*	
Attributes	4.A. Contract incentives	
	4.B. Performance assurance data	
	4.C. Maintenance of nuclear facilities	

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1.0 INTRODUCTION

In June 2011, the DNFSB, in accordance with 42 U.S.C. § 2286a (a) (5), unanimously approved Recommendation 2011-1, *Safety Culture at the Waste Treatment and Immobilization Plant*. Action 2-5 of the DOE Implementation Plan for DNFSB 2011-1 requires contractor and federal organizations to complete safety culture self-assessments and report results to the appropriate program office. The deliverable for that action is a report to DOE Headquarters from each Site or Area Office. Factors such as the type and number of contractors, contract structure, physical facility arrangement, and number of federal organizations at a site can result in a variety of options for performing the self-assessments and documenting the results.

DOE G 450.4-1C, *Integrated Safety Management System Guide*, provides three Focus Areas (Leadership, Employee/Worker Engagement, and Organizational Learning) and several attributes associated with each one, which are useful for attaining a strong culture that supports achieving excellence in both safety and mission performance. The assessment process described in the current report was structured around the Focus Areas and associated attributes established in DOE G 450.4-1C.

Based upon a series of security events throughout the complex, as well as at the NNSS, and the associated increased emphasis regarding monitoring implementation of this functional area, the guidelines from DOE G 450.4-1C used for this assessment were expanded by the team to also address security considerations contained in World Institute for Nuclear Security (WINS) publications. A draft DOE document entitled *Safety Conscious Work Environment Self-Assessment Guidance* (Revision G) provides an additional topic, “Performance Measures and Contract Incentives,” which has been incorporated into the scope of this assessment as Focus Area 4.

In April of 2013, an S/SCA Planning Committee was established and tasked with development of the overall assessment strategy, the S/SCA Review Plan, Lines of Inquiry (LOIs), Orientation Training for S/SCA Team Members, and logistical considerations. Sub-activities included scheduling of interviews, conference rooms, and daily de-briefs. The S/SCA Planning Committee was composed of representatives from NNSA/NFO, NSTec, WSI-Nevada, and N-I. S/SCA Planning Committee representatives also participated in the assessment process, including conducting interviews, document reviews, and facility walk-throughs.

2.0 SCOPE

The scope of this assessment included a representative sample of employees from NNSA/NFO and its contractors, collectively referred to as the NvE. The NNSA/NFO and main contractors’ facilities are located in North Las Vegas and at the NNSS. NSTec also has facilities located at the Remote Sensing Laboratory (Nellis Air Force

Base, Las Vegas, NV; and Andrews Air Force Base, Maryland), as well as satellite facilities at Livermore, CA; Los Alamos, NM; Albuquerque, NM; and Santa Barbara, CA.

Representatives of Professional Project Services, Inc. (Pro2Serve), the Joint Laboratory Office-Nevada (JLON), and Chugach World Services, Inc., were also interviewed during this assessment. Scheduling of interviews was coordinated to ensure that personnel working on night shift and weekends were also provided the opportunity to participate.

3.0 METHODOLOGY

This S/SCA was conducted utilizing the following strategy: document reviews, analysis of surveys, observations of personnel interactions, and performance of interviews. This methodology provided a broad-based perspective regarding the current health of the NvE safety and security culture.

In support of S/SCA efforts, four-hour orientation sessions were developed and presented the week of May 27, 2013. The purpose of the orientation was to provide insight for the S/SCA Team regarding the overall purpose of the assessment, as well as to train Team Members on performing an assessment that is focused on perceptions and beliefs versus more traditional compliance-based inspections. Based upon feedback and lessons learned from other safety culture assessments, the S/SCA Team Leader determined that this concept was essential to assist with gathering of information regarding the collective health of the NvE safety and security culture.

This S/SCA was performed over a two-week time period, beginning with an Entrance Briefing held on June 3 and concluding with an Exit Briefing held on June 14 with NvE Senior Leadership and representatives from all NvE organizations. The Exit Briefing also included general observations by the S/SCA Team. These observations, combined with further analysis of additional assessment information, were utilized in development of this report.

To provide the opportunity for candid and open conversation with minimum bias, S/SCA Team Members were tasked with conducting interviews of a random selection of approximately 10 percent of the NvE work force. In turn, the results of this random sampling were evaluated by the S/SCA Team Leader to determine if an appropriate spectrum of that organization was represented. In the case of NvE Leadership, it was determined that additional interview candidates were needed and the interview pool was expanded accordingly.

To assist with performance of the interview portion of this S/SCA, LOIs were developed that were aligned with the Focus Areas and Attributes provided in Attachment 10 of DOE G 450.4-1C and the draft DOE document entitled *Safety Conscious Work Environment Self-Assessment Guidance* (Revision G). In turn, each LOI was grouped by Leadership, Supervisory, and Task Level. This strategy facilitated evaluation of a

given LOI throughout the organization, from senior leadership to personnel performing individual tasks. In addition, each LOI was assigned a unique identifier (e.g., 1.A.1), which provided a mechanism to roll up assessment results for the final report.

Consistent with a process established by the Occupational Safety and Health Administration (OSHA) for Onsite Voluntary Protection Program (VPP) Reviews, selected LOIs were identified as Minimum Requirements (MRs). This strategy provided value by having a focused set of LOIs for interviews while generating sufficient information to address the balance of the LOIs. Refer to Appendix A for the LOIs (with MRs highlighted) that were utilized during interviews, document reviews, and preparation of this report.

Interviews were held with groups or individuals, and each interview was conducted by two or more S/SCA Team Members. The S/SCA Interview Teams were composed of representatives from different organizations (e.g., NSTec and WSI-Nevada). For the majority of group interviews, NSTec provided facilitators to guide the effort. This technique enabled S/SCA Team Members to remain focused on the interview process. In the case of satellite locations, interviews were conducted utilizing video teleconference and/or telephone. During the interviews (individual or group), S/SCA Team Members utilized the open-ended question technique versus questions that normally elicit a Yes/No response. Another technique that proved very insightful was to ask interviewees if they were “King/Queen” for a day, what would they improve, change, etc.

Document reviews included those associated with the Employee Concerns Program (ECP), Differing Professional Opinion (DPO), Integrated Safety Management System (ISMS), and Integrated Safeguards and Security Management (ISSM). Results of a series of surveys were also evaluated, including the 2013 NvE Culture Survey, NNSA Survey, NNSA/NFO Surveys, DOE Federal Employee Viewpoint Surveys, Annual ISMS/ISSM Reviews conducted by the NNSA/NFO Integrated Management Council (IMC), and DOE VPP Annual Surveys conducted by NSTec and WSI-Nevada.

4.0 TEAM COMPOSITION

The NvE S/SCA Team was composed of representatives from NNSA/NFO, NSTec, N-I, WSI-Nevada, and NNSA Headquarters. Refer to Appendix B for additional information. Consistent with the guidance provided in the draft DOE document entitled *Safety Conscious Work Environment Self-Assessment Guidance* (Revision G), the NvE S/SCA Team included Team Advisors, an Executive Representative (NA-SH-1), and a Safety Culture SME.

5.0 DOE HSS OVERSIGHT

As part of the response to DNFSB Recommendation 2011-1, DOE HSS was tasked with performing independent oversight of the Safety Conscious Work Environment (SCWE) self assessments. This independent oversight was coordinated with the Team Leader during the preparation phase of this S/SCA. Two representatives from DOE HSS observed both half-day orientation sessions, various NvE meetings, and the S/SCA Team daily de-briefs held at the conclusion of each day. These representatives met with the S/SCA team leadership to provide lessons learned from other SCWE self-assessments and their perspectives regarding overall processes and techniques being utilized for the assessment. These lessons learned and feedback were incorporated into this assessment.

6.0 ASSESSMENT RESULTS

S/SCA results are provided in the following sections of this report and are grouped by focus area and associated attributes.

6.1 Focus Area 1: Leadership

This Focus Area involved examination of the leadership attributes for safety/security culture, from the NNSA/NFO Acting Manager to federal and contractor senior management, line management, and ultimately task level personnel. These attributes involve recognizing that organizational mission and operational goals include safety and security considerations, risk management, management visibility, staffing, communications, fostering an environment free from retribution, and clear expectations/accountability. The objective of these attributes is to define and reinforce the organizational expectations and behaviors that protect people and associated facilities from an accident, event, occurrence, or regulatory upset that affects mission performance. The overall Leadership Focus Area was evaluated as “yellow.” The rationale for this evaluation determination was based on the two following factors:

- The leadership attributes have noticeable variance across and down through the organization.
- Processes and behaviors that foster an environment free from retribution and prevent a chilling effect in the workplace are not fully mature, and their use is not widely and uniformly understood across the NvE.

Evaluation results for the Leadership Focus Area attributes are as follows:

1.A. Demonstrated safety and security leadership

1.B. Risk-informed, conservative decision making

1.C. Management engagement and time in field

1.D. Staff recruitment, selection, retention, and development

1.E. Open communication and fostering an environment free from retribution

1.F. Clear expectations and accountability

While considerable investment has been made across the NvE to improve safety and security performance through the leadership of the NvE Six Pack,[1] forums such as the IMC and Employee Safety Committees,[2] and development of strategy and project documents such as project execution plans, the positive impacts of these activities have not fully permeated the NvE.

In addition, several processes that enable and foster a robust safety culture, such as Issues Management, DPO, and ECP, are either not functioning as expected to support a robust safety culture or are only used at a high level in the organization, where there is limited benefit. Within many of the leadership attributes, demonstrated ability to identify and address performance issues is expected, along with intolerance of long-standing problems. While there is evidence that senior leadership is actively working to improve in these areas, certain long-standing problems, such as with issues management and the detection and prevention of potential causes of a chilling effect, impart stress to the overall safety and security culture for the NvE.

The detailed evaluation results for each attribute of the Leadership Focus Area are provided below.

Attribute 1.A:
Demonstrated safety leadership

The *demonstrated safety leadership* attribute has several traits that describe expectations for safety leadership. These traits start at the organization's senior leadership level and flow down to task level supervision. Examples of leadership traits include the following:

- Understand and accept their safety and security responsibilities as integral to mission accomplishment.
- Enhance work activities with safety and security practices.

[1] Refer to Attribute 3.A for more detailed discussion.
[2] Refer to Attribute 2.A for more detailed discussion.

- Address external influences that may impose changes that could result in safety and/or security concerns.
- Demonstrate their commitment to safety and security through their actions and behaviors, and support the organization in successfully implementing safety culture attributes.
- Verify that expectations are being met.

Relative to these traits, the assessment team observed that NvE Leadership works to ensure that mission and operational goals are developed based on reviews of federal requirements, contractual requirements, client expectations, and program/project plans. These goals are then translated into project execution plans, mission and vision statements, personnel performance plans, policies and procedures, and the NvE Top 10. From there, the goals are communicated through meetings (e.g., company conversations, all-hands, staff meetings, etc.) and walk-arounds. Organizational goals are flowed into existing and new organizational policies, procedures, plans, and metrics at a progressively greater level of detail as they are implemented through the multiple layers of the organizations. NvE organizations also adjust mission and/or project considerations based upon changing direction from DOE/NNSA Headquarters, budget constraints, and/or external influences. Examples include adjusting the security posture based upon security issues identified at the NNSA Y-12 National Security Complex in Oak Ridge, TN; and rapid deployment of NvE personnel overseas to assist with amelioration of the nuclear events at the Fukushima Daiichi Power Station, Okuma, Japan, based on a request from the White House.

Safety and security goals are developed in a similar manner as mission and operational goals. Previous year goals are reviewed and trended with the expectation that the following year should demonstrate a stable, or improving, trend. Programs such as Integrated Safety Management (ISM), VPP, and International Organization for Standardization (ISO) certification are also reviewed annually, and lessons learned are considered when developing these goals. Safety and security topics are routinely discussed at a wide variety of management venues, including NNSA/NFO Executive Council (EC) meetings, Senior Staff meetings, Safety Summits, periodic reviews of Dashboard metrics, Plan of the Day meetings, etc., and these discussions inform decision-making. Another venue is the NNSA/NFO IMC meeting, a monthly forum that brings together federal and contractor organizations from across the NvE to discuss successful long-term implementation of ISMS and ISSM processes.

Assessments of key aspects of the NvE safety and security programs are accomplished via numerous mechanisms. Examples include NSTec and WSI-Nevada achievement of DOE VPP Star certification, subsequent annual DOE VPP reviews, and annual reviews addressing implementation of 10 CFR 851, *Worker Safety and Health Program*, as well as the annual ISMS/ISSM review led by the NNSA/NFO IMC based upon Continuing Core Expectations contained in DOE G 450.4-1C. The assessment team also noted that NNSA/NFO and NSTec have identified the nuclear safety program, including the

Unreviewed Safety Question (USQ) process, as an improvement area for Fiscal Year 2013.

In this context, contractor leadership noted that at times they are held responsible for activities and/or processes over which they have no control, which can impact their ability to effectively implement safety and security goals. One example provided by leadership referred to integrated security. In this example, one organization is being held accountable for integrating security across other organizations with which they have no contractual relationships. This was also noted as a challenge when developing mission and operational goals that are dependent upon input from other contractors or outside organizations.

More broadly, there was a variance noted in the interface within individual organizations and across NvE organizations with regard to implementing safety and security requirements. There does not appear to be a consistent understanding of Roles, Responsibilities, Accountabilities, and Authorities (R2A2) between NvE organizations when work scope involves more than one organization and within a single organization. This lack of clarity results in lost time when organizations either cannot perform work or have to re-plan work due to conflicting requirements. An example is where work processes are compliant with requirements but may be in conflict due to different implementation strategies by NvE organizations. These types of conflicts can introduce inefficiencies and confusion as well as delays to work execution, particularly at the task level.

With respect to other traits under this attribute, senior leadership appeared to be committed to improving the collective NvE safety and security culture. Examples include incentivizing the identification and reporting of issues/concerns; discontinuing incentives programs that are based on not having accidents (e.g., personnel would receive a financial reward for not getting hurt, which could potentially drive under-reporting); recognizing that the majority of indicators address past performance versus being predictive in nature; encouraging use of a questioning attitude by NvE personnel; and ongoing support for Employee Safety Committees and the NNSA/NFO IMC. However, it was also noted that attendance at IMC meetings by some senior-level NvE managers could be improved.

The collective perspective provided during a series of interviews is one of a strong security culture in addition to key nuclear facilities having a strong security posture. Contributors to this positive response include increased awareness of potential terrorist threats and a strong sense of patriotism. The capability to respond to emergency conditions is determined through periodic full-scale emergency drills. Interviews noted an overall level of confidence regarding security personnel being able to effectively respond to incidents, and there is a strong security presence at higher-risk facilities. The 2013 NvE Culture Survey demonstrated positive responses regarding personnel's understanding of security requirements.

However, while many positive behaviors were observed in this attribute relative to senior leadership, as the behaviors flowed down into the organization, the alignment of the behaviors with senior leadership expectations was not as crisp, resulting in a noticeable variance across the NvE. During the course of multiple individual and group interviews, some supervisors did not demonstrate understanding of their role as leaders in their organization. These mid-level managers did not appear to feel empowered to effect change associated with multiple key areas of concerns (e.g., procedures, work control, issues management).[3]

Overall, this attribute involves demonstrating commitment to safety through actions and behaviors, and supporting successful implementation for the safety culture, including verifying that expectations were met. Any variance between expectations and behaviors places a stress on the safety culture that can result in mixed messages relative to safety and production. As a result, the assessment team considers the expectations of this attribute to be partially met.

Attribute 1.B:
Risk-informed, conservative decision making

The *risk-informed, conservative decision making* attribute has several traits that describe the associated expectations. These traits include:

- Supporting and reinforcing conservative decisions based on available information and risks.
- Systematically and rigorously making informed decisions that support safe, secure, and reliable operations.
- Supporting employees who take conservative actions when faced with unexpected or uncertain conditions.
- Being intolerant of conditions or behaviors that have the potential to reduce operating or design margins.

The assessment team found that conservative approaches to safety and hazards are routinely discussed, and stressed, by senior management, line management, and task personnel during Plan of the Day meetings, staff meetings, and all-hands meetings. Weekly and monthly safety topics are developed and shared throughout the NvE. Topics include thermal stress, electrical safety, and hazards associated with distracted driving.

Personnel are routinely encouraged to call a Time Out, Quality Pause, Stop Work, or equivalent when work conditions, requirements, etc., are not clear, appear to have changed, cannot be performed as planned, or present a significant hazard to personnel, the public, or the environment. Some variance was noted regarding personnel

[3] Refer to Attribute 1.F for more detail discussion.

exercising their authority in this area and being supported by management.[4] Collectively, however, the assessment team noted that a high level of confidence was expressed regarding general safety being adhered to, and that general safety-related issues are being identified and reported.

Concerns were expressed regarding the limited number of security personnel available when compared to the geographic size and configuration of NNSS. Interviewees also expressed concerns regarding potential vulnerabilities associated with personnel who serve at badge locations having no protection from visitors (e.g., located "outside the gate"). Additionally, inconsistencies in gate control at the North Las Vegas Facility (NLVF) and multiple vendors being allowed inside the compound were also identified as concerns.

The assessment team identified concerns that there has been over-reaction by DOE and/or NNSA Headquarters personnel responsible for addressing safety and security functional area challenges. Examples include having to respond to questions from an NNSA Headquarters quarterly report addressing a "slight upward trend" in safety and health rates at NNSS, as well as numerous data calls addressing security posture (e.g., post Y-12 security incident), contract revisions, and similar activities. Concern was expressed that such conditions have the potential to stifle candid dialogue, or individuals may be hesitant and/or fearful to report issues due to the perceived potential for a similar over-reaction.[5] In a similar fashion, there were concerns that the NvE has functioned in a similar over-reaction mode (e.g., crisis management), thereby limiting the ability to conduct effective analysis of a given challenge, in addition to not effectively communicating the rationale for decisions rendered. Having to function in crisis management mode can also strain limited personnel resources; divert attention from high priority, mission critical activities; and further disenfranchise NvE personnel. Collectively, this was viewed as hindering the capability to perform systemic analysis, as well as hindering reflective responses commonly found in a Learning Organization.

Interviewees also identified a series of challenges regarding risk management. Examples include lack of a comprehensive NvE-wide risk strategy; risk decisions not being consistently flowed to/from senior management; lack of ability to consistently identify residual risk; and safety/security requirements not being balanced with mission accomplishment (e.g., limited ability to apply graded approach). Part of the challenge expressed in these leadership interviews was the need to clearly define risk acceptance thresholds and responsibilities. In turn, residual risks could then be identified and evaluated, based upon appropriate risk mitigation strategies.

Some individuals expressed reluctance to voice concerns regarding nuclear safety topics. Interviews also noted that some individuals were afraid to voice concerns about over-conservatism with respect to decisions involving nuclear safety topics/issues. Interviews indicated that this may be due to how issues were resolved, and that

[4] Refer to Attribute 2.C for additional discussion regarding stop work processes.
[5] Refer to Attribute 3.A for more detailed discussion.

communications among the different workgroups and individuals associated with nuclear safety continue to be strained. Discussions with NvE leadership noted concerns that, from a culture perspective, attitudes toward nuclear safety and security have yet to reach the ideal state of being (1) self-reflecting, (2) forward-looking, and (3) proactive in nature and working towards a common goal rather than reactive and blame-oriented. Additionally, there was concern that the general consensus on nuclear safety and security programs is as follows: While you may need to be "aware" of nuclear safety and security, someone else is taking care of it for you. Interviewees also noted that reinforcement regarding the importance of nuclear safety and security programs is perceived as being based upon negative events (e.g., something went wrong) versus positive events and/or value-added benefit.

Overall, an important aspect of this attribute is that management is systematic and rigorous in making informed decisions that support safe, reliable operations; analogous to this are the NvE processes for risk management. Given that the NvE processes for risk management have challenges such as no clear risk thresholds, and no enterprise-wide risk methods, and the limited applicability of the graded approach, the assessment team determined that the expectations associated with this attribute were partially met.

Attribute 1.C:
Management engagement and time in field 

The *management engagement and time in field* attribute has several traits that describe the associated expectations. Management is expected to:

- Spend time on the floor and in employee work areas, listening and acting on real-time information.
- Practice visible leadership by placing eyes on the work, asking questions, coaching, mentoring, and reinforcing standards and positive behaviors.
- Set an example for safety and security through their personal commitment.

Within this attribute the assessment team found variation across the NvE relative to management engagement and time in the field. There was evidence that supervisors and task-level personnel recognized that their direct management was at the job site and actively involved in overseeing work activities.[6] Examples provided include being engaged in safety and security topics, being present during pre-job meetings and Plan of the Day meetings, being supportive and open-minded to suggestions, and reinforcing the importance of following requirements and procedures.[7]

Management engagement and time in the field were noted in different ways during the assessment. Examples include use of a "time in the field" performance metric by

[6] This perspective was supported by the NSTec VPP Annual Report and the WSI-Nevada VPP Annual Report. Information for these deliverables is generated from a series of sources, including an Annual DOE VPP survey that is routed throughout the respective organizations.
[7] Refer to Attribute 2.C for additional discussion regarding challenges with following procedures.

NSTec that monitors line management boots on the ground, with the results being reviewed at the Directorate level on a monthly basis; an Annual Safety Summit led by the WSI-Nevada General Manager; and a series of routine facility walk-throughs, walk-abouts, and similar processes conducted at different levels of line management throughout NvE organizations. To interact with personnel during non-routine work hours, line management also makes an effort to spend time in the workplace during back shifts and weekends. These varying approaches also afford line management an opportunity to engage with task-level personnel to discuss work activities, and provide a less formal mechanism for candid conversations.

The assessment team, however, also found that some supervisory and task-level personnel feel that management is disconnected from the work and stresses the importance of schedule and budget versus safety, security, and quality. Some interviewees noted that management is not visible at the work location, and that communication is occurring primarily through emails, bulletin boards, and company meetings. Others noted that, when management is based at another location, the perception is that these managers are not interacting with staff frequently enough to understand the complexities of the worksite. The employee survey results support this observation from personnel interviews conducted during the assessment.

An important aspect of this attribute is management setting an example and reinforcing expectations, coaching and communicating with personnel. Based on many interviews, the need for improved communications across and down through the NvE organizations was evident. The inconsistent engagement of management in the field, coupled with the need for improved communication, represents a missed opportunity for the NvE. Therefore, the assessment team determined that the expectations associated with this attribute were partially met.

Attribute 1.D:
Staff recruitment, selection, retention, and development 

The *staff recruitment, selection, retention, and development* attribute has several traits that describe the associated expectations. These traits include the following:

- People and their professional capabilities, experiences, and values are regarded as the organization's most valuable assets.
- The organization maintains a highly knowledgeable workforce to support a broad spectrum of operational and technical decisions.
- The organization is able to build and sustain a flexible, resilient, robust technical staff and staffing capacity. Staffing is sufficient to ensure adequate resources exist to ensure redundancy in coverage as well as cope with and respond to unexpected changes in a timely manner.
- The organization values and practices continuous learning. Professional and technical growth is formally supported and tracked to build organizational capability.

NvE organizations have many methods to determine the expertise of their personnel, including project performance and leadership programs. Based upon demonstrated capability, personnel may be provided the opportunity for advanced duties and responsibilities, as well as career growth.

Assessment results provided numerous examples of methods of how management shares information with staff relevant to their jobs and work. Examples included routine daily work processes, periodic staff and organizational meetings, as well as more informal discussions. Use of email was noted, with line management forwarding many of those to their staff for information, awareness, and/or action as appropriate.

Due to numerous factors, including budget constraints, sequestration concerns, and contract limitations, staffing capabilities continue to be a significant challenge for NvE. Examples include reduced security force personnel presence, and numerous parts of the NvE being “one deep,” or less, for many positions. In turn, this has required some personnel to work extended hours that are not compensated, as well as limiting ability to maintain mental acuity (e.g., eyes on task, situational awareness). Interviews also noted that the security contract limits the number of individuals who can work a five-day schedule, which, in turn, limits the number of personnel who can have scheduled days off. From a nuclear safety perspective, some managers felt uncomfortable having to use maintenance personnel, initially hired for non-nuclear projects, to backfill positions at nuclear facilities. This discomfort is due to these personnel being perceived as not understanding the level of rigor required for nuclear facility activities.

In the majority of instances, key NvE positions have been identified and efforts are underway to reduce the potential for these positions being negatively impacted by upcoming retirements. Core capability funding has been established for selected NvE positions and is providing some level of stability for these positions. Use of cross-training and internships has reduced some of the impacts, and no significant challenges were identified during this assessment regarding lack of personnel to support key, or mission essential, positions.

NvE management also monitors training opportunities for continuous learning, educational opportunities, and similar processes. It was noted during interviews, however, that recent constraints by DOE/NNSA Headquarters for attendance at conferences, educational seminars, and similar venues are impacting the ability to enhance knowledge of new processes and techniques. These constraints are also viewed by some NvE personnel as limiting the ability to retain current staff, as well as the ability to attract new candidates.

Training departments have expanded the use of computer-based training and online courses, while reducing the use of companies that provide classroom training. This has also reduced some of the impacts associated with limited funding being available for maintaining and improving the capabilities of the workforce.

Another common challenge across NvE is an aging workforce combined with hiring constraints. By way of example, the average age of the workforce at NSTec is approximately 52 years of age, and numerous personnel will be qualified for retirement in the near future. Results of the analysis indicated that a related issue, succession planning, is another challenge that has not been consistently addressed across NvE. These challenges were also reflected in the 2013 NvE Culture Survey, which ranked "staffing levels being adequate" among the three lowest scores. Adequacy of staffing levels was ranked among the three lowest responses for the 2010 NvE Culture Survey as well.

Given staffing challenges such as reduced security force, lack of professional development due to sequestration and budget cuts, lack of bench strength, and lack of succession planning, the assessment team determined that the expectations associated with this attribute were partially met.

Attribute 1.E:
Open communication and fostering an environment free from retribution 

The *open communication and fostering an environment free from retribution* attribute has several traits that describe the associated expectations. It is important to note that this attribute and associated traits provide the framework for a safety conscious work environment, which is one of the cornerstones of a healthy safety and security culture. Key examples of these traits are as follows:

- A high level of trust is established in the organization for reporting individual errors, and the reporting is encouraged and valued.
- Individuals feel safe from reprisal when reporting errors and incidents. Individuals at all levels of the organization promptly report errors and incidents and offer suggestions for improvement.
- A variety of methods are available for personnel to raise safety/security issues, and line managers promptly and effectively respond to personnel who raise these issues.
- Leadership proactively detects situations that could result in retaliation and take effective action to prevent a chilling effect.

Discussions with NvE Leadership indicated that retribution and retaliation were not supported, but it was generally recognized that conflict does occur and that there was a need for differing opinions and views as a vehicle to support healthy feedback. It was also recognized that there are portions of the NvE where hesitance to identify and raise issues exists.

A theme that emerged as a potential contributing cause is that, historically, organizations have not handled contentious issues/concerns as well as would be expected, and this has impacted some employees' willingness to raise issues. Interviews also identified a series of instances where personnel and/or

mid-management were hesitant to discuss issues with their line management. This observation from the assessment team is consistent with the 2013 NvE Culture Survey results. It is important to note for a frame of reference that, from an Institute of Nuclear Power Operations (INPO) perspective, a strong safety culture will have over 95 percent of the people surveyed feeling strongly about the absence of retaliation in raising issues. The 2013 NvE Culture Survey results were significantly below this INPO goal.

From the leadership perspective, retaliation is not condoned, and raising issues, concerns, and good ideas is encouraged. Within this attribute, the expectation is that a proactive approach exists to detect situations that could result in retaliation and prevent a chilling effect. While senior management has voiced expectations relative to retaliation and preventing a chilling effect, individuals were not consistently aware of this "zero tolerance" for retribution, and no documented policies or NvE assessment results are evident that fully support the attribute of detecting and preventing retaliation or a chilling effect.

While variance was noted regarding perceptions of a chilling effect related to disciplinary actions, the general view of the leadership personnel interviewed was that disciplinary actions were being applied fairly and consistently.[8] NvE participating organizations have established Human Resources organizations, Employee Resources organizations, or equivalent, and disciplinary processes exist and are being utilized. Discussions also noted that part of the challenge in preventing the perception of a chilling effect is ensuring that communications associated with disciplinary actions are as clear and factual as practical (taking into account need to maintain confidentiality), especially when the potential exists for perceptions that the disciplinary action is associated with unrelated events.

Many leaders also highlighted the use of recognition programs and informal appreciation as a means of promoting the willingness of employees to raise issues and concerns. Interviewees felt this helped with identifying safety or security challenges, as well as process improvements. Within this attribute, however, there is an expectation that management has formally established a variety of methods for personnel to raise safety issues with line managers, who in turn are expected to resolve such issues and respond to the personnel who raised them, promptly and effectively.

In addition to the challenges noted in Attribute 1.B with respect to communication on nuclear safety topics, the assessment team identified significant variance regarding consistent/effective communications. This variance was observed across NvE organizations, working as a team, as well as with DOE/NNSA Headquarters representatives. This variance is not supportive of a Learning Organization in which there is open and candid communications among participating groups to further collective efforts of the site and meet common goals.

[8] Refer to Attribute 1.F for additional discussion of challenges associated with accountability.

Examples were also noted where some mid-level managers were viewed as being a barrier to effective communications between senior leadership and task-level individuals. In some cases, mid-level managers did not fully support, or interpret in a manner inconsistent with the original intent, senior management communications as they flowed that information to staff. Similarly, there were cases noted where some mid-level management put a positive spin on, or did not communicate, concerns and issues raised by staff that would be expected to appropriately flow back up the management chain in an open manner.

While there exist formal DPO and ECP processes at the field office level, lower-level supporting processes within specific companies vary, along with the understanding of those processes. For example, some supervisory interviewees confused the Employee Concerns Program with the Employee Assistance Program. This confusion would diminish the effectiveness of both programs. In addition, other methods such as issues management vary by company relative to being an effective method to resolve/respond to issues. Taken together, the current approach for raising issues and the associated effectiveness place a significant stress on the existing safety and security culture.

It is also worth noting that, during performance of this assessment, multiple instances were identified that appeared to have a retribution component, two of which required immediate elevation by the assessment Team Leader to senior management. In turn, cognizant senior management immediately initiated actions with the appropriate representatives within their organizations (e.g., Legal, Human Resources). While the actions of the NvE were appropriate, the fact that these instances were identified during this assessment suggests that the stresses on NvE's safety and security culture, from not having adequate processes to support this attribute, are significant.

Overall, the assessment team identified that there are indications of a chilling effect within the NvE. Given that processes commonly associated with this attribute are not sufficient, coupled with the challenges associated with communication, this cornerstone attribute is not functioning as necessary to adequately support a safety and security culture. Therefore, the assessment team determined that the expectations associated with this attribute were not met.

Attribute 1.F:
Clear expectations and accountability 

The *clear expectations and accountability* attribute has several traits that describe the associated expectations. These traits include the following:

- Managers provide ongoing performance reviews of assigned roles and responsibilities, reinforcing expectations and ensuring that key safety responsibilities and expectations are being met.
- Personnel at all organizational levels are held accountable for standards and expectations. Accountability is demonstrated both by recognizing excellent performance as well as identifying less-than-adequate performance.

- Willful violations of requirements and performance norms are rare.
- Unintended failures to follow requirements are promptly reported, and personnel and organizations are acknowledged for self-identification and reporting errors.

The assessment team identified several activities that the NvE was using to provide clear expectations and accountability. Roles and responsibilities are communicated through a variety of mechanisms, including organization charts, work descriptions, position descriptions, performance reviews, training, and similar processes. Recognition programs at NvE, such as the President's Awards, Distinguished Service Awards, SPOT Awards, Bravo Awards, Great Catch Awards, Above and Beyond the Call of Duty, and See Something, Say Something, provide opportunities to reinforce expectations relative to the safety and security culture.

The performance review process conducted across NvE organizations on a pre-determined basis, which can include six-month (e.g., mid-year) as well as annual evaluations, provides an additional opportunity to foster clear expectations and accountability. While this activity can strengthen the safety and security culture, it was noted that some mid-level managers were not afforded the opportunity to provide input for performance reviews of their direct reports, which could diminish the effectiveness of the process.

Over the course of the assessment, interview results indicated that personnel are aware of the need to comply with procedures and follow them to the best of their knowledge. The assessment team did not identify any instances where there was a willful violation.

The assessment team noted that some mid-level managers expressed frustration regarding their perception of not receiving appropriate training and guidance on performance of their management tasks. This represents a missed opportunity for senior leadership to clearly define their expectations.

Interviews identified varying perceptions within the workforce with respect to the treatment of poor and good performance. There were numerous reports that indicated poor performers across the NvE are not being held accountable. This may be due, in part, to management appearing uncomfortable with having to confront poor performers, as well as the disciplinary action process being viewed as taking too long and difficult to execute. While excellent performers are typically recognized, recognition often involves sensitivity to the feelings of poor performers (e.g., hesitancy to recognize good performers in front of poor performers). Interviewees also indicated pockets within the NvE where good performance goes unrecognized. Several senior managers at the Field Office directly related this to various restrictions associated with the NNSA awards system.

Given the challenges associated with recognizing a good performer in front of a poor performer, holding poor performers accountable, and the perception that the disciplinary

actions are not fair or consistent, the assessment team determined that the expectations associated with this attribute were partially met.

Summary of Safety and Security Culture Leadership Strengths and Stressors

Strengths:

- Senior management expectations and commitment to safety and security are evident.

Stressors:

- Comprehensive NvE risk management processes have not been established and the current levels of risk acceptance have not been effectively communicated across the NvE.
- Interfaces within individual organizations and across NvE organizations vary in effectiveness, resulting in imperfect understanding of R2A2 and associated inefficiencies, delays, and re-work.
- Management engagement in the field is not consistent relative to the approach and reinforcement of expected behaviors that are in line with senior leadership expectations.
- Understanding and use of DPO and ECP processes by NvE personnel could be improved.
- Communication between management and lower levels, across organizations, and with DOE/NNSA Headquarters personnel needs improvement.
- Over-reaction to events/issues limits the ability to develop system solutions, inhibits future issue identification, prevents development of comprehensive corrective actions, and stifles open and candid communications.
- The rationale for decisions is not always transparent or clearly communicated.
- Processes to detect and prevent retaliation/retribution are not evident.
- Lack of bench strength across NvE organizations challenges ability to effectively complete mission in a safe and secure manner.
- The perceptions are that some individuals are not held accountable or recognized for performance.
- Some individuals perceive that disciplinary actions are not fair or consistent.
- Some supervisors do not understand, or do not fully implement, expectations associated with their leadership role.

6.2 Focus Area 2: Employee/Worker Engagement

Evaluation of this focus area involved examining employee/worker engagement attributes for safety and security, from the NNSA/NFO Acting Manager to federal and contractor senior management, line management, and task-level personnel. This included personal commitment; understanding and ownership of safety and security, including individuals outside the organization; teamwork and mutual respect; active involvement in identification and planning of work; stop work authority; and hazard identification and controls for high-consequence events. The objective of these attributes is to define and reinforce the organizational expectations and behaviors that foster collaboration; acknowledgement and understanding of differing viewpoints; and discussions of issues with a focus on problem solving rather than on individuals. The overall Employee/Worker Engagement Focus Area was evaluated as "yellow." The rationale for this evaluation determination was based on the two following factors:

- Teamwork and mutual respect across, and between, NvE organizations have yet to fully mature whereby the full potential of this essential attribute can be realized.
- Participation in work planning and procedural development by support organization representatives and task-level personnel had notable variance.

Evaluation results for the Employee/Worker Engagement Focus Area attributes are as follows:

2.A. Personal commitment to everyone's safety

2.B. Teamwork and mutual respect

2.C. Participation in work planning and improvement

2.D. Mindful of hazards and controls

At the task level, NvE organizations have fostered a positive culture of personal commitment to everyone's safety (e.g., watch out for my brother/sister), as well as maintaining situational awareness of potential hazards and the associated controls. However, this same level of commitment has not been fully inculcated throughout, and across, these same organizations from a trust and mutual respect perspective. In addition, participation by appropriate personnel in the early planning stages of proposed work activities and procedural development is not functioning as well as would be expected for an organization that has fully embraced organizational learning. While there has been some progress to improve trust at the most senior levels of NvE (as noted in the discussion for Focus Areas 1 and 3), this area continues to place stress on the overall safety and security culture of the NvE.

The detailed evaluation results for each attribute of the Employee/Worker Engagement Focus Area are provided below.

Attribute 2.A:
Personal commitment to everyone's safety

The *personal commitment to everyone's safety* attribute contains numerous traits that define the associated expectations. Examples include:

- Responsibility and authority for safety and security are well defined and clearly understood as an integral part of performing work.
- Individuals understand and demonstrate responsibility for safety and security.
- Qualified personnel are empowered to make decisions, and held accountable.

Assessment results for this attribute determined that NvE personnel are committed to safety and security and look out for one another. These beliefs are based on routine reminders that emphasize working safely and that practice makes people more aware, alert, and conscientious about safety and security. These reminders contribute to continuous improvement in the safety and security culture. Employees address safety and security at numerous levels (e.g., Plan of the Day meetings, Tail Gate Briefings, Muster Meetings, work package reviews, group meetings, all-hands meetings).

Workers understand that the completion of work takes precedence and priority; however, employees also understand that work may not be performed if not done safely and securely. When management is at the job site(s), they are very conscientious about worker safety and get involved in all aspects of safety on the job, from pre-job hazard reviews to safety talks prior to starting work. Employees are encouraged to say something if they see something unsafe.

In addition, interviews with task-level personnel indicated that they felt they had a good grasp on what the role of the protective force is, and these personnel explained ways in which all employees can help out, including questioning personnel without badges or anyone on site who may not have a need to be where they are or go where they want to go. Interviewed personnel stated that security is tight and well understood, and that employees readily report security infractions. Positive examples were provided with respect to reporting alarming doors (due to high winds), checking of security badges, and escorting of personnel. Interviewees expressed that they can help security personnel by knowing and obeying the rules. They also understand, trust, and respect armed security personnel because they have the authority and responsibility to protect people and assets.

Results from the 2013 NvE Culture Survey show that a very high percentage of personnel clearly understand their roles and responsibilities in performing work safely and understand the importance of maintaining an effective security posture. In addition, a series of NvE safety committees (e.g., Senior Safety Committee, Continuous Safety Improvement Committee, Protective Force Safety Committee, Labor Alliance Safety Committee, Downtown Safety Committee) share safety/security messages during department meetings on a routine basis. These safety committees, and similar

mechanisms, provide positive examples of task-level employees taking ownership of safety/security and receiving encouragement and support from supervision.

Survey results also illustrated that personnel understand that they are fully accountable for complying with the procedures used for work. The interviews, however, also identified variance with respect to procedural processes being viewed as complex and time consuming to revise, as well as variance regarding consistent implementation of safety and security requirements.[9]

In some instances, orientation briefings are provided for subcontractor personnel to acquaint them with NvE practices and requirements, as well as providing an opportunity to meet project and support organization personnel. Interviews included expressions of confidence with respect to NvE organizations taking ownership in ensuring that other organizations or visitors are well informed of safety/security expectations and requirements.

A walk-down involving three separate subcontractors on a construction project and a series of administrative facilities revealed good housekeeping practices. During this walk-down, construction personnel were observed wearing appropriate personal protective equipment and being attentive at post-job briefings.

Overall, the assessment team determined that NvE organizations demonstrated commitment to processes associated with this attribute, including understanding of roles and responsibilities related to safety and security. Of particular note was individuals' commitment to their own personal safety as well as that of their co-workers. Therefore, the assessment team considers the expectations associated with this attribute to be met.

Attribute 2.B:
Teamwork and mutual respect 

The *teamwork and mutual respect* attribute contains numerous traits that define the associated expectations. Examples include the following:

- Open communications and teamwork are the norm.
- Individuals at all level of the organization listen to each other and differing points of view are acknowledged.
- Good news and bad news are both valued and shared.

The assessment identified variance regarding personnel working as a team and having mutual respect in addition to being comfortable questioning work processes and stopping work when tasks cannot be completed according to the work package. The assessment identified some variance regarding supervisors trusting their employees to report errors, incidents, and injuries in a timely manner, and this variance was also

[9] Refer to Attribute 2.C for additional discussion.

observed at the task level. The topic of trust was ranked among the three lowest scores for the 2013 NvE Culture Survey, and a similar challenge regarding trust was identified in the 2010 NvE Culture Survey.[10]

Variance was also noted regarding individuals listening to each other and effectively engaging in open communication to ensure meaning, intent, and viewpoints are understood and differing points of view acknowledged.[11]

An important aspect of this attribute is that an environment is established whereby personnel engage in candid and open discussions, as well as have a level of trust with their peers, line management, and other NvE organizations. As further discussed in Attributes 1.E and 3.A, the assessment team found that the NvE was inconsistent relative to the expectations associated with these elements of this attribute. As such, the assessment team considers the expectations associated with this attribute to be partially met.

Attribute 2.C:
Participation in work planning and improvement

The *participation in work planning and improvement* attribute contains numerous traits that define the associated expectations. Examples include the following:

- Individuals are actively involved in identification, planning, and improvement of work practices.
- Individuals follow approved work practices and procedures.
- Individuals can stop work due to unsafe or unexpected conditions.

Procedures and processes are in place for addressing work hazards, and personnel are held accountable for complying with safety and security requirements. While safety and security topics are commonly addressed during the planning of work, inconsistencies were also observed in this area.

The assessment revealed a variance regarding personnel being actively involved in work planning and improvements. Positive examples of participation included table-top reviews of work packages and their related activities, and in some instances, field walk-downs of proposed work activities. Similar examples involved improvements being explored and discussed by individuals from supervision to the task level. The interviews, however, also identified the need to ensure that task level personnel as well as support organizations (e.g., safety, radiological controls, quality) are consistently engaged in work planning, as well as subsequent revisions to planned work activities. By way of example, environmental personnel participated in project planning for construction of a building, but were not advised of a subsequent decision to delete an essential back-flow preventer. Since this device was a regulatory requirement, rework

[10] Refer to Attribute 3.A for additional discussion.
[11] Refer to Attribute 1.E for additional discussion.

was required, along with additional costs and project schedule impacts. Similar comments were also noted regarding the need for work planners to review field conditions (e.g., via walk-downs) during development of work packages.

Assessment results identified a variance regarding participants recognizing the need for procedures and their inherent value to operations, as well as supervisory support for their use. The 2013 NvE Culture Survey highlighted multiple concerns associated with procedures, the processes used to develop and maintain them, and individuals being observed not following them. Interviews supported these survey results and provided supplemental perspectives such as the following: appropriate personnel (e.g., satellite locations, affected organizations, and task-level personnel) were not consistently being provided the opportunity to participate in procedure development or revision; the processes used to develop and maintain procedures were too complex; and procedural adherence issues were challenging the consistent implementation of safety and security requirements. The assessment team also noted a perception that methods to advise personnel of procedural revisions could be improved. Some interviewees felt there was an over-reliance on use of *The Front Page*, or similar notification methods, to inform end users of revisions, or issuance, of procedures.

With respect to Stop Work and similar processes, results of the 2013 NvE Culture Survey and DOE VPP Annual Self-Evaluation Reports for NSTec and WSI-Nevada showed that the vast majority of responses were favorable, where employees understand the process for initiating a Stop Work or Time Out and know they can initiate these processes when necessary. A high percentage of personnel also responded favorably to survey questions about being encouraged by their line manager to call a Time Out or initiate a Stop Work, and being comfortable exercising the process.

Many positive, supportive statements were made during interviews regarding employee use of a Time Out or requesting a Stop Work. Overall, interviewees indicated that personnel understand their right to stop work and that NvE organizations communicate this concept regularly. However, variance was identified regarding personnel feeling comfortable exercising their Time Out and/or Stop Work authority. Instances were noted in which personnel expressed reluctance to initiate these processes due to perceived scheduling and/or production pressure from management, negative response from line management, or management not wanting to address challenges. [12]

Several specific examples were given where staff had called a Time Out, and most reported that they had the support of their management in doing so. One example addressed calling a Time Out to confirm the travel path for a heavy piece of equipment that was to be moved through a series of hallways. It was also stated that in many cases it was not difficult to exit the Time Out for resumption of the operation. It was noted by the review team, however, that some employees thought that the Stop Work process was executed exclusively by craft personnel due to their potential exposure to significant hazards in the workplace.

[12] Refer to Attribute 3.A for additional information.

Based upon the information generated from this assessment highlighting challenges associated with inconsistent engagement of appropriate personnel during work planning and procedure development, as well as variances associated with implementation of Time Out and/or Stop Work, the assessment team determined that the expectations associated with this attribute were partially met.

Attribute 2.D:
Mindful of hazards and controls 

The *mindful of hazards and controls* attribute contains numerous traits that define the associated expectations. Examples include the following:

- Work hazards are identified and controlled to prevent or mitigate accidents.
- Individuals understand and proactively identify hazards and controls before beginning work activities.
- Organizational safety responsibilities are sufficiently comprehensive to address work activities.

NvE organizations have implemented methods to make personnel aware of hazards and associated controls related to their work activities. Examples include task analysis, job hazard analysis, and site-specific health and safety plans. Contingent upon the work being performed (e.g., explosives operations, or similar high-hazard work), step-by-step procedures may also be utilized, including requisite caution and/or warning statements. Work packages, or similar documentation, may also contain Hold Points addressing health and safety considerations (e.g., confined space entry, performance of hot work activities) that must be addressed by cognizant SMEs prior to performance of associated activities. Examples include Industrial Hygienists, Occupational Safety Specialists, and Radiological Control Technicians.

Interviewees expressed confidence that hazards are appropriately evaluated through established processes, although participation by task-level personnel and/or support organizations could be improved in some instances.[13] Employees are comfortable with hazard controls, and safety topics for work are routinely addressed during morning meetings. NvE subcontractors are given safety briefings addressing hazards associated with their work activities. Interviewees working in high-hazard facilities were comfortable with the rigor and implementation of measures in place to ensure the work can be performed in a safe and secure manner. Interviewed personnel provided positive examples indicating that hazards are analyzed prior to the commencement of work.

Assessment results for this attribute determined that task-level personnel interviewed were comfortable with current hazard identification and safety review processes. Of particular note was task-level personnel's awareness of hazards and controls

[13] Refer to Attribute 2.C for additional discussion.

associated with their work activities. As such, the assessment team considers the expectations associated with this attribute to be met.

Summary of Safety and Security Culture Employee/Worker Engagement Strengths and Stressors

Strengths:

- Strong personal commitment by NvE personnel regarding looking out for each other's safety and security.
- Employee Safety Committees are adding value and are viewed as a mechanism to bring forward safety-related workplace conditions and issues.
- Hazards are analyzed and appropriate controls developed prior to performance of work.

Stressors:

- Teamwork and mutual respect is not evident in many portions of the NvE.
- Appropriate personnel are not consistently provided the opportunity to participate in project planning or in subsequent revision to approved work packages and procedures.
- Processes to develop and revise work packages and procedures are perceived as onerous and time consuming.
- Field walk-downs of proposed project activities are not consistently performed.
- Notification methods regarding updates of procedures could be improved.

6.3 Focus Area 3: Organizational Learning

This Focus Area involved examination of the Organizational Learning attributes for the safety and security culture. These attributes encompass the organization's ability to create an environment where safety and security issues can be reported and effectively resolved. The attributes also includes the ability to monitor performance, use operating experience, and question activities where they are diverging from expectations. The overall objective is that the capacity to learn from experience is well developed and highly valued, such that a proactive approach to preventing significant safety and security issues exists. The overall Organizational Learning Focus Area was evaluated as "red." The rationale for this evaluation determination was based on the following factors:

- The credibility and trust for identifying and reporting issues had noticeable differences across and down through the organizations.
- Processes and behaviors that result in effective resolution of reported problems are not sufficiently mature to identify and implement lasting corrective action.

It is important to note that, while the overall objective of this focus area is that the capacity to learn from experience is well developed and highly valued, there were noticeable behaviors across the NvE that can be characterized as defensive and punitive relative to reporting problems, which is a barrier to developing a Learning Organization.

Evaluation results for the Organizational Learning Focus Area attributes are as follows:

3.A. Credibility, trust, and reporting errors and problems

3.B. Effective resolution of reported problems

3.C. Performance monitoring through multiple means

3.D. Use of operational experience

3.E. Questioning attitude

The assessment team observed an enhanced level of trust and partnership amongst Senior NvE Leadership; however, that level of trust does not fully permeate the NvE. Moreover, the management behaviors that enable and foster a robust issues reporting and resolution culture are either not in complete alignment or are contrary to the expectations of this focus area. Many of the Learning Organization attributes rely upon the Leadership Focus Area attributes to create and foster the environment for a reporting culture. While there is evidence that senior leadership is actively working to improve in these areas, the long-standing problems associated with communications within and across organizations, the ability to detect and prevent potential cases of a chilling effect, and issues management significantly impacted this focus area.

The detailed evaluation results for each attribute of the Organizational Learning Focus Area are provided below.

Attribute 3.A:
Credibility, trust, and reporting errors and problems 

The *credibility, trust, and reporting errors and problems* attribute has several traits that describe expectations for organizational learning. These traits start at the organization's senior leadership level and flow down to each level of the organization. A summary of the traits is as follows:

- Credibility and trust are present in the organization and there is demonstrated consistency in approach and commitment.
- Organizations, managers, and line supervisors provide accurate, relevant, and timely information to employees. Managers are skilled in responding to employee questions in an open, honest manner.
- Reporting individual errors is encouraged and valued, and used for opportunities to learn rather than blame.
- Individuals are recognized and rewarded for self-identification of errors, and demonstrating behaviors consistent with the safety/security culture principles.
- Management encourages and appreciates safety/security issue and error reporting and demonstrates integrity, ethical values, and practices to foster trust.

Relative to these traits, the assessment team found differences regarding NvE personnel's recognition of Stop Work authority and their willingness to request a Stop Work, as compared to the willingness to raise a safety/security issue that does not meet Stop Work criteria. Examples include lack of confidence that their line management will effectively address the issue, not wanting to call attention to themselves by raising an issue, or the potential for the issue to be used by NNSA/NFO personnel in a subsequent assessment and/or as the basis for a potential reduction in fee.

While it was observed that the reporting of errors or problems occurs, there was noticeable variance regarding hesitancy by personnel to report issues and/or problems; reporting of issues or problems being supported by their management; and retribution for reporting being an issue.

While many stated that they would report a problem, interviews indicated that many people have not reported an issue and would not use the established processes. Examples of potential causes included perceived complexity of using issues management processes (e.g., caWeb), the amount of paperwork involved, and the visibility of issues being reported. As a potential consequence of these factors, in many cases only significant issues are entered into the formal issues management systems, and other local tracking systems are used for less significant issues. It was also reported that some organizations/groups use their own informal deficiency tracking system. In addition, it was conveyed that contracted employees (e.g., subcontract

personnel) are not consistently aware of these reporting processes or whether the processes can be used by subcontractors. Understanding and use of the DPO/ECP processes was identified as an area of concern as well.[14]

The assessment team also noted during interviews that the behaviors relative to the issues management systems were not in alignment with or did not support organizational learning. Specifically, personnel frequently expressed identifying and documenting problems as "writing someone up," or "being written up," and/or if you get an issue it is viewed as punitive or punishment. These beliefs are not reflective of the behaviors associated with organizational learning and have the adverse consequence of creating a defensive posture relative to identifying problems, as well as contributing to a chilling effect as identified in the Leadership Focus Area.

This assessment also identified a varying level of trust within and between NvE organizations. Some interviews indicated credibility and trust among management and employees as being mostly a positive trait among those individuals interviewed. Several supervisors were quoted as having total trust in their employees, although not all felt this way. Conversely, some interviews also involved an expression of total distrust among management and employees. In a similar manner, some interviews indicated that some mid-management personnel feel that their next line of management is second-guessing their decisions, and will defer final decisions further up the line.

Methods of sharing information across organizational boundaries were sometimes described as problematic or insufficient. This assessment team observation was consistent with the results of the responses provided in the 2013 NvE Culture Survey, which placed the statement "There is trust and mutual respect among NvE Organizations" among the lowest three responses. A similar ranking for the 2010 NvE Culture Survey was also noted for the same question.

At the leadership level, many interviewees noted that there has been a marked improvement in trust, collaboration, and alignment in the NvE over the past year and a half. This improvement was attributed to multiple factors, inclusive of Governance efforts, changes in the most senior NvE leadership, the shared experiences of some senior leaders via the establishment of NvE Six Pack meetings (a senior-level forum to discuss numerous topics, including safety and security), and the partnering and collaboration needed to appropriately evaluate the generic implications of the Y-12 incident on NvE security operations and posture. Another example is the recent participation by NNSA/NFO and NSTec Senior Management in offsite training entitled *Learning as Leadership*. This 10-day class focused on effective communication skills, and initial indications are that positive results are already being realized at the higher levels of both organizations.

Overall, given the lack of trust below the senior leadership level, and that some personnel feel that the reporting of problems is not valued and somewhat of a punitive

[14] Refer to Attribute 1.E for a more detailed discussion.

measure, causing informal issues management processes to manifest themselves, the assessment team determined that the expectations associated with this attribute were not met. It is important to note that in this attribute the stress relative to the safety and security culture is based on many observed behaviors being contrary to expectations.

Attribute 3.B:
Effective resolution of reported problems 

The *effective resolution of reported problems* attribute has several traits that describe expectations for organizational learning. These traits are linked to the problem reporting attribute of organizational learning. A summary of the traits is as follows:

- Vigorous corrective and improvement action programs are established and effectively implemented, providing both transparency and traceability of all corrective actions. Even small failures are viewed as windows into the system that can spur learning.
- Corrective action programs effectively prioritize issues, enabling rapid response to imminent problems while closing minor issues in a timely manner to prevent them from escalating into major issues.
- Causal analysis expertise is applied effectively to examine events and improve safe work performance. High-quality causal analysis using multi-discipline analytical perspectives is the norm.
- Performance improvement processes require direct worker participation. Individuals are encouraged, recognized, and rewarded for offering innovative ideas to improve performance and to solve problems.

Relative to these traits, the assessment team found that established issues management systems and associated implementation are not in alignment. While there were some examples where corrective actions were viewed as being effective in reducing the potential for similar conditions to occur again in the future, that was not the observation across all of NvE. The behaviors relative to the issues management system identified in Attribute 3.A are similar and related to those found in this attribute. That is, the punitive nature and associated avoidance behaviors do not lend themselves to vigorous corrective and improvement action, providing both transparency and traceability of all corrective actions that spur learning.

In addition, the need was evident for greater senior management engagement during cause analysis and corrective action plan development to drive effective resolution of problems. During the interviews it was noted that there were supervisory and task-level individuals who had strong negative perceptions of the existing issues management systems (in particular, the caWeb issues management system used by both NSTec and NNSA/NFO). These individuals indicated that once you have an action in the system you want to get it closed quickly. Effective or high quality actions were not viewed as being as important as getting the action completed/closed. This behavior is indicative of

the behaviors identified in Attribute 3.A (e.g., issues management systems are viewed by some personnel as being non-value added and/or punitive).

One topic of concern noted during interviews was lack of consistent feedback regarding how a given issue/challenge was dispositioned. An example includes task-level personnel not being advised of actions taken to address procedural deficiencies and/or concerns regarding routine facility maintenance. Use of "informal," or local, issues tracking systems may be contributing to this condition, as well as limiting ability to perform meaningful extent-of-condition reviews or similar processes. The assessment team noted that employee involvement in causal analysis as well as developing corrective actions could be improved (e.g., ensure appropriate task-level and support organization personnel are provided the opportunity to participate in causal analysis processes).

Overall, the perceived punitive nature and demonstrated avoidance behaviors associated with implementation of issues management processes do not lend themselves to vigorous corrective actions. In turn, this reduces ability to learn from the associated events, limits transparency and traceability of all corrective actions, and places significant stress on the collective safety/security culture. Given the lack of consistent feedback regarding issue resolution, the lack of engagement of appropriate personnel in the resolution process, and the overall lack of awareness relative to the importance of effective problem resolution, the assessment team determined that the expectations associated with this attribute were not met.

Attribute 3.C:
Performance monitoring through multiple means 

The *performance monitoring through multiple means* attribute has several traits that describe expectations for organizational learning. These traits include the following:

- Managers maintain awareness of key performance indicators related to safe and secure accomplishment of work, watch carefully for adverse trends or indications, and take prompt action to understand adverse trends and anomalies. Management employs processes and special expertise to be vigilant for organizational drift.
- The organization actively and systematically monitors performance through multiple means, including leader walk-arounds, issue reporting, performance indicators, trend analysis, benchmarking, industry experience reviews, self-assessments, peer reviews, and performance assessments.
- The organization demonstrates continuous improvement by integrating the information obtained from performance monitoring to improve systems, structures, processes, and procedures. It actively and formally monitors and assesses its safety and security culture on a periodic basis.

Assessment team evaluation of this attribute revealed that performance monitoring is accomplished at many levels of the NvE using a variety of methods. For example, monitoring of safety and security is accomplished by periodic review of dashboard metrics that display safety statistics and the number of security incidents. Reports addressing the health of the safety and security programs are developed and distributed weekly, monthly, quarterly, and annually to appropriate levels of management.

Results of assessment team interviews noted substantial efforts underway throughout the NvE to better define, use, and improve performance metrics. Many interviewees also commented that NvE organizations are not yet measuring all the right things the right way (e.g., still working to establish risk-informed and predictive leading indicators in lieu of status and/or lagging indicators). Many metrics are perceived as being based more on what people can measure than being based on a strategic vision.[15]

The assessment team identified that there is a robust Integrated Assessment Program and that joint assessments with federal and contractor personnel are providing value. NvE organizations develop assessment schedules on an annual basis using a risk-based scoring technique that identifies and prioritizes assessments by risk and performance. Collective response from this assessment determined that joint assessments are promoting a sense of teamwork, and an increase in understanding of the differing roles and responsibilities for NvE organizations. These assessments also complement shadow assessments conducted by NNSA/NFO personnel and can provide additional value by reducing the need for separate NNSA/NFO assessments.

Interviews also noted a lack of comprehensive understanding regarding the vision of one mission and one NvE. This may be indicative of this vision, and how it relates to mission performance, being still somewhat in its infancy and therefore not sufficiently mature to provide definitive objective evidence regarding its value throughout the NvE.

At the leadership level, it was acknowledged that employee suggestion programs were available. Descriptions and implementation of these programs varied across the NvE, but their existence was common throughout. It was also noted at the leadership level that their use varied and that some functioned better than others. The assessment interviews indicate that the employee suggestion programs are well received.

Overall, within this attribute the expectation is that the NvE demonstrates continuous improvement by integrating the information obtained from performance monitoring to improve performance. While the NvE has multiple means for monitoring performance, as discussed above and addressed elsewhere in this report, use of this information to drive performance improvement was not readily evident. Therefore, the assessment team determined that the expectations associated with this attribute were partially met.

[15] Refer to Attribute 4.B for additional discussion regarding challenges associated with use of metrics.

Attribute 3.D:
Use of operational experience

The *use of operational experience* attribute has several traits that describe expectations for organizational learning. These traits include the following:

- Operating experience is highly valued and the capacity to learn from experience is well developed. The organization regularly examines and learns from operating experiences, both internal and in related industries.
- The organization embraces feedback from peer reviews, independent oversight, and other external sources.
- The organization documents and shares operating experiences (lessons learned and best practices) within the organization and with industry.

Operational experience and lessons learned information is shared through numerous forums, including NNSA/NFO Executive Council meetings, NvE Senior Management meetings, monthly NNSA/NFO IMC meetings, NvE Partnership meetings, all-hands meetings, email messages, and similar methods. In turn, this information is flowed down through the respective NvE organizations via staff meetings, Plan of the Day meetings, tailgate safety briefings, and similar venues.

Lessons learned are generated by NvE organizations utilizing a series of forums. Examples include reviews of completed projects, management assessments, independent assessments, and similar practices. Lessons learned are also captured during incident/injury reviews, management reviews/critiques, and accident investigations. In turn, these lessons learned are shared though the NvE community (e.g., email notifications, site publications, bulletin boards) as well as with DOE/NNSA Headquarters representatives in accordance with established processes.

The assessment team identified varying levels of effectiveness regarding use of operational experience, as well as challenges regarding use of lessons learned for performance of work. Relevant lessons learned are not always incorporated into work planning and procedures in a meaningful way. Many task-level personnel expressed frustration over the same lesson learned being routinely included with work packages, and in some instances, the lesson learned was perceived to not apply to the work being performed. In addition, it was perceived that some NvE organizations have a tendency to engage the lessons learned program to address positive conditions (e.g., noteworthy practices and what went well) rather than addressing issues and/or challenges (e.g., identified safety/security concerns and what went wrong).

Overall, within this attribute the expectation is that the NvE demonstrates continuous improvement by integrating the information obtained from lessons learned to improve performance. While the NvE has established lessons learned activities, effective use of this information to drive performance improvement was not readily evident. Therefore,

the assessment team determined that the expectations associated with this attribute were partially met.

Attribute 3.E:
Questioning attitude

The *questioning attitude* attribute has several traits that describe expectations for organizational learning. These traits include the following:

- Managers encourage a vigorous questioning attitude toward safety and security, and foster constructive dialogues and discussions on safety matters.
- Individuals cultivate a constructive, questioning attitude and healthy skepticism when it comes to safety and security. Individuals question deviations, and avoid complacency or arrogance based on past successes. Team members support one another through both awareness of each other's actions and constructive feedback when necessary.
- Individuals pay keen attention to current operations and focus on identifying situations where conditions and/or actions are diverging from what was assumed, expected, or planned.

Use of a questioning attitude is routinely stressed at Plan of the Day meetings (e.g., discussions regarding what could go wrong with the work, "what if" scenarios) and similar forums. Interview results showed variance regarding a freedom to communicate about safety and security at the task level and a belief that if something is not right, NvE employees can ask a question.

At the task level, interviewees provided examples of questioning use of a given procedure due to it not directly applying to work activities or being perceived as duplicative. Many other positive examples were provided regarding use of a questioning attitude. It was also noted that personnel were encouraged to question applicability of annual training if their position title or work activities have changed. Similar to discussions under Attribute 2.C addressing Time Out and Stop Work, interviewees cited these methods as additional examples of having a questioning attitude.

These examples were countered by others where questions were perceived as being overridden by management without sufficient discussion or justification, resulting in some personnel not feeling comfortable to raise similar questions in the future. Interviews also noted a safety issue being raised during project preparation where the activity proceeded without the issue being resolved. The safety issue was later determined to be valid and was reported.

In addition, instances were noted where management was perceived as being able to bypass requirements by going directly to NNSA/NFO management. Instances were also noted where SMEs perceived that they were not viewed as being high enough in

the organization to bring issues to their upper management. Interviews with some leaders noted a hesitancy to question decisions and/or direction due to potential negative reaction from NNSA/NFO or possible negative impact on fee.

While some variance was observed demonstrating a questioning attitude at the task level, challenges associated with implementation of this attribute were much more prevalent at other levels of the NvE. The difference is related to similar observations found elsewhere in this report.[16]

Given the challenges associated with a questioning attitude outside of task level work activities, the assessment team determined that the expectations associated with this attribute were partially met.

Summary of Safety and Security Organizational Learning Strengths and Stressors

Strengths:

- NvE Six Pack meetings have enhanced communications, and resulted in a marked improvement in trust and collaboration.
- Joint assessments conducted by NNSA/NFO and contractor personnel have enhanced day-to-day working relationships among organizations.

Stressors:

- Trust within and across organizations is not evident in many portions of the NvE.
- There is a perception that the reporting of problems is not valued.
- The punitive nature and avoidance behaviors associated with issues management do not lend themselves to vigorous corrective actions or transparency and traceability.
- Lack of consistent feedback regarding issue resolution, engagement of appropriate personnel in the cause analysis and issue resolution processes, and overall lack of awareness relative to the importance of effective problem resolution do not support a Learning Organization.
- While the NvE has multiple means for monitoring performance, use of this information to drive performance improvement was not evident.
- While the NvE has established lessons learned processes, consistent use of this information to drive performance improvement was not evident.
- Organizational support regarding use of a questioning attitude was not evident throughout NvE.

[16] Refer to Attributes 1.E and 3.A for additional examples.

6.4 Focus Area 4: Performance Measures and Contract Incentives

Evaluation of this Focus Area involved examining perspectives on the attributes of contract incentives, performance assurance system data, and maintenance of nuclear facilities primarily from leadership-level individuals, with some inputs from supervisory-level and task-level individuals. The objective of these attributes is to ensure that contract incentives support and reinforce organizational expectations and behaviors; performance assurance data, including performance indicators, is used to provide comprehensive perspectives regarding overall performance; and nuclear facilities are being maintained in a manner that supports production and the safe and secure performance of work. The result of the assessment team's evaluation was that the expectations associated with the attributes that comprise this focus area were partially met. The overall Performance Measures and Contract Incentives Focus Area was evaluated as "yellow." The rationale for this evaluation determination was based on the two following factors:

- The performance measures and contract incentives attributes have noticeable variances across and through the multiple organizations that comprise the NvE.
- The capability to reliably obtain comprehensive perspectives regarding overall performance is challenged by performance assurance systems and supporting behaviors that are not sufficiently mature to support a Learning Organization.

Evaluation results for the Performance Measures and Contract Incentives Focus Area attributes are as follows:

4.A. Contract incentives

4.B. Performance assurance data

4.C. Maintenance of nuclear facilities

The assessment team noted that contracts and contract incentives are in place and are being managed, performance assurance data is being produced and used, and processes and systems are in place to manage the maintenance of nuclear facilities to support both mission and the safe/secure performance of work. However, as discussed in greater detail in this and other focus areas, there are concerns that performance assurance systems and supporting behaviors are not sufficiently mature to support a Learning Organization. These concerns, particularly in areas such as issues management and risk management, challenge the capability to reliably obtain comprehensive perspectives regarding maintenance of nuclear facilities and overall performance. Overall, this and other variances noted in these attributes impart stress to the overall safety and security culture.

The detailed evaluation results for each attribute of the Performance Measures and Contract Incentives Focus Area are provided below.

Attribute 4.A:
Contract incentives

The *contract incentives* attribute has several traits that describe expectations that contracts and contract incentives support and reinforce organizational expectations and behaviors that support a mature safety and security culture. These traits include the following:

- Contracts and contract incentives ensure that a reasonable balance is achieved between cost/schedule and safety/security pressures.
- Contract incentives are in place to prevent budget or schedule pressures from negatively impacting processes to identify issues and/or concerns.

Although some challenges and concerns were identified during this assessment, as outlined below, there was general consensus that the current NvE contracts and their associated incentives were achieving a reasonable balance between cost/schedule and safety/security pressures. In general, the conversations with leadership reflected a strong commitment to safety and security, cognizance of the need to achieve and maintain a balance between cost/schedule and safety/security pressures, and the establishment of a structure of safety and security processes and goals which help to maintain that balance.

Interviews noted that there was a general lack of understanding of the Contractor Performance Evaluation Plan (CPEP) process, in particular as it relates to the Strategic Performance Evaluation Plan (PEP) being used for the Management and Operations (M&O) contract. It was expressed by many individuals that the expectations and processes supporting the implementation of the new Strategic PEP by NNSA have continuously morphed throughout the performance period. This was expressed by some as being inconsistent with ISM principles, in that the Strategic PEP expectations and processes should have been developed and implemented in a more structured and pre-planned manner, as opposed to just being adopted in place of well-established NvE processes. Interviewees also noted that, from a contractual perspective, processes and expectations have continuously changed from what was initially agreed to when the Strategic PEP was first signed.

Many interviewees felt that limitations with the new WSI-Nevada Security contract restrict flexibility to the point where adverse impacts are possible. As an example, the new contract establishes defined Direct Productive Labor Hours, which are viewed as restricting flexibility related to manpower availability, thus affecting employee morale. As another example, the entire fee was viewed as being “at risk” under the new contract (i.e., with no additional incentive fees), such that it disincentivizes continuous improvement and negatively impacts safety and security. There was also concern that the new Security contract and budget do not include the necessary flexibilities to appropriately address changes to security strategies and requirements (e.g., design basis threat changes, Zero Based Security Review, implementation of DOE 470 Orders rather than NNSA Policies).

It was also noted in multiple discussions that potential challenges with contract incentives were being managed and mitigated, to some degree, by the way that the contract was administered. Many examples were provided of how collaborative approaches have been successfully utilized by contractor and federal personnel to work through challenges experienced by different contractor organizations. These include situations where contract modifications were negotiated to avoid unintended consequences and/or to equitably address unforeseen circumstances. Discussions of this topic also highlighted the improved trust, communication, and partnership amongst the most senior NvE Leadership as a key factor in allowing NvE to work through some of these potential challenges.

Finally, many interviewees also expressed the perspective that contract incentives had very little impact on the safety and security behaviors of individuals in their organization. These leaders felt that employees were personally committed to performing their work in a safe and secure manner due to their personal character and moral compass, which was not influenced by finances or the structure of their organization's contract incentives. This was especially true of interviewees in organizations where not all employees were directly and personally impacted (e.g., through bonus programs or profit sharing) by the outcomes of those contract incentives.

Given the vagueness of the processes and expectations associated with the Strategic PEP and the limitations of the new Security contract, the assessment team determined that the expectations associated with this attribute were partially met.

Attribute 4.B:
Performance assurance data 

The *performance assurance data* attribute has several traits that describe expectations for monitoring of performance assurance information and whether the organization learns from safety concerns. These traits include the following:

- Performance indicators are being effectively used by employees and management to identify and address issues.
- Performance indicators provide capability to identify positive and negative trends.
- Performance assurance systems provide comprehensive perspectives regarding overall performance.

The themes, strengths, and stressors discussed as part of this attribute in regards to performance assurance data and the insights that it provides for a safe/secure work environment, as well as whether the organization learns from safety and security concerns, were similar to the more detailed responses provided via Focus Area 3, Organizational Learning. As such, the responses associated with this attribute include supplemental information that should be read in context with the more detailed discussions contained in Focus Area 3.

Discussions noted that substantial effort is being made throughout the NvE to better define, use, and improve performance metrics. Metrics are developed and tracked by NvE organizations for safety, security, quality, cost, and schedule variances that support quarterly program reviews and other reporting. Many respondents highlighted that NvE organizations are not yet measuring all the right things the right way (e.g., still working to establish risk-informed and predictive indicators in place of many reactive and lagging indicators currently in place). Many metrics are perceived as being based more on what people can measure than on a strategic vision.

It was also noted by many individuals that NNSA/NFO has a limited suite of published metrics. Although due in part to NNSA/NFO's leveraging of contractor metrics, there were also examples provided of metrics used by NNSA/NFO that are not being shared broadly through publishing on the Dashboard. There were also areas identified where no NNSA/NFO metrics exist but should (e.g., facility infrastructure concerns at NNSS). In addition, it was noted that many metrics throughout NvE drive a "don't be late" behavior, where the primary measurements are associated with schedule adherence rather than also addressing high-quality, safe, and secure outcomes.

Instances were noted where metric information contained in dashboards was used to develop conclusions without supporting analysis (e.g., conclusions based upon review of raw data). This challenge can contribute to the issues identified in Focus Area 1 regarding over-reaction to events and NvE organizations not being afforded opportunities to conduct system analysis of events/incidents to identify contributing causes.[17]

As it relates to assessments and related review activities, it was highlighted that NvE has a robust integrated assessment management program where feedback was being provided from both internal and external sources on a frequent and routine basis. Examples ranged from internal self-assessments, management observations, independent assessments/ audits, and informal reviews/surveys to external oversight reviews from NNSA/NFO, NNSA, DOE, and contractor partners/parent organizations. Within NvE it was noted that processes used to establish annual assessment plans helped to ensure integration of NNSA/NFO and contractor assessment activities and reduce unnecessary redundancy through the use of joint and shadow assessments.

One area of concern expressed by many individuals was the volume of reviews impacting the ability to focus on safety, security, and mission accomplishment. These reviews have resulted in diverting many individuals from other priority tasks to support assessments of their areas. This view was particularly emphasized related to external reviews (e.g., DOE HSS; Office of the Chief, Defense Nuclear Safety), which were viewed in many cases as being duplicative. A common theme among numerous interviewees was that, when compared to commercial entities, NvE performance is outstanding, but the number of assessments continues to increase, with limited value being provided (e.g., assessments for the sake of assessments).

[17] Refer to Attribute 1.B for additional discussion.

As it relates to the lessons learned systems and their implementation, it was noted that organizations have a tendency to engage the lessons learned program more for a positive perspective (e.g., noteworthy practices and what went well) versus learning from negative experiences (e.g., identified safety/security concerns and what went wrong).[18] One notable exception to this mode of engagement that was highlighted in many discussions, although not cited as resulting from the formal Lessons Learned Program, was the Y-12 security incident. From the NvE perspective, this incident spurred a detailed review of the NSTec, WSI-Nevada, and Pro2Serve contracts to map out responsibilities and interfaces to identify and address gaps, the performance of a Red Team review of current security operations, and eventual development of integrated security metrics that are now routinely reviewed by all three organizations and shared with NNSA/NFO. This incident also prompted the development of new performance indicators framed around the minimum equipment and supplies needed to support security operations, which are monitored to ensure that an appropriate inventory of critical items are maintained to reduce potential for problems similar to those experienced at Y-12.

As it relates to the issues management system and its implementation, many individuals highlighted that issues management system data was used in support of annual assessment planning processes, and overall judgments of current health of various areas associated with safety and security.[19] However, interviews also noted that some issues and concerns were being identified and addressed informally, rather than through primary issues management systems. In turn, this calls into question subsequent data reporting and associated analysis.

Many of the leadership interviewees brought up aspects of risk management, risk tolerance, and risk-informed decision-making as areas in need of improvement, particularly as it relates to improving performance measures that are used to judge the accomplishment of organizational goals and objectives, but also associated with requirements, decision-making, and open and transparent communications amongst organizations.[20]

Given the challenges associated with improving existing performance indicators, concerns with current issues management system implementation behaviors, and the general consensus of the need for improved implementation of risk management principles, the assessment team determined that the expectations associated with this attribute were partially met.

[18] See Attribute 3.D for additional details.
[19] Issues management is discussed in greater detail via Attribute 3.B.
[20] See Attribute 1.B. for more detailed discussions of this topic.

Attribute 4.C:
Maintenance of nuclear facilities

The *maintenance of nuclear facilities* attribute contains a series of traits for these facilities. These traits include:

- Nuclear facilities maintained in a manner that supports both production and the safe performance of work.
- Number and age of temporary modifications.
- Rates of deferred maintenance.

Discussions of this attribute revealed that there are processes and systems in place to manage the maintenance of nuclear facilities to support both mission and the safe/secure performance of work. However, challenges in obtaining adequate funding sources, the resulting prioritization decisions that these funding challenges require, and the fact that many of these prioritization decisions are being made without a full understanding or communication of the risks involved make this an area of continuing concern.

While maintenance of nuclear facilities takes precedence over the maintenance of non-nuclear facilities, preventative maintenance is being deferred on lower priority items at the nuclear facilities due to continuing budget cuts. It was noted during many interviews that the risk associated with the deferral of maintenance items is not fully understood and is not always communicated to or from management. Multiple examples, both specific and generic, were highlighted during interviews associated with this area, the details of which are not included in this report due to potential sensitivity of the subject matter (e.g., need to know, etc.).

NvE has historically emphasized mission accomplishment at the expense of safety/security when it comes to maintenance of nuclear facilities (e.g., funding to projects rather than maintenance, training, and system upgrades). NvE Leadership interviews noted that there was an expressed desire to move away from programmatic management of maintenance of nuclear facilities to a risk management framework for maintenance of nuclear facilities. Utilization of a risk management framework approach would commonly include comprehensive vulnerability analyses being conducted to ensure identification and communication of risks, which then would inform prioritization decisions and ensure appropriate mitigation. It should be noted that these concerns associated with the funding challenges and need for better risk management approaches linked with maintenance of nuclear facilities are well recognized by the NvE management team and are being evaluated via multiple forums (e.g., NNSA/NFO EC, NA-00 Dashboard, NvE Six Pack).

Given the identified funding challenges and need for better risk management approaches associated with maintenance of nuclear facilities, the assessment team determined that the expectations associated with this attribute were partially met.

Summary of Safety and Security Performance Measures and Contract Incentives Strengths and Stressors

Strengths:

- Collaborative approaches to contract administration.
- Robust Integrated Assessment Management Program.

Stressors:

- Lack of understanding of the Strategic PEP processes and expectations.
- Limitations with the new Security contract and fee structure, which restrict flexibility related to manpower availability, continuous improvement, and the ability to address changes to security strategies and requirements.
- Metrics based more on what people can measure than a strategic vision.
- Risks and impacts associated with the deferral of maintenance items not being fully understood or always communicated to or from management.
- Some metrics driving a “don’t be late” behavior rather than improvement.
- The volume of external assessments being viewed as negatively shifting focus away from safely and securely accomplishing the mission.
- Preventative maintenance being deferred on lower priority items due to continuing budget cuts.

7.0 CONCLUSIONS

During development of this report, differing responses to selected attributes were identified and contradictory views were also noted between some survey responses when compared with interview results. This could be due to the broad scope of NvE activities, numerous contractors, longevity of personnel through multiple contractor organizations due to contract changes, and decreasing budgets. These differences in assessment results are commonly encountered and are not indicative of an invalid assessment methodology. It is important as part of the evaluation to accurately capture these perceptions and conclude which of the issues, opinions, and observations characterize the organization as a whole. This reflection is essential to preclude conclusions being generated that are inappropriately biased based on information from a limited population and/or raw data that lacks sufficient analysis.

Consistent with DOE HSS presentations to EFCOG and the DNFSB, the NvE Safety/Security Culture is defined as the values and behaviors modeled by NvE leaders and internalized by its members, which serve to make safe and secure performance of work the overriding priority to protect the workers, public, and the environment. In

evaluating against this definition, the assessment team determined that work is being accomplished in a safe and secure manner. At the same time, stressors to the overall culture were identified that could preclude NvE from achieving organizational excellence. Therefore, the overall expectations associated with a robust safety/security culture were partially met.

In summary, this assessment identified that a portion of the NvE population was hesitant to raise issues and/or concerns. This hesitancy could be attributed to perceived complexity of the various issues management processes; lack of attention and action on issues by management; perceived potential retribution and/or lack of accountability; and lack of trust within and across NvE organizations.

In addition, NvE personnel did not appear to understand the value of an effective issues management program as a means to improve safety and security performance. Without this key concept, stressors and/or challenges noted in this report could continue, regardless of the process utilized to capture, and track, identified issues.

There were three key stressors within the Leadership and Organizational Learning Focus Areas that are particularly challenging the safety and security culture at the NvE. These stressors are as follows:

- Processes and behaviors that foster an environment free from retribution and prevent a chilling effect in the workplace are not fully mature, and their use is not widely and uniformly understood across the NvE (Leadership Focus Area).
- The credibility and trust for identifying and reporting issues had noticeable differences across and down through the organizations (Organizational Learning Focus Area).
- Processes and behaviors that result in effective resolution of reported problems are not sufficiently mature to identify and implement lasting corrective action (Organizational Learning Focus Area).

Two topics were identified during this assessment that deserve recognition. The first topic addresses efforts by NvE Leadership to increase trust across organizational boundaries, including the highest levels of NNSA/NFO and NSTec management attending a 10-day training class entitled *Learning as Leadership* that addresses enhanced communications and trust. While still in the early stages of implementing results of this training, NvE leaders have already begun to notice an increase in the ability to openly discuss issues and/or challenges.

The second topic is the series of positive responses generated for Focus Area 2, Employee/Worker Engagement. It has been said that the true strength of an organization rests with those responsible for performance of day-to-day activities (e.g., task-level personnel). In the majority of instances, NvE personnel are committed to successful completion of mission in a safe, secure, and compliant manner.

This commitment by NvE personnel will contribute to continuous improvement in the safety/security culture and provides reasonable assurance to the assessment team that the NvE remains a safe and secure place to work. In a similar manner, the increased trust amongst NvE Leadership should prove essential to ensure that the stressors detailed in this report are effectively addressed in a collaborative manner, thereby institutionalizing safety and security cultural expectations as well as addressing the SCWE Initiative provided in the DOE Implementation Plan for DNFSB 2011-1, *Safety Culture at the Waste Treatment and Immobilization Plant*. These efforts will also further enhance successful long-term implementation of ISMS, ISSM, and 10 CFR 851 criteria.

8.0 RECOMMENDED PATH FORWARD

The following recommendations are provided for consideration by NvE Leadership during their evaluation of the strengths and stressors identified in this report:

- **Communications** – NvE Leadership is encouraged to consider options to share results of this S/SCA with the NvE community at large. Examples could include a series of meetings with senior NvE management at employees' locations at NLVF, NNSS, and satellite offices at the Remote Sensing Laboratory (RSL)-Nellis, RSL-Andrews, Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and the Special Technologies Laboratory; and use of *The Front Page*, *OneVoice*, and/or similar publications.
- **Selection of a "Significant Few"** – To assist with enhancing the collective safety and security culture, NvE Leadership should review the stressors identified in this report and select those that are determined to be more significant regarding ability to enhance change. In other words, do not attempt to address all of them simultaneously.
- **Long-Term Implementation** – To support successful long-term implementation of a comprehensive safety and security culture, NvE Leadership should consider a method whereby actions initiated to address the stressors and challenges identified in this report are routinely monitored in support of continuous improvement, with the perspective that achieving organizational excellence is a journey rather than a destination. Examples could include tasking the NNSA/NFO EC, IMC, NvE Six Pack, or a separate working group with this effort.
- **Performance of Future S/SCA Reviews** – This S/SCA effort provided a valuable baseline for NvE management. To ensure NvE maintains awareness of the maturity of its safety and security culture, consideration should be given to conducting follow-on S/SCAs on a periodic basis (e.g., 3 to 5 years).

9.0 LESSONS LEARNED

The following lessons learned were generated as a result of this assessment:

- **Formal endorsement of the S/SCA effort by NvE Leadership**. While this assessment received verbal support from the NNSA/NFO Acting Manager as well as a brief email message, a formal memorandum to NvE Leadership could have assisted with emphasizing the importance of this assessment. Use of formal communications could have also assisted with ensuring that all levels of the organizations understood the relative priority of the S/SCA, the potential impacts on ongoing activities, the structure for managing those impacts, and planned accordingly.
- **Issuance of DOE guidance addressing culture assessments**. In support of this type of assessment, DOE previously issued draft guidance entitled *Safety Conscious Work Environment Self-Assessment Guidance* (Revision G). Due to considerable overlap between some of the attributes, there was confusion when attempting to align assessment results with the attributes. Providing greater clarity regarding attribute criteria and formally issuing the draft as a DOE Guide or DOE Standard could enhance its visibility and use.
- **Use of principal author**. To assist with reducing individual level of effort required to develop this report and gain additional perspective, the four focus areas were assigned to individual authors. During final comment resolution, it was realized that having a single author would enhance overall consistency, flow, and writing style.
- **Use of an internal assessment team with diverse experience**. This assessment was composed of members from throughout NvE organizations, including craft representatives, which helped with appreciating different techniques to address associated attributes. Pairing of assessment team members from different organizations also provided insight and appreciation of other perspectives.
- **Use of independent team**. Conversely, use of an independent team can provide a series of benefits. Examples include reduced potential for negative and/or positive bias, allowing team members to focus on the task at hand, etc., and being able to discuss stressors candidly.
- **Assessment approach tailored to results.** The level of detail generated from an assessment is directly related to its scope. In the case of this S/SCA, a broad-based, NvE-wide strategy was utilized, with results focused at the NvE level versus individual organizations. The scope must be considered in the design and execution of the assessment and can lend itself to difficulties in execution and recording of results if attempting to achieve greater levels of detail with a broad assessment. If more focused results are desired, the assessment should be conducted at the organizational level.

- **Having a Safety Culture SME serve as team member**. Having an SME with a strong grasp of safety/security culture concepts serve as a team member proved essential throughout this assessment. Examples include development of the S/SCA Plan and S/SCA Orientation, providing insight during daily de-briefs and team meetings, as well as development of this report.
- **Use of DOE HSS guidance**. In April 2013, DOE HSS issued guidance entitled *Plan for the Independent Oversight Evaluation of Safety Conscious Work Environment* that addresses their approach for performing oversight evaluations of site SCWE self-assessments, but also contains requirements for contractors. Providing contractors the opportunity to participate in developing this type of document could enhance support for the associated oversight review as well as address implementation considerations through traditional Contracting Officer processes.
- **Use of Share Point website**. The Share Point website established for this assessment significantly enhanced the ability to share information with team members as well as serving as a location to post completed evaluation forms. In turn, the completed forms were readily available for use by other team members.
- **Use of Single Point of Contact for scheduling of interviews**. Having one individual serve as Point of Contact to schedule interviews proved instrumental as well as addressing scheduling changes due to availability of interviewees and/or changes in assessment team composition.
- **Development of team orientation**. The orientation class developed for this assessment provided valued insight regarding differences for this type of assessment versus a traditional compliance audit as well as establishing common expectations. Value was also provided by demonstrating effective interview techniques.
- **Enhanced upfront planning and preparation.** Because there is limited published guidance to provide a structure and clearly defined methodology for S/SCAs, the S/SCA Planning Committee was challenged by the level of detail necessary in the upfront planning to fully prepare team members for this S/SCA. By way of example, additional clarity regarding alignment of LOIs, and reduction of redundant topics, could have been addressed during development of the assessment strategy. This could have also enhanced development of this report. Similarly, completing the analysis of the 2013 NvE Culture Survey data and making that information available before fieldwork began would have provided team members the opportunity to pre-identify potential areas of concern that could be further explored during the assessment.
- **Use of daily de-briefs**. Holding a daily de-brief for the team at the end of each day during the assessment provided value regarding identification of strengths and/or stressors as well as supporting planning activities for the following day.

- **Clear expectations regarding responding to unanticipated conditions**. Clearly defining roles and responsibilities in the assessment plan to address unanticipated conditions that may be encountered during the assessment provides value. Examples include interviewees discussing recent potential retaliation by their line manager, or encountering an imminent danger condition.
- **Use of MRs to guide review of attributes**. Use of the MR strategy provided significant benefit by focusing the number of attributes to be addressed during interviews while ensuring that the balance of attributes could be addressed during development of this report.
- **Use of prior survey results.** In general, pre-existing survey results (e.g., the 2010 NvE Culture Survey) highlighted areas of weakness that were consistent with those identified in both the 2013 NvE Culture Survey and this S/SCA report. This indicates that there was a missed opportunity to proactively use those prior survey results to guide safety and security culture improvement efforts that could have been reflected in the results of this S/SCA.

10.0 REFERENCES

DOE G 450.4-1C, *Integrated Safety Management System Guide*, 9-29-2011

US DOE Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2011-1, *Safety Culture at the Waste Treatment and Immobilization Plant, December, 2011*

NRC Regulatory Issue Summary 2005-18, *Guidance for Establishing and Maintaining a Safety Conscious Work Environment*, August 25, 2005

DOE HSS, *Plan for the Independent Oversight Evaluation of Safety Conscious Work Environment*, April 2013

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DOE draft document, *Safety Conscious Work Environment Self-Assessment Guidance*, Revision G

Principles for a Strong Nuclear Safety Culture, INPO, November 2004

An Integrated Approach to Nuclear Safety and Nuclear Security, WINS, January 2011

NRC Final Safety Culture Policy Statement, Federal Register Notice, Vol. 76, No. 114, June 2011

Nuclear Security Culture, WINS, September 2011

Traits of a Healthy Safety Culture, INPO, December 2012

APPENDIX A

LINES OF INQUIRY

S/SCA Criteria	
Focus Area 1 – Leadership	
1.A – Demonstrated safety leadership	
1.A.1:	How does line management promptly make adjustments in situations where external factors (e.g., budget cuts, schedule delays, etc.) could have led to safety and/or security concerns?
1.A.2:	How does line management demonstrate they understand their safety/security responsibilities and how to safely conduct work activities to accomplish their performance objectives? (e.g., emphasizing safety when establishing mission and operational goals).
1.A.3:	How does line management actively support the implementation of goals or policies which foster an environment representative of a highly reliable organization (e.g., highly trained-personnel, continuous training, effective reward systems, frequent process audits, continuous improvement efforts, etc.)?
1.A.4:	What role do line managers perform in evaluating oversight results and the monitoring of subsequent corrective/continuous improvement activities?
1.A.5:	How does the organization monitor and periodically assess the effectiveness of key aspects of its safety/security culture?
1.A.6:	How do line managers demonstrate their commitment to safety and security through their actions and behaviors, and support the organization in successfully implementing safety culture attributes, by conducting walk-throughs, personal visits, and verifying that their expectations are met? **(MR)**
1.A.7:	How are organizational mission and operational goals clearly identified that project, safety, and security goals are intertwined, demonstrating commitments consistent with highly reliable organizations? **(MR)**
1.A.8:	What special precautions are taken to monitor the health and well-being of personnel assigned to critical positions?
1.A.9:	What evidence exists that line managers believe an effective security culture is just as important as an effective safety culture?
1.A.10:	Are nuclear safety and security issues discussed together at executive and operational meetings?
1.B – Risk-informed, conservative decision making	
1.B.1:	What evidence exists to show decision making reflects a safety first attitude?
1.B.2:	How do line managers support and reinforce conservative decisions based on available information and risks? **(MR)**
1.B.3:	Are employees expected, authorized and supported by managers to take conservative actions when faced with unexpected or uncertain conditions?
1.B.4:	What evidence exists that managers, and employees, are intolerant of conditions or behaviors that have the potential to reduce operating or design margins?
1.B.5:	What evidence exists that personnel do not proceed, and do not allow others to proceed, when safety is uncertain and management is supportive of these decisions?
1.B.6:	What evidence exists that line management is confident that the security arrangements at NvE facilities would work effectively if challenged? **(MR)**

NOTE: MR = Minimum Requirement.

S/SCA Criteria	
Focus Area 1 – Leadership (continued)	
1.B.7:	Is line management confident that nuclear and/or radioactive materials at NvE facilities are secure?
1.B.8:	What evidence exists that the organization has an integrated approach to managing response to a crisis that results from a nuclear incident or nuclear emergency?
1.C – Management engagement and time in field	
1.C.1:	How do line managers/supervisors make it a priority to observe work and maintain close contact with front-line employees to listen and act on real-time operational information?
1.C.2:	Do line managers spend time on the floor and in employee work areas? Do line managers practice visible leadership by placing eyes on the work, asking questions, coaching, mentoring, and reinforcing standards and positive behaviors?
1.C.3:	What evidence exists that managers set an example for safety through their personal commitment to continuous learning and by direct involvement in high-quality training that consistently reinforces expected employee behaviors?
1.D – Staff recruitment, selection, retention, and development	
1.D.1:	How do managers and line supervisors provide employees information relevant to their job and work environment in a timely manner? **(MR)**
1.D.2:	Are people and their professional capabilities, experiences, and values regarded as the organization's most valuable assets?
1.D.3:	Do organizational leaders place a high personal priority and time commitment on recruiting, selecting, and retaining an excellent technical staff?
1.D.4:	Does the organization maintain a highly knowledgeable workforce to support a broad spectrum of operational and technical decisions? Is technical, safety, and security expertise embedded in the organization and is outside expertise employed when necessary?
1.D.5:	Is the organization able to build and sustain a flexible, resilient, robust technical staff and staffing capacity?
1.D.6:	Is staffing sufficient to ensure adequate resources exist to ensure redundancy in coverage as well as cope with and respond to unexpected changes in a timely manner? **(MR)**
1.D.7:	What evidence exists that the organization values and practices continuous learning?
1.E – Open communication and fostering an environment free from retribution	
1.E.1:	How does management and supervisors proactively identify potential areas of conflict and prevent the perception of a chilling effect? **(MR)**
1.E.2:	What effective measures are in place to ensure disciplinary actions are taken in a fair and consistent manner?
1.E.3:	Are management's communications of expectations of a safe/secure work environment understood and effective? Are there other ways to communicate with employees that might be more effective?
1.E.4:	Do individuals feel safe from reprisal when reporting errors and incidents? **(MR)**
1.E.5:	How does the organization addresses disciplinary actions in a consistent manner? Are disciplinary actions reviewed to ensure fair and consistent treatment of employees at all levels of the organization? **(MR)**
1.F – Clear expectations and accountability	
1.F.1:	In order to hold themselves and others accountable, how does line management establish safety and security expectations, communicate their expectations to employees, and verify their performance expectations are being met?
1.F.2:	Do line managers provide ongoing performance reviews of assigned roles and responsibilities reinforcing expectations and ensuring key safety responsibilities and expectations are being met?

NOTE: MR = Minimum Requirement.

S/SCA Criteria	
Focus Area 1 – Leadership (continued)	
1.F.3:	How is accountability demonstrated for recognizing excellent performance as well as identifying less-than-adequate performance? **(MR)**
1.F.4:	Are unintended failures to follow requirements promptly reported, and are personnel and organizations acknowledged for self-identification and reporting errors? Willful violations of requirements and performance norms are rare.
1.F.5:	In what ways does the organization know the expertise of its personnel? Line managers defer to qualified individuals with relevant expertise during operational upset conditions.
Focus Area 2 – Employees/Worker Engagement	
2.A- Personal commitment to everyone's safety	
2.A.1:	Is responsibility and authority for safety and security well defined and clearly understood as an integral part of performing work?
2.A.2:	How do individuals demonstrate responsibility for safety and security? Are safety and security, and its ownership, apparent in everyone's actions and deeds? **(MR)**
2.A.3:	Do individuals understand the relationship between nuclear safety and nuclear security at NvE facilities?
2.A.4:	Do personnel understand the role of the armed protective force and how they can help them protect the security posture of NvE facilities? (**MR)**
2.A.5:	Do individuals outside of the organization (including subcontractors, temporary employees, visiting researchers, vendor representatives, etc.) understand their safety and security responsibilities? **(MR)**
2.A.6:	What evidence exists that personnel have a personal responsibility for safety and security?
2.B – Teamwork and mutual respect	
2.B.1:	Is the receipt of either good or bad news valued at all levels of the organization and how is the information used?
2.B.2:	In what ways do staff perceive the actions of their managers and supervisors demonstrate a commitment to high integrity and ethical practices?
2.B.3:	How does the organization solicit input from workers when seeking to solve problems or to define potential performance improvements?
2.B.4:	Are open communications and teamwork the norm at NvE?
2.B.5:	Do individuals at all levels of NvE organizations listen to each other and effectively engage in crucial conversations to ensure meaning, intent and viewpoints are understood; and that differing points of view are acknowledged?
2.C – Participation in work planning and improvement	
2.C.1:	What mechanisms or processes are in place that regularly get people together from multiple levels of the organization to work issues of technical, safety, and security importance? [HSS, with edits]
2.C.2:	Are individuals actively involved in identification, planning, and improvement of work and work practices? **(MR)**
2.C.3:	What evidence exists that individuals follow approved work practices and procedures? **(MR)**
2.C.4:	Can individuals at all levels stop unsafe work or stop work during unexpected conditions? **(MR)**
2.C.5:	What evidence exists that design, analysis, and continuous improvement of work practices and processes are valued as core organizational competencies? Is expertise in these competencies evaluated and rewarded?

NOTE: MR = Minimum Requirement.

S/SCA Criteria	
Focus Area 2 – Employees/Worker Engagement (continued)	
2.D – Mindful of hazards and controls	
2.D.1:	Are organizational safety responsibilities sufficiently comprehensive to address the work activities and hazards involved?
2.D.2:	How are work hazards identified and controlled to prevent or mitigate accidents, with particular attention to high consequence events with unacceptable consequences? **(MR)**
2.D.3:	What evidence exists that individuals understand and proactively identify hazards and controls before beginning work activities?
2.D.4:	Are individuals mindful of the potential impact of equipment and process failures, demonstrate constructive skepticism and are sensitive to the potential of faulty assumptions and errors?
Focus Area 3 – Organizational Learning	
3.A – Credibility, trust, and reporting errors and problems	
3.A.1:	How are the organization's actions to report and correct unintended failures to follow requirements consistent with the concept of a just culture (e.g., a culture in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, willful violations and destructive acts are not tolerated)?
3.A.2:	What processes do personnel perceive are in place that ensure their issues are being timely addressed by management? Do these processes ensure that explanations for either accepting or rejecting the issue are provided?
3.A.3:	Does staff feel free to self-identify errors and offer suggestions for process improvement?
3.A.4:	Does the staff have confidence and trust that supervisors will listen to and consider potential concerns in the workplace?
3.A.5:	How do managers communicate the value of self-identification/self-reporting of errors and are mistakes and errors used as an opportunity to learn rather than an opportunity to blame?
3.A.6:	Do individuals at all levels of the organization promptly report errors and incidents and offer suggestions for improvements? **(MR)**
3.A.7:	What methods are available for personnel to raise safety and/or security issues and do line managers promptly and effectively respond to personnel who raise issues?
3.A.8:	Is credibility and trust present and continuously nurtured so that a high level of trust is established in the organization?
3.A.9:	How do managers and line supervisors demonstrate integrity and adhere to ethical values and practices to foster trust?
3.A.10:	How do managers and line supervisors demonstrate consistency in approach and a commitment to the vision, mission, values and success of the organization as well as the individuals?
3.A.11:	How are individuals recognized and rewarded for demonstrating behaviors consistent with safety and security culture principles?
3.A12:	What processes are in place to ensure management is advised of unusual or suspicious behavior by personnel or visitors?
3.A.13:	Do personnel feel that there are people or factions in close proximity to NvE facilities who might want to coerce NvE individuals into acquiring nuclear or radiological materials for unauthorized purposes?

NOTE: MR = Minimum Requirement.

	S/SCA Criteria
Focus Area 3 – Organizational Learning (continued)	
3.B – Effective resolution of reported problems	
3.B.1:	When working through issues or problems, do individuals at all levels of the organization actively listen to each other to ensure they understand the meaning, intent and viewpoints that are being communicated?
3.B.2:	When resolving issues, does the organization focus on the problem rather than on individuals associated with the issue?
3.B.3:	Do fact-finding meetings/reviews/evaluations ensure all levels of staff are able and encouraged to contribute? **(MR)**
3.B.4:	How does the corrective action management program communicate feedback and closure to individuals who have identified issues related to safety? **(MR)**
3.B.5:	How does the organization's corrective action management program prioritize issues such that imminent problems are quickly resolved while minor issues are addressed in a timely manner to prevent them from escalating into major issues?
3.B.6:	How does the organization perform causal analysis to identify causes and follow-up actions for major and minor incidents, and near-misses?
3.B.7:	Do processes identify, examine and communicate latent organizational weaknesses that can aggravate relatively minor events if not corrected?
3.B.8:	Are incident reviews conducted promptly after an incident to ensure data quality and to identify improvement opportunities? **(MR)**
3.C – Performance monitoring through multiple means	
3.C.1:	What metrics does the management team use to effectively monitor the health of the organization? How are these widely communicated to the employees? **(MR)**
3.C.2:	How do staff maintain a current operational awareness to proactively identify and resolve problems before they can escalate into larger issues with higher consequences?
3.C.3	What evidence exists that line managers maintain a strong focus on the safe conduct of work activities? Do line managers maintain awareness of key performance indicators related to safe/secure work accomplishment, watch carefully for adverse trends or indications, and respond to adverse trends and anomalies? **(MR)**
3.C.4:	Does performance assurance consist of robust, frequent, and independent oversight conducted at all levels of the organization? Does performance assurance include independent evaluation of performance indicators and trend analysis? **(MR)**
3.C.5:	Does the organization actively and systematically monitor performance through multiple means, including leader walkarounds, issue reporting, performance indicators, trend analysis, benchmarking, industry experience reviews, self-assessments, peer reviews, and performance assessments?
3.C.6:	Does the organization maintain an awareness of its safety and security culture maturity, including formally monitoring and assessing its safety and security culture on a periodic basis? **(MR)**

NOTE: MR = Minimum Requirement.

S/SCA Criteria
Focus Area 3 – Organizational Learning (continued)
3.D – Use of operational experience
3.D.1: Is operating experience highly valued and the capacity to learn from experience well developed? Does the organization regularly examine and learn from operating experiences, both internal and in related industries?
3.D.2: Does the organization embraces feedback from peer reviews, independent oversight, and other external sources? **(MR)**
3.D.3: How does the organization document and share operating experiences (e.g.; lessons learned and best practices) within the organization and with industry?
3.E – Questioning attitude
3.E.1: How do line managers encourage (and cultivate the use of) a questioning attitude to foster constructive discussions on safety and security matters?
3.E.2: Do individuals pay keen attention to current operations and focus on identifying situations where conditions and/or actions are diverging from what was assumed, expected, or planned?
3.E.3: Do individuals question deviations, and avoid complacency or arrogance based on past successes?
Focus Area 4 – Performance Measures and Contract Incentives
4.A – Contract incentives
4.A.1: How is the contract incentivized to achieve a reasonable balance between cost/schedule and safety/security pressures? (e.g.; what incentives are in place to prevent budget or schedule pressures from impairing the effectiveness of formal processes for identifying, documenting, and resolving nuclear safety, security, quality, and technical concerns and issues raised by employees and for managing complex technical issues?)
4.B- Performance Assurance Data
4.B.1: What insight does performance assurance system data provide regarding safe/secure work environment and whether the organization learns from safety and security concerns?
4.C – Maintenance of nuclear facilities
4.C.1: What evidence exists that demonstrates the organization maintain nuclear facilities in a manner that supports both mission and the safe/secure performance of work?

NOTE: MR = Minimum Requirement.

APPENDIX B

S/SCA TEAM COMPOSITION

Table B-1. S/SCA Team Composition

Team Leader	
Bob Bangerter, NNSA/NFO	
Deputy Team Leader	
Mike Kinney, NSTec	
Team Advisor	
Carol Sohn, SC-3	
Co-Team Advisor	
Scott Wade, NNSA/NFO	
Executive Representative	
Stephen Wallace, NA-SH-1	
Safety Culture SME	
Gary Grant, CH2M HILL	
NNSA/NFO	
Doug Barrick, AMSS, SME	Planning Committee, Team Member
Susan Payne, AMSS, SME	Team Member
Mike Collins, AMSO, SME	Team Member
Ruth Latulippe, AMBCM, SME	Team Member
Kirk Lachman, AMNS, SME	Team Member
Catherine Hampton, AMEM, SME	Team Member
Barry Mellor, AMBCM, SME	Team Member
NSTec	
Tony Renk, OS&H	Planning Committee, Team Member
Shari Morrison, Enterprise Resources	Planning Committee
April Simpson, Enterprise Resources	Planning Committee, Team Member
Tom Breene, Enterprise Resources	Technical Editor

Table B-1. S/SCA Team Composition (continued)

NSTec (continued)	
Kelly Meurrens, Security	Planning Committee, Team Member
Duane Snyder, Environmental Management	Team Member
Dan Klimas, QPID	Planning Committee, Team Member
Rhonda Ward, QPID	Logistics, Team Member
Craft Representative*, Salvador Ontiveros, O&I	Team Member
Craft Representative**, Ray Shockley, RSL Maintenance	Team Member
Darryl Campbell, ES&H	Logistics, Team Member
Lory Jones, Enterprise Resources	Planning Committee, Team Member
WSI-Nevada	
Kathleen Nangle, Quality Assurance	Planning Committee, Team Member
Bobby McGregor, ES&H Manager	Team Member
Chris York, Safety Specialist	Team Member
Jody Coles, Protective Force Member	Team Member
Richard Gomez, Protective Force Member	Team Member
Nicholas Tobiasz, Protective Force Member	Team Member
Navarro-Intera	
Stacey Alderson, ESH&Q Manager	Planning Committee, Team Member
Ann Koplow, Quality Assurance	Team Member
Mark Krauss, Industrial Sites Manager	Team Member

*Labor Alliance Safety Committee; **Downtown Safety Committee.

NOTE: AMBCM = Assistant Manager for Business and Contract Management; AMEM = Assistant Manager for Environmental Management; AMNS = Assistant Manager for National Security; AMSO = Assistant Manager for Site Operations; AMSS = Assistant Manager for Safety and Security; ES&H = Environment, Safety & Health; ESH&Q = Environment, Safety, Health & Quality; O&I = Operations and Infrastructure; OS&H = Occupational Safety and Health; QPID = Quality and Performance Improvement Division.