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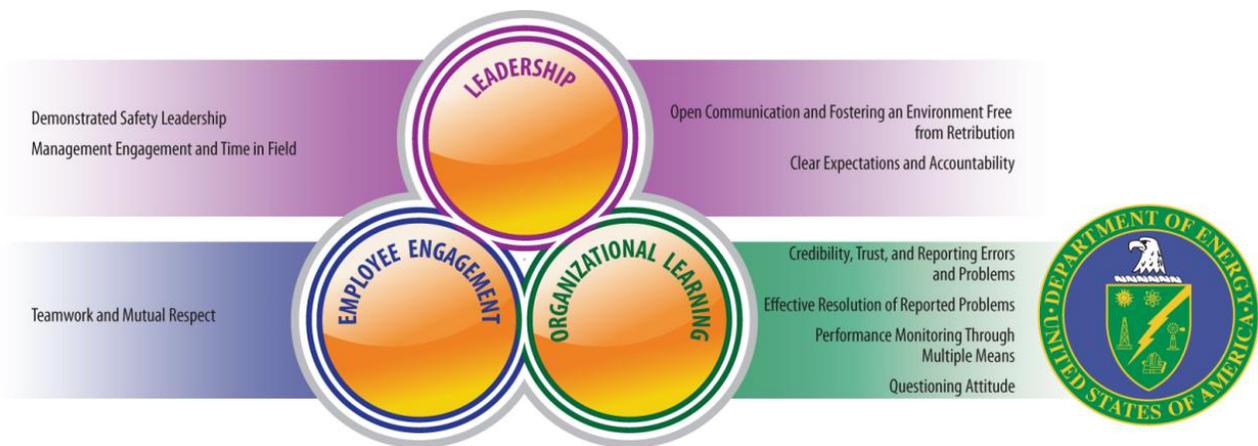
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# LANL

## Safety Conscious Work Environment Self-Assessment

August 16, 2013



# LANL Safety Conscious Work Environment Self-Assessment

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## EXECUTIVE SUMMARY

On December 21, 2012 Secretary of Energy Chu transmitted to the Defense Nuclear Facilities Safety Board (DNFSB) revised commitments on the implementation plan for Safety Culture at the Waste Treatment and Immobilization Plant. Action 2-5 was revised to require contractors to complete Safety Conscious Work Environment (SCWE) self-assessments and provide reports to the appropriate U.S. Department of Energy (DOE)- Headquarters Program Office by September 2013.

The self-assessment was conducted using a multifaceted approach and included the following assessment techniques and methodologies;

- SCWE/safety culture survey
- Interviews and observations
- Document review and assessment performed by the DOE Office of Health, Safety, and Security's VPP on site review, June 3-13, 2013, who were performing an assessment of LANL's progress toward the VPP Star level status.
- A review of SCWE related processes, performance measures, and contract incentives.

LANL planned and conducted a Safety Conscious Work Environment (SCWE) Self-Assessment over the time period July through August, 2013 in accordance with the SCWE Self-Assessment Guidance provided by DOE. Significant field work was conducted over the 2-week period August 5-16, 2013. The purpose of the self-assessment was to evaluate whether programs and processes associated with a SCWE are in place and whether they are effective in supporting and promoting a SCWE.

### SCWE Safety Culture Survey

The safety culture survey was sent out to 10,000 individuals and the overall level of participation of 28 percent or 2,733 individuals in the safety culture survey was the highest in the history of Los Alamos VPP surveys. Survey results were analyzed and utilized to develop Lines of Inquiry (LOI) for interviews (focus groups and face-to-face) and observations. Managers had an average overall survey score two-tenths higher than the laboratory mean. There is sufficient statistical evidence to support the claim that there is a difference between the survey results of managers and non-managers—managers score significantly higher on the survey than non-managers.

### Interviews and Observations

The Laboratory conducted 30 Focus Groups which included 269 individuals. There were 80 individual interviews of managers and employees. The goal of these focus groups was to develop institutional safety culture themes by directly eliciting feedback from employees. Employees from all of the Associate Directorates were randomly selected to ensure adequate representation,

and workers of different levels (e.g., from junior technicians and support staff to senior scientists) were included. Results of the interviews and observations indicated the following:

- Leadership was ranked as Implemented and Effective
- Employee Engagement was ranked as Partially Implemented or Partially Effective
- Organizational Learning was ranked as Partially Implemented or Partially Effective

### Document Review

Document Review was performed in part by the VPP Assessment Team. There were several strengths identified that fully support a safety culture.

The overall assessment is that LANL has a maturing safety culture. LANL has come a long way in raising awareness about the importance of safety and throughout the Laboratory there are pockets of excellence where demonstrated leadership, employee participation, and open communication is demonstrated and supported. Pockets of distrust and perceived retaliation for reporting safety concerns exist but in general employees feel free to raise concerns about any issues without fear of retaliation or harassment or intimidation. What seems to be a bigger impediment to reporting safety issues is the fear that it will turn into a big deal and that the employee will be caught up in a bureaucratic network of procedures and steps to follow.

LANL has a tremendous asset in dedicated, bright employees at all levels. Few are not dedicated to the best interests of the institution and the nation. The fierce loyalty and broad skill set should be utilized more effectively when problems and issues arise. Mobilizing the Laboratory to solve problems is in our basic instinct.

### **Opportunities for Improvement**

- Excess requirements are diluting what really needs to be done. Reduce bureaucratic requirements and paperwork. A review of Lab requirements should be done using a risk-based approach.
- Replace old facilities and equipment.
- Improve communication: it is lost from upper management down toward lower management and staff.
- There is a tendency to address safety issues with a procedural change or additional training which seldom addresses the root cause.
- In many cases there is a reluctance to report safety concerns to higher management.

## **1.0 INTRODUCTION**

On December 5, 2011, Secretary Chu issued a memorandum that re-emphasized nuclear safety as a core value of the Department of Energy. The Secretary stated that a strong safety culture is embedded in the Department's objective of management and operational excellence.

In a letter dated December 21, 2012 Secretary Chu committed to the Defense Nuclear Facilities Safety Board that Contractors and Federal organizations complete a Safety Conscious Work Environment (SCWE) Self-Assessment and provide reports to the appropriate Headquarters program office. The expected completion date is September 2013.

LANL planned and conducted a Safety Conscious Work Environment (SCWE) Self-Assessment over the time period July through August, 2013 in accordance with the SCWE Self-Assessment Guidance provided by DOE. Significant field work was conducted over the 2-week period August 5-16, 2013. The purpose of the self-assessment was to evaluate whether programs and processes associated with a SCWE are in place and whether they are effective in supporting and promoting a SCWE. The goals of the self-assessment were to

1. Assess the extent that the LANL/LANS organization models the behaviors of an outstanding SCWE.
2. Determine the strengths and improvement opportunities for the LANL/LANS organization with respect to SCWE.

LANL determined that the SCWE self-assessment would be best served if accomplished in collaboration with its annual DOE Voluntary Protection Program (VPP) assessment since LANL is a VPP Merit Site. The DOE VPP program requires that the Laboratory maintain a system for evaluating the success of its worker safety and health program emphasizing the development of active worker-manager partnerships to solve safety issues together at the organizational level.

## **2.0 PURPOSE AND SCOPE**

The purpose of the self-assessment was to evaluate whether programs and processes supportive of a SCWE program are in place in accordance with LANL's policies and procedures and whether they are supporting SCWE focus areas and associated tributes.

The scope of the LANL SCWE self-assessment primarily involved interviewing and observing randomly selected LANL personnel including management, exempt and non-exempt employees, supplemental labor, bargaining units and the SOC protective force. Personnel in the Environmental Programs Directorate (ADEP) will be exempted because they recently completed an extensive DuPont Safety Culture Assessment.

The assessment will address the SCWE self-assessment elements contained in the following:

- *Safety Conscious Work Environment Self-Assessment Guidance*, The Energy Facilities Contractors Group (EFCOG), Revision G; and
- DOE G 450.4-1C, Attachment 10, *Safety Culture Focus Areas and Associated Attributes*

### **3.0 SELF –ASSESSMENT AND STRATEGY**

The self-assessment was conducted using a multifaceted approach and included the following assessment techniques and methodologies;

- SCWE/safety culture survey
- Interviews and observations
- Document review and assessment performed by the DOE Office of Health, Safety, and Security’s VPP on site review, June 3-13, 2013, who were performing an assessment of LANL’s progress toward the VPP Star level status.
- A review of SCWE related processes

The LANL SCWE self-assessment was comprised of 1) an electronic safety culture survey subsequently augmented by observations, face-to-face interviews and focus groups; 2) a review of SCWE related processes; and 3) a review of performance measures and contract incentives. The Plan for the LANL SCWE self-assessment is attached to this report as Appendix B.

The self-assessment team was comprised of personnel in accordance with SCWE Guidance. Team members included a LANL senior management team leader, an external advisor, an external team executive, a nuclear safety culture subject matter expert and nine other assessors from within the Laboratory. Additionally, LANL SCWE team members included: a behavioral specialist, a statistician, and administrative support. All of the team members participated in one or more phases of the self-assessment and all team members concurred with this report.

#### **3.1 SCWE/Safety Culture Survey**

The Voluntary Protection Program (VPP) at Los Alamos has conducted surveys every two years since its inception to assess important safety aspects. Building on these experiences, in 2013 a new electronic survey was administered to measure attributes specific to the Safety Conscious Work Environment (SCWE) self-assessment. A total of 33 questions were on this survey in the form of positive statements, plus space for comments and demographic information. At least two questions from each SCWE “attribute expectations of excellence” are included. In addition, four questions with relatively low scores are included from past VPP surveys to allow trend analysis.

The participant is asked to rate each statement by indicating to what extent it is believed to be true for the responder and the organization. A scoring scale of 1 to 5 is used for each statement as follows:

- 5 = Very great extent
- 4 = Great extent
- 3 = Moderate extent
- 2 = Slight extent
- 1 = Not at all

The computer-based survey is anonymous with one response per IP address allowed. The survey was made available to the whole Laboratory for four weeks (from April 22 to May 17) via announcements on the *LANL Today* email notice and emails to all managers. The survey link was also featured on the LANL Home Page for one week. Associate Directors were notified half-way through the month about their AD's participation rate relative to the Laboratory as a whole. This stimulated additional survey participation. The Maintenance and Site Services division (part of ADMIS) took the survey using paper copies because craft workers do not have access to computers.

### **3.2 Focus Groups and Individual Interviews**

The Laboratory conducted 30 Focus Groups which included 269 individuals. There were 80 individual interviews of managers and employees. The goal of these focus groups was to develop institutional safety culture themes by directly eliciting feedback from employees. Employees from all of the Associate Directorates were randomly selected to ensure adequate representation, and workers of different levels (e.g., from junior technicians and support staff to senior scientists) were included. Focus groups are designed with similarly ranked employees. That is, scientists and engineers are generally grouped separately from technicians and laborers. Employees were also selected to represent the mission of the directorate. For example, a science directorate should emphasize Scientists and R&D Engineers, whereas a maintenance directorate should have craft personnel in a focus group.

### **3.3 Document Review and Assessment**

The LANL SCWE self-assessment review of key SCWE related processes and documentation utilized findings reported from the DOE Office of Health, Safety, and Security's VPP on-site review, June 3-13, 2013, assessing LANL's progress toward the VPP Star level status. Several reviews of LANL programs were included in this review.

## **4.0 SELF ASSESSMENT RESULTS**

A summary of the results from all three phases of the self-assessment are presented below.

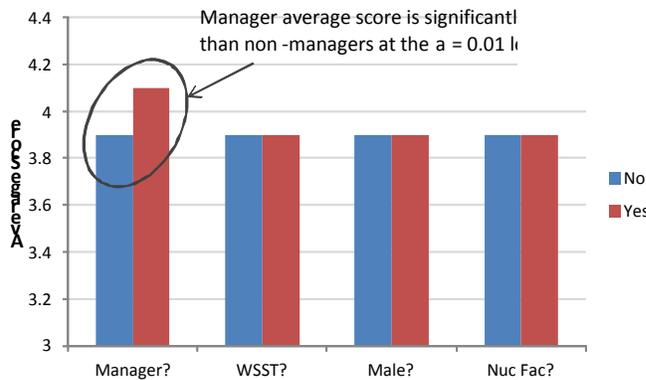
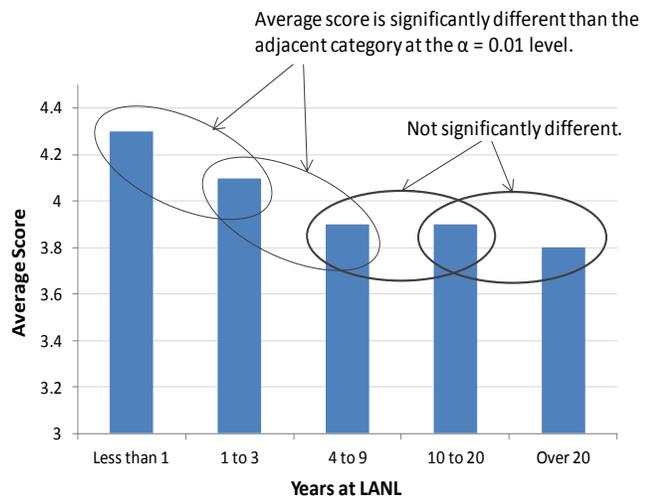
### **4.1 Electronic Survey**

The overall level of participation of 28 percent or 2,733 individuals was the highest in the history of Los Alamos VPP surveys. Survey results were analyzed and utilized to develop Lines of

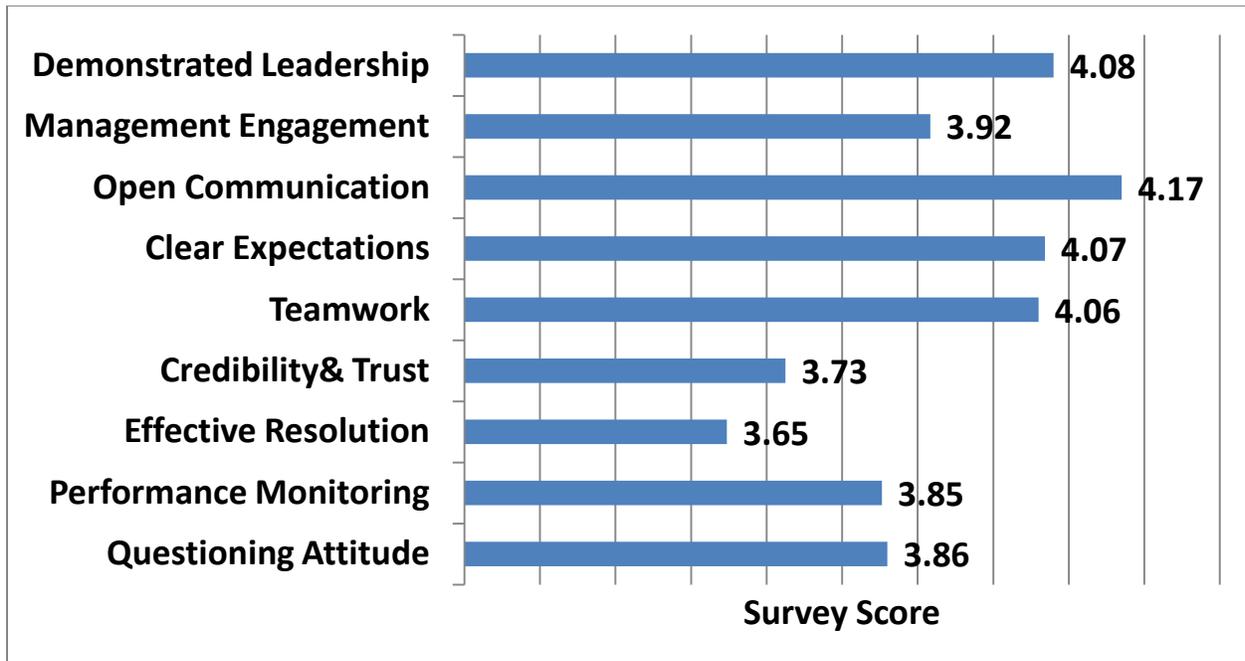
Inquiry (LOI) for interviews (focus groups and face-to-face) and observations. Managers have an average overall survey score two-tenths higher than the laboratory mean. There is sufficient statistical evidence to support the claim that there is a difference between the survey results of managers and non-managers—managers score significantly higher on the survey than non-managers.

Three other demographic groups (WSST member vs. non-member, male vs. female, and nuclear vs. non-nuclear facility worker) are equal to the mean.

Another useful demographic is worker experience. There is a clear trend downward scoring trend as worker experience increases. It appears that after four or five years employees have fully adopted the predominant LANL safety culture perspective.

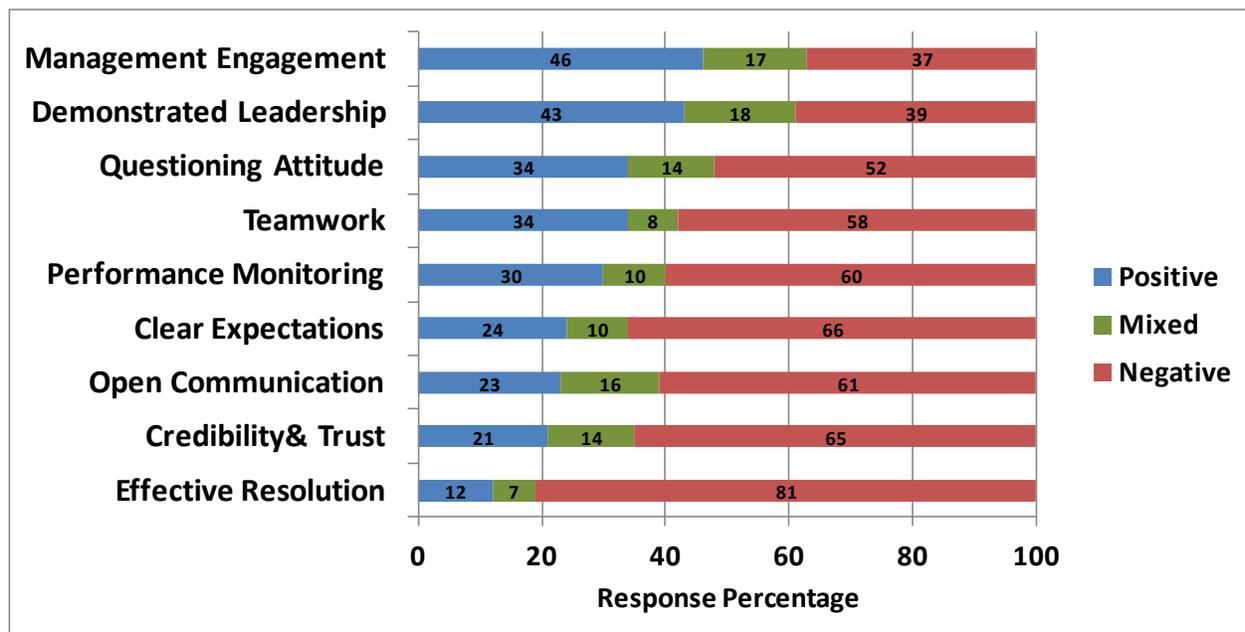


## 4.2 SURVEY RESULTS



The survey results were averaged for each of the attributes. The attributes scoring the highest are Open Communication, Demonstrated Leadership, Clear Expectations and Teamwork.

## 4.3 SURVEY COMMENT ANALYSIS



As part of the survey, individuals were encouraged to provide comments. There were 952 relevant comments submitted which were categorized and analyzed. The results show positive,

mixed and negative responses. The categories which had the most positive comments are Management Engagement, Demonstrated Leadership, Questioning Attitude, and Teamwork.

#### 4.4 Interviews and Observations

The team reviewed the transcripts from the Focus Groups as well as the noted from the individual interviews. That information was analyzed and grouped by attribute to be used as an input to the assessment.

A summary of the results from the safety culture survey was analyzed and augmented by observations, face-to-face interviews and focus groups are presented below. A total of 30 focus groups involving over 250 participants as well as 65 face-to-face interviews were conducted. The extensive Lab-wide interview and focus group exercise was the first instance of such an event at LANL. A comprehensive collection of Strengths, Opportunities for Improvement, Recommendation Opportunities, select positive and negative quotes, as well as a listing of relevant existing organizational forums supporting and promoting a SCWE organized by SCWE attributes are attached to this report as Appendix C.

#### TEAM SUMMARY INTERVIEWS/OBSERVATIONS

<p style="text-align: center;"><b>Leadership</b></p> <p style="text-align: center;"><b>Implemented and Partially Effective</b></p>	<p><b>Evidence for the most part demonstrates that the expectations in the attribute are routinely demonstrated Based on the results of the survey, Open Communication, Demonstrated Leadership, Clear Expectations and Teamwork ranked the highest. In the analysis of the survey comments, Management Expectations, Demonstrated Leadership, Questioning Attitude, and Teamwork ranked the highest. This is also supported by the DOE VPP Assessment. The interviews show some minor weaknesses.</b></p> <p style="text-align: center;"><b>Excerpts From Interviews</b></p> <p><b>“MOV’s have become an effective communication tool.”</b></p> <p><b>“The vast majority of the work force does not feel retribution.”</b></p> <p><b>“If they have the courage to bring the issue up we should take it seriously.”</b></p> <p><b>“LANL has knowledgeable and skillful employees that can be brought together to solve problems.”</b></p>

	<p style="text-align: center;"><b>Strengths/OFIs from Interviews</b></p> <ul style="list-style-type: none"> <li>• <b>Management at all levels is actively communicating the importance of safety. The methods most discussed during the interviews are: Organizational meetings start with a Safety Share, encourage open discussion; discussion with individuals during Management Observations (MOVs; participation and support of the WSST program</b></li> <li>• <b>First line managers are typically trusted by workers and are most often in the field working alongside the operators/technicians/technical staff.</b></li> <li>• <b>Employees and managers have emphasized safety to the point that empowering employees and working to streamline and simplify methods and procedures should be pursued.</b></li> <li>• <b>A variety of mechanisms for reporting safety concerns exists at the Laboratory including the management chain, WSST members, and other electronic means. Most personnel at all levels could identify many of them and most had used them previously.</b></li> <li>• <b>Managers and specifically upper level managers, are lacking effective leadership and communication skills.</b></li> <li>• <b>Employees and managers have emphasized safety to the point that empowering employees working to streamline and simplify methods and procedures should be pursued.</b></li> </ul>
<b>Employee Engagement</b>	<p><b>Evidence demonstrates that the expectations described in the attribute are routinely demonstrated. Based on the VPP report, Worker Safety and Security Teams (WSST's), the primary vehicle for employee involvement have seen a tremendous improvement in participation. There are ~</b></p>

<p><b>Implemented and Substantially Effective</b></p>	<p><b>1700 employees participating in identifying and solving Laboratory issues working with management and fellow employees.</b></p> <p><b>Excerpts From Interviews</b></p> <p><b>“The system encourages people to express concerns.”</b>  <b>“The vast majority of people at LANL do a good job and are respectful and responsible.”</b></p> <p><b>Strengths/OFIs from Interviews</b></p> <ul style="list-style-type: none"> <li>• <b>LANL has a culture of problem solvers. Employees’ participation and empowerment can strengthen any program. Management has to provide the tools and the environment allowing for such participation.</b></li> <li>• <b>The historic Laboratory’s spirit or culture of “get it done at all costs “ is alive and well in many organizations and this can lead to personnel taking safety risks that are unacceptable.</b></li> <li>• <b>Safety issues are openly communicated, individual errors are discussed freely, the workers are encouraged to offer solutions, and immediate feedback is typically provided.</b></li> </ul>
<p><b>Organizational Learning</b></p> <p><b>Partially Implemented and Partially Effective</b></p>	<p><b>Insufficient evidence that the expectations described in the attribute are being met.</b></p> <p><b>Excerpts From Interviews</b></p> <p><b>“Free up the time of the upper managers to get out into the field.”</b>  <b>“Response time is discouraging.”</b>  <b>“As scientists, we are trained to question so it is easier to carry that over to safety.”</b>  <b>“When craft people attend the critiques it can become too much. We only use to have</b></p>

**1-2 critiques a week and now you can have 1-2 per day. And when the question arises on how you can prevent this from happening again, then you are hit with more training, procedures and rules.”**  
**“People were less concerned about safety in the past. Seems people are more conscious nowadays.”**  
**“Feel dismissed when nothing happens with concerns.”**  
**“My direct manager takes care of issues I bring up.”**

**Strengths/OFIs from Interviews**

- **Interview evidence suggests that there is a high level of peer-to-peer trust at the working group level and with the first line manager.**
- **Need to develop a top to bottom trust and credibility.**
- **Employees see no benefit to reporting safety issues or unsafe conditions if they are not resolved in a timely manner. Follow through when issues are raised.**
- **Interviews suggest that mechanisms to provide worker feedback and follow-up are inconsistently applied (range from very good to non-existent in some organizations).**
- **Employees are aware of several ways LANL provides lessons-learned and feedback on incidents including WSSTs, meetings, websites, email messages, and training.**
- **Line management periodically statuses established performance metrics.**
- **MOVs’ are widely used across LANL, many managers conducting more than the expected minimum. From the interviews, it is apparent that this process help’s managers connect with people and the issues (safety or work assignment related) the workers encounter.**

	<ul style="list-style-type: none"> <li>• All levels of management should “walk the walk” and not just “talk the talk” thereby</li> <li>• Compliance is not enough to assure safety.</li> </ul>
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## 4.5 Work Observations

### Critique Self-Assessment (Work Observation)

NHHO led an effort to observe the behavioral and cultural aspects of the critique process to help identify indicators of strengths and weaknesses related to LANL’s Safety Conscious Work Environment (SCWE). A team of individuals observed 15 critique and the project is continuing.

#### **LEADERSHIP**

##### **Strengths**

Management generally demonstrated safety leadership, risk informed decision making, management engagement and open communication. In particular, observations indicated the strongest positive leadership attributes where management is actively engaged and listening and where there was no evidence of management placing blame.

##### **Opportunities for Improvement**

Observations indicated there is a potential for improvement where the critique focuses more on learning than corrective action.

#### **TEAMWORK**

##### **Strengths**

Employees generally demonstrated a personal commitment to everyone’s safety, teamwork and mutual respect, and participation in work planning and improvement. In particular, observations indicated the strongest positive employee engagement attributes where there is open, professional and collegial dialogue, where employees are actively engaged and listening, and where individuals are clearly willing to speak up and are open and honest.

##### **Opportunities for Improvement**

Observations indicated there is a potential for improvement where employees demonstrate a questioning attitude.

#### **ORGANIZATIONAL LEARNING**

##### **Strengths**

The current critique process has credibility with managers and staff and is used for performance monitoring. In particular, observations indicated the strongest positive organizational learning attributes where there is open, professional and collegial dialogue, where employees are actively engaged and listening, where there is a free flowing discussion, and where there was no evidence of placing blame.

##### **Opportunities for Improvement**

Observations indicated there is a potential for improvement where the critique focuses more on learning than corrective action.

### **PF-4 Pause Work Observations (Work Observation)**

In a Memo dated June 27, 2013 the LANL Director temporarily paused programmatic activities at PF-4 based on reviews with facility operations staff and findings from recent assessments. Based on concerns raised, the management and employees are evaluating work and updating processes as needed to obtain continuous improvement. Observation of this work was undertaken by the TA-55 WSST Team who reached the following conclusions:

#### **Strengths**

- Everybody working together toward creating a workable procedure
- Lead person kept environment open and friendly
- Focus on problem resolution vs. problem initiation
- Focus on process vs. individuals
- Emphasis on what worked in past
- Differing opinions expressed without cause or blame

#### **Opportunities for Improvement**

- In a few meetings, an individual team member seemed to have a personal agenda or expressed objectives that dominated the conversation
- In one instance, newer worker told to just observed

### **WSSTs Meeting Observations (Work Observations)**

#### **Strengths**

- Team had a lot of information to pass on to fellow workers
- Sharing of problems and potential solutions was evident among fellow teams
- Positive environment was created to discuss safety and working together
- There was no evidence of blame, just a path forward
- Some team members gave their expertise on topics discussed.
- Everybody treated others with respect
- Amongst most WSST meetings observed, this one displayed overall strength with a few exceptions

#### **Opportunities for Improvement**

- Some workers seemed reluctant to speak up in the meeting
- In one WSST meeting, management took control of at least half of the meeting
- One meeting had an aggressive manager in it causing a “chilling effect” with some of the team members.
- Some issues raised did not have a defined path forward, or a discussion about sharing the concern with a larger audience.

## 4.6 Document Reviews, Performance Measures and Contract Incentives

### HSS DOE VPP Assessment

During the assessment, the HSS Team visited many LANL facilities; conducted interviews with senior LANS managers, including the Laboratory Director, ADs, and Division Directors; observed work activities, including research, maintenance, and operations; reviewed revised policies and procedures and other documents; observed Worker Safety and Security Team (WSST) meetings, and had contact with many LANS personnel. Their report documents the results of the Team's activities and provides the Team's recommendation to the Chief Health, Safety and Security Officer regarding LANS' continued participation in DOE-VPP.

The following summaries organized by the three SCWE focus areas, provide highlights and corroborating evidence extracted from the VPP assessment report relevant to the LANL SCWE self-assessment.

- **SCWE Focus Area - Leadership**

LANS managers demonstrate significant improvement and acceptance of their role in achieving excellence in worker safety and health. Most managers are following a coaching and mentoring model with their applicable Worker Safety and Security Team (WSST), identifying and providing the necessary resources to pursue continuous improvement in safety and health, and encouraging worker participation in all aspects of the safety program. Managers are visible and accessible in the work areas, and use that time to establish effective relationships and open lines of communication with Laboratory personnel. The continued commitment of resources despite overall budget reductions demonstrate that managers value safety as contributing to the quality of science at LANL.

- **SCWE Focus Area - Employee/Worker Engagement**

Employee involvement and participation in the LANS safety program has improved significantly since the last review and is becoming a strength of LANS' pursuit of VPP. Some groups continue to excel and take a much more active role than others. The managers' focus coupled with employee participation demonstrates a commitment to sustained improvement across the Laboratory. WSSTs have increased their visibility, provided value, and are gaining momentum daily. Behavior-Based Safety (BBS) and Human Performance Improvement (HPI) approaches are maturing and gaining acceptance, but some opportunities remain for improved participation and use of BBS and HPI across LANL.

- **SCWE Focus Area – Safety Training**

Worksite Analysis is continuing to mature and there has been continued improvement in the work control processes. The Team noted an improvement in the process and effectiveness of hazard identification across LANL, however, some vulnerability remains. Specifically, the use of subject matter experts or supervisors in lieu of worker participation for Integrated Work Document and technical procedure development has, in

some cases, resulted in less than adequate analysis for those activities. Methods of hazard prevention and control generally follow the appropriate hierarchy of controls, but in some cases, production pressures and the lack of a “hands on” approach to work planning result in less effective hazard controls or worker errors in implementing those controls. LANS continues to improve safety and health training to ensure that employees can recognize the hazards of work and the work environment, and they can protect themselves and their coworkers. LANS is making major strides improving worker safety and health, encouraging additional employee involvement, providing resources, and demonstrating management commitment to excellence in safety and health. WSSTs are active, energized, and pursuing continued and sustainable improvement.

- **VPP Assessment Conclusion**

Relative to the three tenets, Management Leadership, Employee Involvement, and Safety Training, LANS meets the expectations for a DOE-VPP Star participant.

#### **4.6.1 Performance Measures and Contract Incentives**

The review of performance measures and contract incentives will be accomplished through an evaluation of SCWE relevant Performance Evaluation Plan objectives; Facility Service Request data; Employee Concerns Program and Safety Hotline Data; Ombuds Program Data; Ethics and Audits Data; and Management Observations and Verifications data.

#### **4.6.2 Contract Incentives**

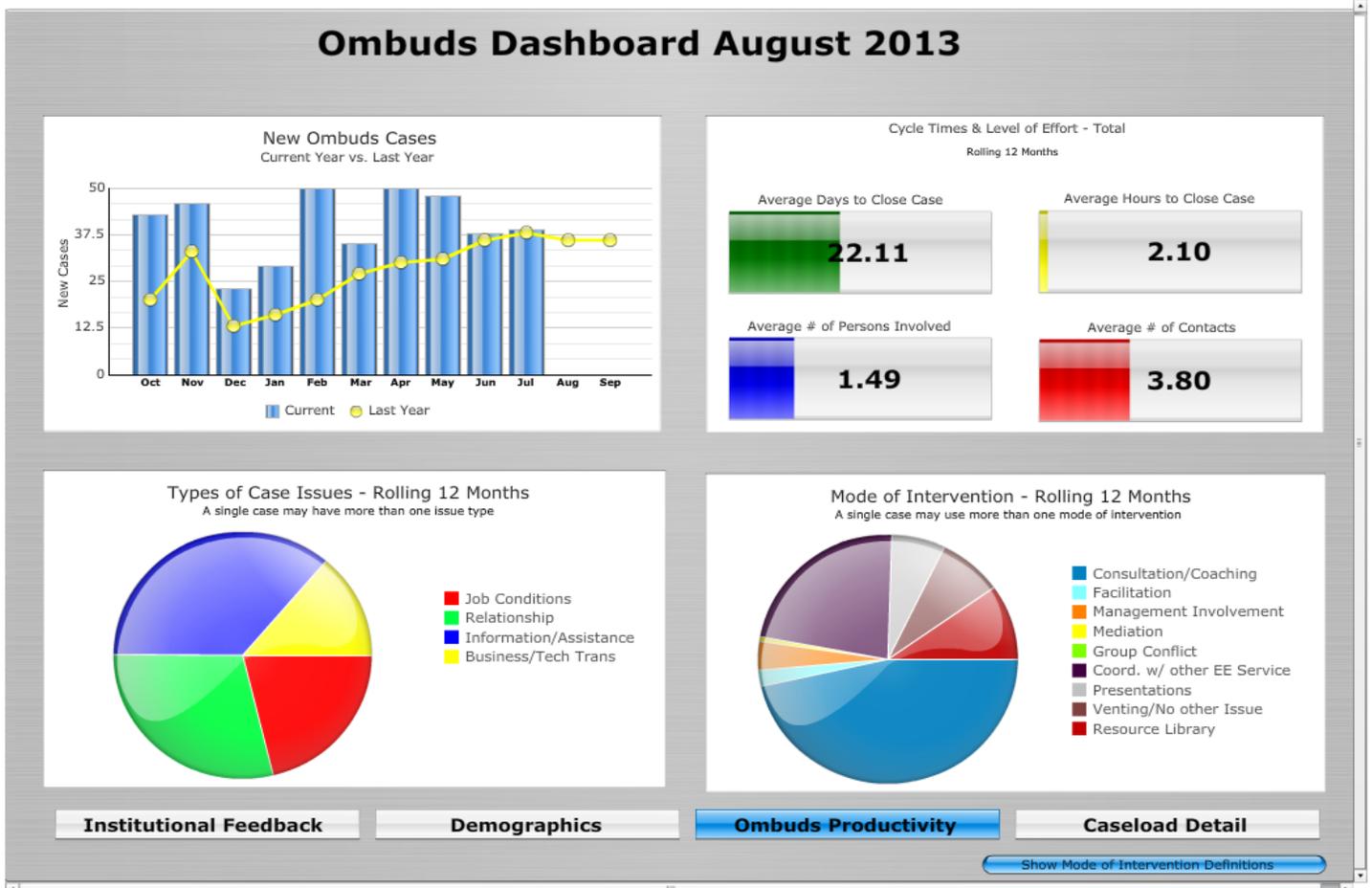
The Fiscal Year 2013 NNSA Strategic Performance Evaluation Plan (PEP) for Management and Operations of Los Alamos National Security, LLC includes Performance Objective 4.9 “Monitor and Increase Maturity of the Safety Culture.” This objective should help achieve a reasonable balance between cost/schedule and safety pressures. There is another contract incentive, Performance Objective 2.7 which is to achieve FY 2013 “Annual Work Plan” program commitments negotiated under the January 2012 Framework Agreement which includes the disposition of 2,600 M3 of Area G Legacy Waste by the end of FY 2013 safely and securely

#### **4.6.3 OMBUDS Office**

1. Volume: average 360 per year from 2006 to 2012. FY 08 was almost double at 717 visitors. Cases by month are in the upper left quadrant below. While some visitor requests can take minutes or hours to support and resolve, those that take days, take less than 30 days to resolve on average.

2. The Ombuds communication skills-building presentations (both those that individuals self-select for through u-Train and those where managers invite a presentation to their organizations) have indeed become increasingly popular. The Office had 1054 attendees at these presentations

between September 2012- August 2013. (The same time period captured in the dashboard snapshot, below.) This indicates a desire on the part of employees to get better in their personal interactions; rather than that they are experiencing a specific concern



#### 4.6.4 Employee Concerns Program:

1. Volume: employee concern cases remain relatively low; a caseload of 10 existed in Q3 of 2012 compared to 12 in the same quarter of 2013. The yearly totals for both years were around 30: 34 cases this time of year in 2012 and 32 cases this time of year to date in 2013.
2. Cycle time to closure: On average, when cases have to be investigated, which involves a more formal process than “advisories,” the case can take anywhere from 60 to 90 days to close. At the end of an investigation, a formal report is provided back to the employee that entered the complaint or issue.

3. Types of cases: may involve many types of issues to include fraud, waste, and abuse issues to allegations on improper management conduct or improper procurement activities, conflicts of interest, or involvement in outside activities.

#### **4.6.5 Human Resources-Employee Relations**

Data reflects a significant difference in the average days a case is open in the prior year vs. the last 12 months.

August 2012-August 2013: Total cases reviewed totaled 119, with an average time of 9 days to case resolution. During the same time frame for the previous year, 158 cases were reviewed at an average of 21 days to resolve.

Of those 119, 8 resulted in a written reprimand, 39 were managed with verbal counseling, 22 were responded to with written counseling, 5 more serious cases were addressed through written reprimand and some duration of suspension. Twenty-one cases were resolved with no management disciplinary action taken, and only 10 and 13 cases ended up in termination or resignation in lieu of termination, respectively. Details on the last 2 categories follow:

<b>Resignation in Lieu of Termination</b>	<b>13</b>
Substance abuse	7
Lying on LANL application	1
Misuse govt misuse	1
Sexual harassment	1
Viewing pornography	1
Fraud/waste/abuse	2

<b>Terminated for Cause</b>	<b>10</b>
Substance abuse	2
Performance & attendance	1
Theft	1
Sexual harassment	1
Job abandonment	2
Fraud/waste/abuse	3

#### 4.6.6 Safety Hotline

**LANL Safety Concerns**  
Data: August 1, 2011 thru August 7, 2013

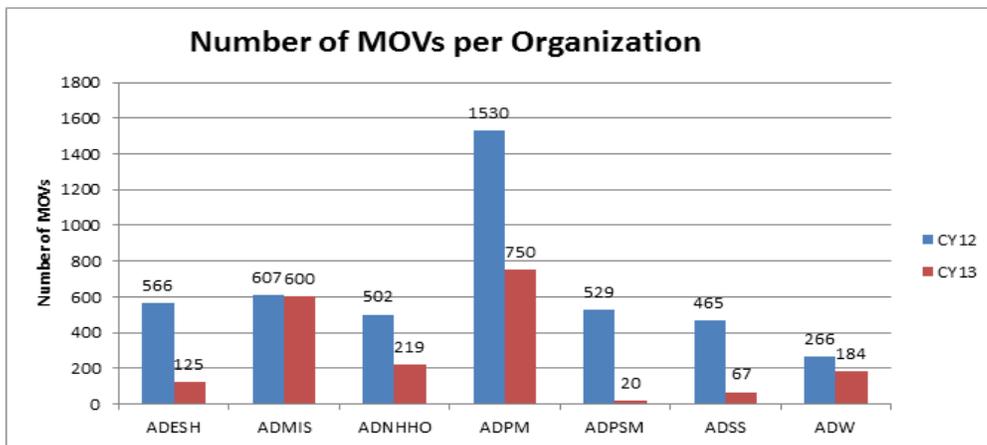
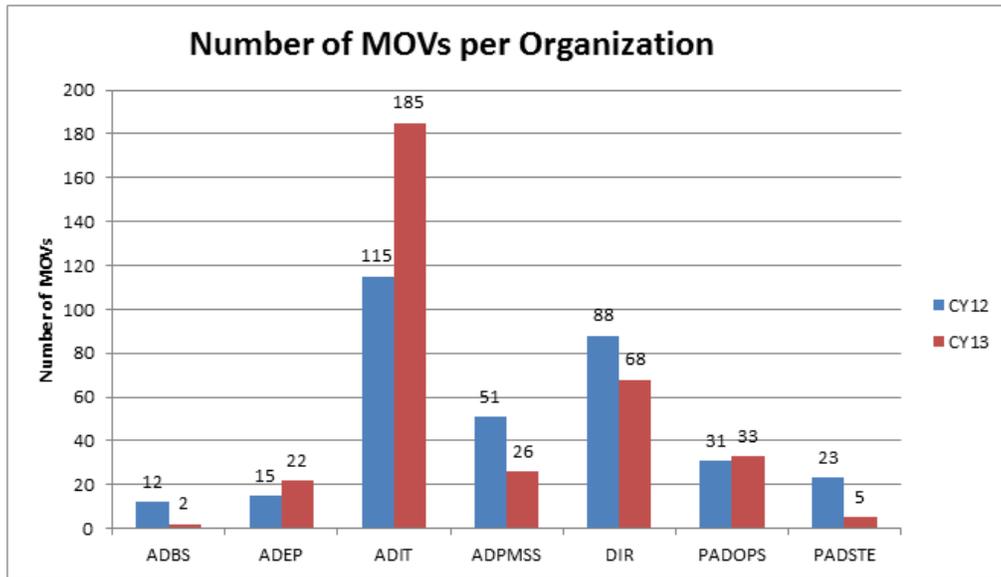
Number of Business Days to respond to Safety Concern	Number of Safety Concerns	Percentage of responses
1 Day	75	20%
2 Days	40	11%
3 Days	11	3%
4 Days	2	1%
5 Days	5	1%
6 Days	4	1%
7 Days	4	1%
8 Days	3	1%
9 Days	1	0%
13 Days	2	1%
17 Days	1	0%
19 Days	1	0%
24 Days	1	0%
39 Days	1	0%
42 Days	2	1%
Same day Response	215	58%
Grand Total	368	

90% of all safety concerns submitted are responded to within two business days

**LANL Safety Concerns**  
Data: August 1, 2011 thru August 7, 2013

Category	Number of Incidents
Aggressive/Reckless Driving	49
Misc info requested	47
Cell Phone Usage	34
POV - Dangerous Driving	29
Speeding	28
Illegal Parking	20
Traffic Engineering	20
Building safety	15
Running a red light	13
Danger to Cyclists	10
Pedestrian in Crosswalk Safety	9
Driving too slow	8
Snow/ice related request	7
Highway Clean-up	6
Misc - Vehicle	6
No Brake/tail light (s)	6
Security Issue	6
Fire info requested	5
Rodent/Snake Issue	5
Sidewalk Tripping Hazard	5
Backing up unsafely	4
Crane safety	4
Lost/Found/Missing Magnet	4
Running a stop sign	4
Elevator safety	3
Handrail/Stair Safety	3
Unsafe tires	3
Signage	3
Confined space safety	2
Construction traffic	2
No turn signals	2
Temp stress	2
Lightening safety	2
No seat belts	1
POV - Illegal Parking	1
<b>Total Safety Concerns</b>	<b>368</b>

#### 4.6.7 Management Observations



MOVs give managers an opportunity to Observe, Listen, Learn, and Improve operations. The key points of the MOV process are:

- Performing MOVs is mandatory for all managers
- ADs set the frequency for performing MOVs by their managers
- Managers must document their MOVs
- MOVs are not an inspection or an assessment
- Managers get into the work spaces and interact with workers
- MOVs may be impromptu or scheduled
- Corrections are made on the spot or actions are assigned to be taken later
- At the end of a MOV, a brief review of the key points should be conducted
- Verifications are a follow-up to an issue, tasking, or correction identified previously
- There are 2,306 MOVs for FY13 recorded in the institutional system

#### 4.6.8 Facility Service Request (FSR) Data Summary

The following table shows data from FSRs submitted into the FSR Footprints request system beginning September 2012 through July 2013. This includes a total of 12,977 requests that are then prioritized by individual FODs that receive the individual FSRs for action. The raw data source includes a title for each request, yet no common subject or topical bins, other than Priority, are identified by the FSR system to allow a topical analysis of the type of work requested. The table shows average time to closure based on priority and the total number of FSRs by month. Days to closure have been reduced from an average of 66 to 44.

Average of Days to Close		Column Labels										
Row Labels	Sep-2012	Oct-2012	Nov-2012	Dec-2012	Jan-2013	Feb-2013	Mar-2013	Apr-2013	May-2013	Jun-2013	Jul-2013	Grand Total
Emergency	31.3	22.2	43.1	47.2	37.6	50.6	35.5	10.3	10.2	11.6	9.0	25.5
Essential	76.3	81.9	84.8	77.2	63.9	50.4	39.9	38.0	32.1	24.1	12.7	52.7
Routine	63.8	65.3	54.7	62.1	53.2	51.4	38.3	34.0	27.7	22.1	12.2	42.8
Urgent	59.1	53.0	48.7	52.5	40.1	42.4	31.3	29.0	27.4	20.7	11.2	37.0
<b>Grand Total</b>	<b>66.4</b>	<b>68.2</b>	<b>63.2</b>	<b>63.9</b>	<b>53.3</b>	<b>49.5</b>	<b>37.3</b>	<b>34.0</b>	<b>28.8</b>	<b>22.2</b>	<b>12.1</b>	<b>44.4</b>

Count of Incidents Closed		Column Labels										
Row Labels	Sep-2012	Oct-2012	Nov-2012	Dec-2012	Jan-2013	Feb-2013	Mar-2013	Apr-2013	May-2013	Jun-2013	Jul-2013	Grand Total
Emergency	9	9	7	12	17	12	8	9	17	18	21	139
Essential	334	468	345	234	425	344	318	329	428	307	399	3,931
Routine	522	620	478	367	636	533	583	633	653	605	602	6,232
Urgent	223	281	222	196	314	191	233	226	248	238	303	2,675
<b>Grand Total</b>	<b>1,088</b>	<b>1,378</b>	<b>1,052</b>	<b>809</b>	<b>1,392</b>	<b>1,080</b>	<b>1,142</b>	<b>1,197</b>	<b>1,346</b>	<b>1,168</b>	<b>1,325</b>	<b>12,977</b>

## **5.0 Conclusions and Recommendations**

The self-assessment was successfully conducted and all objectives were met. The self-assessment utilized a three phased approach that included the use of multiple techniques which addressed the SCWE Focus Areas and associated attributes. In addition, the assessment evaluated the extent to which the contract incentives and performance metrics supplement SCWE, along with the ECP and the DPO process. Based on the analysis the ECP program should be strengthened.

The self-assessment was successfully conducted and appropriately addressed all SCWE focus areas and associated attributes. In addition, the self-assessment evaluated the extent to which contract incentives and performance metrics supplement the SCWE. The contract incentives provide a balance and the performance metrics clearly supplement and help to measure the LANL SCWE and VPP Programs.

The extensive Lab-wide interview and focus group exercise was the first instance of such an event at LANL and provided unprecedented insight into the perceptions of management and workers with respect to SCWE as well as performance culture. Personnel interviewed were found to be open and honest and appreciate the opportunity to voice their opinion.

### **Opportunities for Improvement**

- Excess requirements are diluting what really needs to be done. Reduce bureaucratic requirements and paperwork. A review of Lab requirements should be done using a risk-based approach.
- Replace old facilities and equipment.
- Improve communication: it is lost from upper management down toward lower management and staff.
- There is a tendency to address safety issues with a procedural change or additional training which seldom addresses the root cause.
- In many cases there is a reluctance to report safety concerns to higher management.

### **Recommendations**

- Timely and professional feedback to employee requests and suggestions.
- Achieve a better balance between benefit and risk that is appropriate for an R&D environment.
- Simplify the critique process.
- Improve infrastructure to help instill pride in the workplace.

The overall assessment is that LANL has a maturing safety culture. LANL has come a long way in raising awareness about the importance of safety and throughout the Laboratory there are pockets of excellence where demonstrated leadership, employee participation, and open communication is demonstrated and supported.

## **Appendix A—DuPont Culture Review of Environmental Programs**

## **Appendix B – LANL SCWE Self-Assessment Plan**

## **Appendix C – Team SCWE Attribute Interviews/Observations Summaries**

### **References:**

1. DOE HSS LANL VPP Evaluation report
2. Survey results including comments
3. Survey Analysis (Steve Booth report plus comment analysis)
4. ADEP DuPont survey report
5. Focus group transcripts

### References:

1. VPP report.
2. Booth survey analysis
3. Survey/comments
4. Interview observation tables

## Appendix A

### DuPont

In April of 2013 AD-Environmental Programs contracted with DuPont Sustainable Solutions (DSS) to provide an assessment of the directorate's safety culture. The assessment included a safety perception survey, data analysis, document review, interviews with employees, and site observations. It was designed to provide an "external snapshot" of the culture, identify gaps, and offer recommendations for improvement. A brief summary of the results is provided here.

#### Positives

- ADEP top leadership has clearly communicated their personal expectations down through the organization. The priority for safety is equal with cost and schedule but safety will come first where a decision must be made.
- The MOV process has robust participation by some management members and occasionally involves WSST members
- The creation of the WSSTs helps create a safety cultural benefit of inclusion and empowerment.
- Housekeeping is very good across ADEP operations.

#### Opportunities

- While ADEP management clearly understands the importance of safety from a fundamental policy and principal standpoint, those values are not nearly as clearly demonstrated by subcontractor management ranks.
- In the subcontractors minds there is a pervasive sense that execution trumps safety.
- There is little evidence that meaningful leading metrics are being used to manage safety performance
- The SPOT and GEM incentive recognition programs are used sparingly or not at all
- Capturing "near misses" is rarely performed; subcontractors intentionally avoid reporting near misses for fear of retaliation.

DuPont groups their Integrated Safety Management System attributes into three categories, as follows.

#### 1. Strong Leadership

- Visible management commitment
- Policies and principles
- Goals, objectives, and plans
- Procedures and performance standards

2. Appropriate Structure

- Line management accountability and responsibility
- Safety personnel
- Integrated organization structure
- Motivation and awareness

3. Focused Processes and Actions

- Effective communication
- Training and development
- Incident investigation
- Observations and audits

DuPont has assessed numerous institutions in industry and government. This allows LANL’s scores to be compared with competitors and highly-ranked “benchmark” firms.

**1. Field Assessments**

Site observations and employee interviews are combined to assess safety perception in the field. A total of 97 employees (55 managers and 42 workers) were interviewed by DSS in face-to-face sessions. Observations at TA-54 (Material Disposal Area G), Radio-assay and Nondestructive Testing Facility (RANT), and Waste Compaction, Reduction, and Repackaging Facility (WCRRF), and WSSTs also occurred.

**ADEP Survey Respondents**

Type	Number
Managers	30
Supervisors	52
Hourly	113
Workers	
Professionals	135
<b>TOTAL</b>	<b>330</b>

**2. Safety Perception Survey**

A total of 330 ADEP employees (a response rate of 58 percent) took the safety perception survey. The table shows the makeup of respondents. The survey has 29 questions that are answered with a five point scale with answer descriptions depending on the question.

**Dupont Safety Survey**

**SAFETY IMPROVEMENT ACTIONS  
OWNER(S)/STATUS**

**ACTIONS  
(Recommended)**

Work to develop a culture change that incident/near miss reporting is encouraged as a “captured opportunity”; make this a core value	1. ADEP & ADPM & PADCAP revise 2013 SIPS – GOAL: 100% Supervisor, Line Manager, STR & <u>Subcontract Supervision</u> participation in	ADEP, ADPM, PADCAP Mgmt/Open
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	<p>Safety, Quality, Productivity Leadership (SQPL) Workshops</p> <ol style="list-style-type: none"> <li>2. ADEP &amp; ADPM &amp; PADCAP give on the spot awards to all workers who report any incidents or near misses</li> <li>3. Invite Subcontract worker participation - WSST, WESST, BBS</li> </ol>	
Investigate and improve LANL safety communication process as it is applied to the subcontractor levels, and measure for effectiveness	<ol style="list-style-type: none"> <li>1. Encourage STRs to participate in daily subcontractor's tailgate meetings</li> <li>2. Invite Subcontract worker participation – WSST, WESST, BBS</li> </ol>	ADEP, ADPM, PADCAP Mgmt/Open
Require and measure for LANL supervisory participation in subcontractor activities, like MOVs, BBSs, safety inspections and tailgate/toolbox meetings	<p>Conduct MOV workshop (20 minutes) at next ADPM All-hands meeting – focus on Line of Fire injury prevention</p> <p>ADEP:</p>	Joe H/Open
Take a more proactive role in auditing subcontractor training processes, and ensure LANL safety goals and value statements are included in the training	Proctor LANL GET and make recommendations for improvements	ESH SMEs
Consider implementing a training course dedicated to line management, both LANL and subcontractors, which focuses on communication to front line workers, specifically in the importance of near miss reporting and BBS participation	ADEP & ADPM & PADCAP revise 2013 SIPS – GOAL: 100% Supervisor, Line Manager, STR & <u>Subcontract Supervision</u> participation in Safety, Quality, Productivity Leadership Workshops	PADCAP Mgmt/Open

# **Appendix B**

## **Los Alamos National Laboratory Safety Conscious Work Environment Self-Assessment Plan**

**June 2013**

## 1.0 INTRODUCTION

On December 5, 2011, Secretary Chu issued a memorandum that re-emphasized nuclear safety as a core value of the Department of Energy. The Secretary stated that a strong safety culture is embedded in the Department's objective of management and operational excellence.

In a letter dated December 21, 2012 Secretary Chu committed to the Defense Nuclear Facilities Safety Board that Contractors and Federal organizations complete a Safety Conscious Work Environment (SCWE) Self-Assessment and provide reports to the appropriate Headquarters program office. The expected completion date is September 2013.

This document describes the plan for conducting the Los Alamos National Laboratory (LANL) SCWE Self-Assessment. LANL determined that the SCWE self-assessment would be best served if accomplished in collaboration with its annual DOE Voluntary Protection Program (VPP) assessment. The DOE VPP program requires that the Laboratory maintain a system for evaluating the success of its worker safety and health program emphasizing the development of active worker-manager partnerships to solve safety issues together at the organizational level.

## 2.0 SELF-ASSESSMENT BASIS – SAFETY CULTURE FOCUS AREAS AND ATTRIBUTES

The DOE and the Energy Facility Contractors Group (EFCOG) have collaborated to develop guidance for achieving a strong safety culture and SCWE. That guidance includes the following definition of SCWE as

*a subset of safety culture related to a work environment in which employees feel free to raise safety concerns to management (and/or a regulator) without fear of retaliation.*

The EFCOG guidance identified three safety culture focus areas along with attributes associated with each focus area (listed below) that have the greatest potential for achieving excellence in both safety and production performance.

### Leadership

- Demonstrated safety leadership
- Management engagement and time in field
- Open communication and fostering an environment free from retribution
- Clear expectations and accountability

### Employee/Worker Engagement

- Teamwork and mutual respect

## Organizational Learning

- Credibility, trust and reporting errors and problems
- Effective resolution of reported problems
- Performance monitoring through multiple means
- Questioning attitude

The EFCOG guidance also included a supplemental assessment focus area and attributes (listed below) to evaluate the performance measures available to assess behaviors related to SCWE and determine whether there are contract incentives that might contribute to safety culture deterioration.

## Performance Measures and Contract Incentives

- Contract incentives achieve a reasonable balance between cost/schedule and safety pressures
- Performance metric insights into SCWE

### **3.0 SELF-ASSESSMENT PURPOSE, SCOPE AND GOALS**

The purpose of this self-assessment is to evaluate whether programs and processes associated with SCWE are in place in accordance with existing guidance at LANL and whether they are effective in supporting and promoting the SCWE focus areas and associated attributes listed above.

The goals of the self- assessment are:

3. Assess the extent that the LANL/LANS organization models the behaviors of an outstanding SCWE; and
4. Determine the strengths and improvement opportunities for the LANL/LANS organization with respect to SCWE.

The scope of the LANL SCWE self-assessment will primarily involve interviewing and observing randomly selected LANL personnel including management, exempt and non-exempt employees, supplemental labor, bargaining units and the SOC protective force. However, personnel in the Environmental Programs Directorate (ADEP) will be exempted because they recently completed an extensive DuPont Safety Culture Assessment.

The scope will address the SCWE self-assessment elements contained in the following:

- *Safety Conscious Work Environment Self-Assessment Guidance*, The Energy Facilities Contractors Group (EFCOG), Revision G; and
- DOE G 450.4-1C, Attachment 10, *Safety Culture Focus Areas and Associated Attributes*.

The on-site, field work portion of the self-assessment is scheduled to occur from August 5 through August 16, 2013. Preliminary activities to be performed prior will include SCWE training, survey analysis, interview questions /observation checklist development and employee selection for interview /focus group participation.

#### **4.0 SELF-ASSESSMENT METHODOLOGY**

The LANL SCWE self-assessment will be comprised of 1) an electronic safety culture survey subsequently validated and augmented by observations, face-to-face interviews and focus groups; 2) a review of SCWE related processes; and 3) a review of performance measures and contract incentives.

A VPP safety culture survey was administered in April 2013 to measure SCWE specific attributes. A total of 33 questions were presented in the form of positive statements plus space for written comments; demographic information was also requested. Survey results will be analyzed and utilized to direct Lines of Inquiry (LOI) for interviews (focus groups and face-to-face) and observations. Survey participation will also guide the number of employees and managers sampled for face-to-face interviews and focus groups. Observations will include Worker Safety and Security Team (WSST) meetings, critiques of abnormal events, and other safety relevant meetings.

A specific set of interview questions will be developed to address each of the LOI identified in the SCWE guidance document as well as take into consideration statistical results obtained from the survey. Interviews will be conducted employing focus groups sessions as well as face-to-face discussions with employees and managers.

The review of SCWE related processes and documentation will be accomplished utilizing the findings reported from the DOE Office of Health, Safety, and Security's (HSS) VPP on-site review, June 3-13, 2013, assessing LANL's progress toward the VPP Star level status. A final report summarizing the results of that on-site VPP Star level evaluation will be available for use in the SCWE self-assessment.

The LANL SCWE self-assessment review of key SCWE related processes and documentation utilized findings reported from the DOE Office of Health, Safety, and Security's VPP on-site review, June 3-13, 2013, assessing LANL's progress toward the VPP Star level status.

The review of performance measures and contract incentives will be accomplished through an evaluation of SCWE relevant Performance Evaluation Plan objectives; Facility Service Request data; Employee Concerns Program and safety hotline data; Ombuds Program data; Ethics and Audits data; VPP survey trends; Management Observations and Verifications data; and observations of the TA-55-4 procedure revision process.

## SAMPLING STRATEGY FOR FOCUS GROUP AND FACE-TO-FACE INTERVIEWS

The goal of the sampling strategy is to ensure adequate representation is achieved across all Laboratory associate directorates.

1. All ADs (excluding ADEP) and including SOC will be involved in focus group interviews. ADEP is excluded because they completed a DuPont Safety Culture Survey within the past 6 months.
2. Consider which ADs had relatively low participation in the SCWE survey. Two additional focus groups will be selected from these directorates to obtain additional safety culture substantiating input.
3. Consider which ADs deserve additional focus groups because of potentially lower specific survey scores (i.e., examine survey scores by AD and compare average response by question compared to Lab-wide average.)
4. Consider which ADs deserve additional focus group attention to elicit cultural issues as observed in the recent VPP Star evaluation (i.e., TA-55 and LANSCE).
5. For all ADs, consider what job descriptions are best to include in the focus groups.
  - a. Determine the types of workers who are in jobs that represent the core of what the directorate does, (e.g., office work, experimental science, theoretical or computer-based science, glovebox work.)
  - b. Select a random sample of employees with similar job descriptions and rank, which will help foster honest peer group dialogue among the focus group members.
6. Select facilitators and note takers (scribes) from cadre of LANL Black Belts and elicitation professionals.
7. Issue invitations to participants; schedule focus groups and individuals for interviews.
8. Number of interviews: Interview sampling will be at least 10% of Lab-wide survey response, (e.g., for 3000 respondents from a total lab population of 10,000, the number of interview participants will total 300.)

Using this approach, the sampling strategy described above provides an adequate representative sample to validate the VPP SCWE-based survey and meet the goals of the SCWE self-assessment.

## **5.0 DATA ANALYSIS AND INTERPRETATION**

The SCWE focus areas and associated attributes are the binding subjects that will be used throughout the self-assessment to collect and analyze data as well as interpret and report results. Working as individuals and in small teams, all team members will provide their individual understanding and interpretation of the data collected from interviews and observations. Individual perceptions of strengths, opportunities for improvement and recommendation “seedlings” organized by attribute will be collected from each team member. The team will as a group review the collocated attribute perspectives and endeavor to vet and extract the themes that best characterize the dominate perspectives represented. The group-refined strengths, opportunities for improvement and recommendations will then be cross-checked against complimentary data sources including the SCWE survey comments and VPP assessment results. Finally, an informal summary evaluation of the level of implementation and effectiveness of the expectations of excellence for each attribute described in the SCWE LOIs will guide the drawing of conclusions and recommendations cross-cutting all the SCWE self-assessment focus areas.

## **6.0 SELF-ASSESSMENT TEAM COMPOSITION**

LANL has assembled a knowledgeable self-assessment team. Training of the team will be provided by Mike Zamorski, who has been conducting many of the SCWE reviews for DOE.

Institutional Champion: Carl Beard, Principal Associate Director for Operations

The four key Self-Assessment Management Team positions are:

- Team Lead - Steve Girrens, Associate Director, Engineering Sciences
- Team Advisor - Chris Cantwell, Bechtel
- Team Executive - David Zeff, BWXT
- Team Safety Culture /SCWE SME - Mike Zamorski, DOE/NNSA

Other participants:

- ES&H Directorate - Barbara Hargis
- VPP Program - Bethany Rich
- Survey Statistician - Steve Booth
- Plutonium Operations - Steven Schreiber
- Quality and Performance Assurance - Rita Henins
- Weapons Engineering & Experiments - Steven Renfro
- Nuclear and High Hazard Operations - Steve Young
- Threat Identification & Response - Paul Dunn
- Team Behavioral Specialist - James Barber

## BIOGRAPHIES

### **Steven P. Girrens, Ph.D., P.E., Associate Director for Engineering Sciences, Team Leader**

Dr. Girrens has over 34 years of diverse experience working as an engineer and manager developing and applying engineering technologies to solve problems in energy and defense. His areas of expertise include mechanical engineering design and analysis, fracture and thermo-mechanics analysis, computational mechanics, structural seismic response, and project and personnel management. Dr. Girrens has over 10 years of technical organization management experience relevant to nuclear operations and facilities including safety basis development and implementation, operational readiness, conduct of operations and compliance programs. During his tenure at LANL, he has provided oversight for the safe, secure, and compliant operations of two tritium nuclear facilities; high-energy radiography facilities; high-explosive processing and assembly operations; metal and polymer material characterization operations; accelerator operations; prototype fabrication; and numerous experimental engineering capabilities. Dr. Girrens received his PhD in Mechanical Engineering from Colorado State University. He is a registered Professional Engineer in New Mexico and has completed training in DOE/NNSA SAFETY CONSCIOUS WORK ENVIRONMENT TRAINING and LANL CONTRACTOR ASSURANCE SYSTEM: CONDUCTING MANAGEMENT ASSESSMENTS and LANL HUMAN PERFORMANCE IMPROVEMENT.

### **J. Chris Cantwell, Bechtel, Team Advisor**

Mr. Cantwell has over 23 years of management experience and demonstrated leadership in a full range of expertise in environment, safety, health, and quality (ESH&Q) management at Department of Energy (DOE) nuclear sites. He has successfully led Performance Assurance and Safety Culture improvement efforts at the Pantex, Oak Ridge National Laboratory and Los Alamos National Laboratory nuclear sites. Mr. Cantwell has a well-developed proactive set of strategic planning skills which emphasize partnering with customers, regulators and other stakeholders.

Mr. Cantwell is experienced in performing cross-cutting activities including development of a comprehensive culture survey for all aspects of safety based on the new Integrated Safety Management System (ISMS) Guide, a safety conscious work environment, Institute of Nuclear Power Operations (INPO). He has led ESH&Q programs at two DOE sites that have attained ISO 14001 certification, Voluntary Protection Program (VPP) STAR status, and ISMS verification. He recently supported the Safety Conscious Work Environment Assessment at Lawrence Livermore National Laboratory.

Mr. Cantwell currently serves as the ESH Manager for Bechtel Services and Infrastructure, Inc. (BSII). In this role he provides guidance support and oversight to the BSII portfolio which includes Los Alamos National Laboratory, Lawrence Livermore National Laboratory, the Waste Treatment Plant, The Pueblo and Blue Grass Chemical Demilitarization Plants, the Liquid Waste Treatment construction Project at Savannah River, The Kwajalein Range Services and the Chernobyl Shelter Project.

Mr. Cantwell earned a Bachelor of Science Degree from Colorado State University in Environmental Health. He has also completed graduate work in Industrial Hygiene and Industrial and Organizational Psychology.

### **David W. Zeff, BWXT, Team Executive**

M.S., Industrial Administration, Purdue University, 1973

B.S., Physics, University of Wisconsin, 1972

Mr. Zeff has 40 years of increasing responsibility in technical and leadership roles related to nuclear facility operations. He currently provides assessments and directs assignment of technical resources for nuclear operations across the company. Recent highlights include:

- Safety culture reviews in the area of management leadership at DOE nuclear sites
- Developed company-level approach to governance of safety culture at affiliated sites
- Chief Technical Officer for B&W's Medical Isotope Production System
- EFCOG team member on Safety Culture
- Defined and implemented strategies for achieving safety and performance improvements
- Led / participated in assessments of significant events, CAS, safety, operations, and QA
- Provided senior SMEs for CONOPS, CON Maintenance, Engineering, Training, DSAs, mentoring, SSWs, Safety Management Programs, nuclear startups, and procedure compliance
- Led / supported 5 transitions at major DOE nuclear facilities
- Facilitated cross-company communications and safety SME relationships
- Developed consolidated company positions on pending regulatory issues
- Identified best practices for sharing among sites

### **Michael J Zamorski, Safety Culture**

Mike Zamorski leads the Employee Involvement Team in the Program Executive Office of NNSA's Office of Infrastructure and Operations. He has forty years of experience in nuclear operations and programs. His current responsibilities include implementation of an improved safety and performance culture in NNSA, response to the 2013 NNSA safety culture self assessment, and NNSA's employee concerns program. Since June 2011 he has represented NNSA on DOE's response team for DNFSB Recommendation 2011-1 on safety culture, assisting in defining and implementing the Department's responses to the recommendation. He is an instructor of DOE's Safety Conscious Work Environment training for DOE and contractor senior leaders. In 2013 he participated on the assessment team chartered by the Acting Administrator which evaluated safety culture across NNSA federal organizations. In December 2002, Mike was one of seven senior managers assigned by the Administrator to stand up the new NNSA Service Center, select the mid-level managers, close the Oakland and Nevada Operations Offices, transition federal employees to Albuquerque, and become fully operational by September 2004. He worked in the Service Center as Chief of Staff, Associate Director for Institutional Affairs, and senior advisor in the Office of Technical Services. He supported NNSA governance reform and transformation initiatives including streamlining requirements, implementation of federal line oversight and contractor assurance systems (LOCAS) and governance metrics. He participated in NNSA LOCAS affirmation reviews at Y-12, Sandia

National Laboratories, and the Nevada National Security Site. He led peer reviews of contractor assurance systems at Los Alamos National Laboratory and Lawrence Livermore National Laboratory. He worked at the Service Center until 2011 when it was dissolved and its functions were realigned to NNSA Headquarters. From December 2004 to July 2005, Mike served on a detail as Assistant Manager for Nuclear Facilities and Safety Basis at the Sandia Site Office. He was responsible for review of safety basis documents and for oversight of nuclear facilities at Sandia National Laboratories. From April 1995 to December 2002, Mike was Manager of the Office of Kirtland Site Operations (now the Sandia Field Office). He was Deputy Manager at Kirtland from 1993 to April 1995. The Office provides day-to-day federal direction and oversight of Sandia National Laboratories. He managed a staff of approximately 60 employees whose responsibilities included contract administration, oversight of nuclear and hazardous non-nuclear operations, construction project management, safeguards and security, and environment, safety and health. From 1989 to 1993, Mike was program manager for the Albuquerque Operations Office Operational Surety Program. He was responsible for implementing new DOE safety initiatives and applying modern quality principles to safety and facility operations at nuclear weapons complex sites. Earlier in his career, Mike worked at the Richland Operations Office, Hanford Site from 1972 to 1989. He had staff engineering assignments involving nuclear fuel manufacturing, irradiated fuel storage, nuclear waste management technology development, nuclear fuel reprocessing, and plutonium processing. From 1986 to 1989, he was chief of the Nuclear Processing Branch, with line responsibility for reprocessing, plutonium and uranium product recovery, operation of four major nuclear facilities, and nuclear materials management. Mike has a bachelor's degree in chemical engineering and a master's degree in business administration from the University of Washington. He is a qualified DOE/NNSA Senior Technical Safety Manager.

### **Barbara Hargis, Technical Advisor and Lead for ISM, 10CFR 851, and Exhibit F**

Over thirty years of demonstrated successful performance in both technical and management positions in occupational health and safety, industrial hygiene, and environmental protection programs for a national research and development laboratory and a state regulatory agency. In these positions, program responsibilities are complex and include technical aspects, budgets, personnel, and development of operating policies, procedures, and priorities.

Excellent leadership and management abilities, including team building, negotiation, and problem solving. She has also been a Human Performance Practitioner for several years and has led several independent assessments and accident investigations at the Laboratory. Strong oral and technical writing skills. Certified Industrial Hygienist and Certified Safety Professional. B.S. from New Mexico Tech in Biology and Chemistry and an M.S. in Safety from CMSU.

### **Bethany Rich, VPP Office Leader**

Bethany Rich has worked at Los Alamos National Laboratory (LANL) for 27 years. For the past 7 years, while working for the Environment, Safety and Health directorate, she has been leading the efforts at LANL for implementing the Voluntary Protection Program (VPP), the Behavior-Based Safety (BBS) program, and Human Performance Improvement (HPI). She also has

extensive experience with the Slip Simulator training, and Injury/Illness process at the laboratory.

Bethany received her Master's of Science degree in Computer Science with a minor in Statistics from Texas A&M University, where she also earned a Bachelor's degree in Business Management.

### **Steven R. Booth**

Steve Booth received his Ph.D. in Economics from Cornell University in 1986, and has been a staff member at Los Alamos for over twenty-five years. He provides analytical support for Laboratory management decisions on a vast range of topics using engineering economics evaluation tools such as cost-effectiveness analysis, decision analysis, statistical methods, and business case computations of competing options and policies. One area of specialty is estimating life-cycle costs of major new infrastructure investments such as a transuranic waste facility, a low-level radioactive waste disposal facility, or a new science complex. Steve also has experience in assessing health and safety policies associated with employee wellness incentives and slip prevention training efficacy.

### **Stephen Schreiber, Division Leader for Nuclear Process Infrastructure**

Steve is currently the Division Leader for the Nuclear Process Infrastructure (NPI) Division of the Plutonium Science and Manufacturing (PSM) Directorate. Previously, he held the position of Division Leader for Nuclear Component Operations (NCO) Division for approximately 2 years and prior to that he held the Division Leader position for the Plutonium Manufacturing and Technology (PMT) Division since his appointment in 2007.

Steve is a product of the Laboratory's Undergraduate Student Program having completed a co-op in 1982 within the High Enriched Uranium organization housed at TA-21. He returned to the Laboratory in 1987 after working for several years as a Process/Shift Engineer and Operations Manager at the Hanford PUREX Facility. He has filled various technical roles at the TA-55 Plutonium Facility including waste coordinator, project manager and team leader. He assisted in the final installation of the Large Scale Cement unit operation to solidify transuranic (TRU) waste solutions. He directed the design, installation and operation of the waste concentrating evaporator and the Advanced Testing Line for Actinide Separations (ATLAS). He oversaw the installation and operation of the Nitric Acid Recycle (NARS) distillation process that was recognized with a White House Closing-the-Circle environmental award in 2001.

Since 1995 he has held management positions including the Deputy Group Leader and the Group Leader of the Nuclear Materials Technology Aqueous Process Chemistry Group. He also was the Deputy Division Leader for Process Operations in the Nuclear Materials Technology Division (NMT). Steve has provided technical support to other sites throughout the Department of Energy's (DOE) Nuclear Weapons Complex but primarily for Hanford and the Rocky Flats Plant as part of their site cleanup efforts. He has interacted with citizens from the United

Kingdom through Joint Working Group (JOWOG) programs. He currently manages programs that deliver nuclear weapons components, nuclear fuel from former nuclear weapons components, nuclear waste remediation, nuclear material recovery, and heat sources for long-term battery power.

Steve has background in the actinide chemistry and related process engineering fields. He has published and presented technical research results in and at numerous appropriate journals and conferences. He was an early supporter and promoter of the Human Performance efforts at the Laboratory including the Behavior Based Safety program now known as ATOMICS. He is currently the Champion/Sponsor for the Worker Safety and Security Team at the Plutonium Facility. His interests include the renaissance or revival of nuclear energy and thus the related fields of economics, environmentalism and public policy.

B.S., Chemical Engineering, New Mexico State University (1985)

M.S., Hazardous Waste Engineering, University of New Mexico (1997)

### **Rita Henins, Acting Group Leader- Occurrence Investigations**

Rita Henins has a Masters in Social Work as well as a Masters in Industrial Safety Management. She has over a decade of experience in DOE and INPO Human Performance Improvement, causal analysis, and safety event investigation. She developed the Causal Analyst training for Los Alamos National Laboratory and has provided extensive analysis support to various investigation teams and extent of condition review teams at the Laboratory. Rita currently serves in a management role in the Quality and Performance Assurance Division and provides additional executive staffing support to the Principal Associate Director for Operations (PADOPS) at the Laboratory, to include executive risk management activities, Occurrence Reporting, and other evaluations.

### **Steven Renfro, Deputy Associate Director for Weapons Engineering and Experiments**

Steve is currently the Deputy Associate Director for the Weapon Engineering and Experiments Directorate (ADW). Steve has been a Deputy Division Leader, Deputy Group Leader, a team leader, and a technical staff member at Los Alamos National Laboratory (LANL). Initially starting his career at LANL, Steve left after 4 years and spent almost 10 years in private industry developing explosive materials, components, and systems for the aerospace, defense, commercial mining, demolition, and oil and gas applications. Steve applied this experience upon his return to LANL in 2001 initially in the same Detonator Technology group where he started his career. A central theme of Steve's career has been developing engineered products for commercial, aerospace, and defense customers. In addition to being a senior manager, Steve has additional experience developing complex chemical, mechanical and explosive processes for the private sector. Steve also holds six U.S. patents and developed an award winning small business based on LANL developed technology.

B.S., Mechanical Engineering, University of New Mexico

MBA, Business, University of New Mexico

**Steven L. Young, PE, Deputy Associate Director, Nuclear and High Hazard Operations**

BS/MS in Civil/Structural Engineering. Over 30 years of experience working in a variety of engineering and nuclear safety engineering management positions with a strong technical background in facility design and analysis of structures to resist explosives effects. Responsible for development, and later management and integration, of many of the process and programs implementing Safety Basis, Nuclear Facility Safety, and Explosives Safety at the Pantex Plant. Management and operations responsibilities included integrating all facets of the DOE Orders and Standard for the development of weapons process and procedures, special tooling and tester design, facilities safety systems design, Documented Safety Analysis, Unreviewed Safety Question Determination program, and facilities design and analysis in support of the explosives, nuclear, and nuclear explosives missions for the Pantex Plant. As Engineering manager, initiated and empowered integrated teams implementing Seamless Safety for the 21<sup>st</sup> Century (SS-21) principles, developed tools and metrics to promote continuous improvement processes, resulting in vastly improved processes and teamwork that met or exceeded weapons deliveries to the Department of Defense while integrating program requirements, quality and safety into the processes. Over 33 years of military and leadership experience, primarily as a Reserve Officer in the U.S. Navy Civil Engineer Corps; highlights were Battalion and Regimental Command deployments supporting Operation Iraqi Freedom and Operation Enduring Freedom. Recently assigned as Deputy Associate Director for Nuclear and High Hazards Operations with responsibility for managing and supporting consistency and continuous improvement initiatives across the Facility Operations Directorates.

**Paul Dunn, Division Leader, Intelligence Analysis and Technology Division**

Mr. Paul Dunn received his Bachelors and Masters degrees from the Colorado School of Mines. During that time, he worked at the Rockwell International, Rocky Flats Plant, where his work focused on the phase stability of plutonium alloys. Mr. Dunn has been employed at Los Alamos National Laboratory since 1984, where he is currently the Division Leader for the Intelligence Analysis and Technology Division (IAT). Mr. Dunn's research activities center on physical metallurgy, with a particular focus on micro-structural development during materials processing. He has applied his expertise to a wide range of programs including nuclear weapons, conventional weapons, and nuclear fuel component fabrication. Mr. Dunn has worked in both line and program organizations, having served as Deputy Program Director for Pit Manufacturing and Certification. As Division Leader, for IAT, Mr. Dunn oversees wide range of intelligence analysis and prototyping activities that support the wider intelligence community.

**James P. Barber, M.A., LPCC , LANL Employee Assistance Program Counselor**

James has been an EAP Counselor at LANL for 26 years. He works with employees on personal and work related issues. He also works with managers to resolve employee work/performance related issues. Prior to coming to LANL, James directed an inpatient unit at a children's psychiatric hospital where he did the personnel and clinical supervision of hospital staff. James has extensive experience and expertise in substance abuse, addictions, mood and anxiety disorders, stress management, biofeedback and relaxation training, and working with Veterans' issues. James also provides stress management, grief support, and other talks and presentations for groups throughout the Lab... He has also led crisis negotiation and critical incident debriefing teams. James is currently training Lab employees in suicide awareness and prevention of violence in the workplace/ domestic violence issues.

## APPENDIX C

### Team Summary Interviews/Observations— **Demonstrated safety leadership**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- Staff Meetings
- Sponsoring and fostering WSST’s

Interview “Quotes” (ensure anonymous)

“I often take a number of employees (direct reports) with me when I perform MOV’s.”

“Deadwood and non-contributors are allowed to drag down our overall performance and are not dealt with by management.”

“Program deliverables trump other responsibilities.”

“It is difficult to ‘take pride in your workspace’ when infrastructure is crumbling.”

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• The technical competence of our managers is typically outstanding (as this is usually why they are selected for the position).</li> <li>• Managers promote the use of BBS observations to gather safety data (ATOMICS, MOV’s).</li> <li>• Managers at key manufacturing and processing facilities promote the use of weekly safety/planning meetings to share safety information and lessons learned.</li> <li>• First Line Managers are typically trusted by workers and are most often in the field working alongside the operators/technicians/technical staff.</li> <li>• Utilizing resources available managers have been proactive in their support of fostering a positive safe work environment</li> <li>• Outstanding technical leadership</li> <li>• Management at all levels is actively communicating the importance of safety. The methods most discussed during the interviews are: Organizational meetings (frequency varies) start with a Safety Share, encourage open discussion; discussion with individuals during Management Observations (MOVs); Participation and support of the WSST program.</li> <li>• During MOVs some line managers have one-on-one interaction with employees and provide feedback on MOV results.</li> <li>• A first line manager dedicated extra attention to the personal safety of a pregnant employee.</li> <li>• Employees under one Associate Director perceive the AD as extremely proactive in safety leadership, including performance of MOVs, setting up lessons-learned sessions, and informal discussions with staff.</li> </ul>
<p><b>Opportunities for improvement</b></p> <ul style="list-style-type: none"> <li>• Managers, and specifically upper level managers, are lacking effective leadership and communication skills and there is little opportunity provided by the Laboratory to formally obtain such skills.</li> <li>• Organizational and personal performance goals should be quantitative and objectively measurable</li> </ul>

not qualitative and subjective.

- Compensation and acknowledgement should be more closely aligned with performance.
- Poor performers are not dealt with effectively and undermine the overall performance (i.e. cost effectiveness) of the Laboratory in a competitive business environment.
- Utilizing resources available managers have been proactive in their support of fostering a positive safe work environment.
- Leadership needs to be expanded to include higher levels of management. Needs to be demonstrated from the top-down.
- Facilities up grade.
- Cross org and professional status communication.
- Workers in program and production organizations perceive schedule pressure as an inhibitor to raising safety concerns.
- Employees perceive that middle and higher level managers rarely visit work areas.
- Employees provide few examples of how managers above their direct supervisors demonstrated commitment to safety. The strongest example came from a support organization.
- Select key workspace improvement projects to aid in recapturing sense of pride.
- Ensure management team alignment on safety compliance in face of pressures to perform.
- Some co-workers perceive employees who raise concerns as troublemakers who slow down work and delay the schedule.
- A number of employees stated they would not raise safety concerns if they believe it would impact a program or production schedule.
- Employees stated they felt pressure and the lab cut corners on safety so LANL could meet a PBI schedule.
- Employees stated the only time they see their division manager or associate director in their work area is when there is a VIP tour.

Recommendation opportunities (seedlings)

- Performance and salary management impact employee morale that ultimately impacts safety performance.
- Senior leadership should demonstrate, through communication and behaviors, that safe performance of work is the overriding priority at LANL, above meeting schedules and deadlines.

Team Summary Interviews/Observations— **Management engagement and time in the field**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- Plan of the Week
- Safety Shares at meetings
- E-mail
- WSST
- ESO
- Critique Process Improvement
- Standard walk-around practices
- MOV's

Interview “Quotes” (ensure anonymous)

“I only see my upper managers when they come to take credit for all our hard work.”

“I don’t want to be known to management as the one who had an injury/incident.”

“MOV’s have become an effective communication tool.”

“In the past we had a training coordinator who would help with training plans – removing obsolete trainings and telling us which trainings we needed to complete and when.”

“Management pounds it into our heads every week.”

“We have a meeting once a week about safety concerns.”

“Described employees in 85 Degree heat and couldn’t get it fixed.”

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• First Line Managers are seen and actively engaged in the workplace.</li> <li>• WSST/IWSST are generally viewed by those engaged by them as productive, but to get more and varied participation there must be new employees involved continuously.</li> <li>• Workers see their immediate supervisor often</li> <li>• Employees stated that team leaders often visit their work spaces.</li> <li>• Employees and managers have emphasized safety to the point that empowering employees and working to streamline and simplify methods and procedures should be pursued.</li> <li>• Most focus group and management interview information indicates first line managers spend time in the employee work spaces coaching and providing feedback (safety or assigned activities).</li> <li>• Employees see their direct management on a regular basis.</li> <li>• Safety Improvement Plans are well understood by managers and employees.</li> <li>• WSSTs are helpful in implementation.</li> <li>• Sometimes organizational changes are needed to allow improvement.</li> </ul>
<p><b>Opportunities for improvement</b></p> <ul style="list-style-type: none"> <li>• Senior managers are not seen routinely in the workspaces and then typically only on formal tours and when celebrating a major accomplishment.</li> <li>• Both safety and performance metrics must be integrated and should drive the safe performance of work/production.</li> <li>• Managers at all levels should lead by example and be viewed as “walking the walk, not just talking the talk.”</li> </ul>

- Visible commitments to safe behavior both on and off the worksite by all employees but led by management.
- Workers do not see middle to upper management very often
- Establish a system to effectively rotate WSST participants perhaps using the “past/present/future” model.
- Opportunities to develop better feedback and communication tools exist and there are some best practices locally. Individual feedback on requests needs to be considered.
- Management is personality not process driven. Time in the field is limited by their own work demands.
- Employees perceive that higher level managers (above group leaders) rarely spend time in their work areas.
- Beyond the FLM (or possibly the GL) level, higher level managers are not see in the work spaces unless during planned events (tours, etc.)
- Employees are not known to management more than 1-2 levels up.
- Manager walkarounds perceived as fulfilling obligation vs. valuing employees.
- Managers need to spend more time in the work spaces with their employees.

#### Recommendation opportunities (seedlings)

- Perform an effectiveness evaluation of current training tools (UTRAIN) and provide feedback to all employees regarding issues, strengths, best practices, and potential improvements.
- Safety communication must always strive to improve timeliness and relevance.
- Feedback communication for items such as Facility Safety Requests would encourage more participation from employees and provide message that the requests are received, understood, and prioritized.
- Visible commitments to safe behavior both on and off the worksite by all employees but led by management.
- Establish a system to effectively rotate WSST participants perhaps using the “past/present/future” model.
- Free up time to get managers out into the field.
- Provide manager coaching on maximizing value of interaction with employees in the workplace.
- Create more opportunity for direct interaction between managers and employees in the work spaces.

## Team Summary Interviews/Observations— **Open communication and fostering an environment free from retribution**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- POD, POW
- Atomics
- WSST
- OMBUDS
- Safety Shares at Team Meetings
- [safety@lanl.gov](mailto:safety@lanl.gov)

Interview “Quotes” (ensure anonymous)

“From the AD down, my management promotes the WSSTs

“I didn’t raise a concern about rigging- I didn’t want to antagonize the workers- A few days later there was an accident.

“My manager is open to inputs.”

“There is retaliation – it’s subtle.”

“Don’t want to be labeled a complainer.”

“Raising an issue makes you not want to do it again.”

“If they have the courage to bring the issue up we should take it seriously.”

“Non-verbal communication signals are important, how you react when issues are brought up will either encourage or discourage employees”

“We still tend to sometimes shoot the messenger”

“Weekly meetings always start out with a safety topic. We often apply them to things outside of work as well.”

“Division leader had one on ones to discuss in a non-attributable way.”

“Good relationship with Group Leader. Open and Trusting”

“Safety programs like VPP and WSST have a very conscious effort toward safety; 95% of the stuff coming from these programs is all positive; I think it’s great.”

“No feedback on Atomics. Put in observations with no feedback.”

“Going above the Group Leader would be career inhibiting.”

“Retribution from co-workers, lack of management support.”

“Things “get lost” and the concern never gets fixed, so why cause frustration?”

“Good system in place for communication”

“The vast majority of the work force does not feel retribution.”

“There are pockets of behaviors where retribution still may exist. Sometimes the retribution flag is thrown to save a job or position.”

“LANL provides multiple ways for employees to raise issues and concerns.”

“Multiple ways to raise an issue”

“WSST’s effective in resolving and communicating”

“WSSTs a good mechanism for feedback.”

“Personally provides feedback to employees on issues raised. Gets a lot of feedback in informal settings.”

## Strengths

- A variety of mechanisms for reporting safety concerns exists at the Laboratory including the management chain, WSST members, and other electronic means. Most personnel at all levels could identify many of them and most had used them previously.
- Some employees were aware that their MOV and BBS observations were being reviewed.
- Most meetings at the Laboratory now start with a Safety Share topic to set the tone and to emphasize the importance of safety in the work being performed.
- The work group at the laboratory does have a general confidence in the leader. Those leaders have the intelligence and skill to lead and will benefit from additional opportunity to develop tools to succeed as a leader.
- During one of the focus groups an employee got up from the table and corrected a poorly placed electrical cord. When asked why he stated, "It was a tripping hazard." This was an excellent example of an empowered employee observing a problem, formulating a solution, and acting. Although it seemed simple, if someone had tripped the current process would have consumed more time and resources.
- Employees generally are very comfortable raising concerns to their direct supervisors and trust their direct supervisors.
- Employees perceive value in WSSTs and are comfortable raising concerns to WSSTs
- Interview evidence suggests that there is a high level of peer-to-peer trust at the working group level and with the first line manager. Safety issues are openly communicated, individual errors are discussed freely, the workers are encouraged to offer solutions, and immediate feedback is typically provided.
- In all meeting with direct reports and skip level meeting spends ¼ of the time on safety and security.
- Support for WSSTs, attends but also aware of the impact his presence can cause. Careful in the choice of WSST leadership.
- Take the time to understand the issue. Continues to talk directly to the individual, involves the chain of command as needed.
- Lujan corrective actions were developed using employee input.
- Took specific actions to improve walking surfaces around the organizations work area. Pulled a team together, prioritized the work and got the corrections in place.

## Opportunities for improvement

- Beyond the FLM, interview evidence suggests that workers would not openly discuss safety issues or individual errors above the group leader level. Reasons provided are; overreaction by management over the simplest of issues resulting in additional training, procedure changes, discussing the event and serving as the "bad example" in other group safety meetings. One focus group stated they do not report minor injuries as the process is so cumbersome and takes too long that it detracts from work. When certain levels of management overreaction or the process is too cumbersome, the individual are reluctant (or fail) to report the issue (first aid cases, individual errors, etc.).
- Interviews suggest that workers are reluctant to raise issues that may involve a facility or process equipment repair. Reasons cited are it takes too long or it won't be done (waste of time), or the repair requires funds that they know are not available (again, waste of time).
- Line management, typically a First Line Manager or Group Leader, taking personal initiative was cited as the main way that responses to safety concerns raised by employees were addressed as often no other more formal mechanism exists.
- Incident critiques are perceived as not open and free from retribution or retaliation, often by those

who have not participated in them recently.

- Employees must be comfortable observing and reporting to any and all levels of management. Empowering and training the staff and providing insight through direct feedback and access to current systems in a timely manner are essential to improve the organization.
- Rules are applied inconsistently throughout the laboratory. For example, handling of various materials is done differently at different shops.
- No employee should ever experience or fear retaliation in the workplace.
- Remove generalized fear. Fear not just about retribution. Need to make it safe and OK.
- Deal with poor performers so that people can understand that the use of the performance system does not mean retribution
- Many employees are not comfortable raising concerns to higher level managers and have low trust of higher level managers.
- Some employees in nearly every focus group stated they will not raise safety concerns because they will be subjected to retaliation from raising concerns.
- Many employees stated they are inhibited from raising concerns for reasons other than retaliation, including not receiving feedback, not wanting to impact schedules, not wanting to be labeled as a troublemaker by co-workers, and the perception that no action will be taken.
- Heaviness of the process is a de-motivator for raising issues
- Guidance for managers/supervisors in making processless onerous and avoiding retribution
- Over reactions by overseers and regulators causes employees to be reluctant to report issues.
- Some managers do not know how to manage bad news.
- The additional management attention that comes with bringing up issues can be intimidating.
- Being fired is a common concern even though there is little evidence that these actions are taken very often.
- Failure to visibly follow through with actions is an issue and people quit providing input.
- Issues tend to be raised, accepted and then they go into a black hole.

#### Recommendation opportunities (seedlings)

- Promote the ability to communicate with management at all levels regarding concerns.
- Communicate the improvement efforts better as they build on one another. The current perception is that we start new programs when the old ones are unsuccessful. It was suggested that we stop the improvement programs and settle on one.
- A hiring campaign needs to happen while we still have senior staff.
- Identify where in the organization there are behaviors that create reluctance to raise issues and provide coaching to improve performance.
- Provide training to managers and potential managers on how to avoid behaviors that create reluctance to raise issues.
- Make issues management and FSR systems more transparent to the employees.
- Include listening skills in supervisor/manager skills development.

Team Summary Interviews/Observations— **Clear expectations and accountability**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- MOV
- Incident Reports
- WSSTs
- Skip Meetings
- Critique Process Improvement
- LOTO
- PerforM

Interview “Quotes” (ensure anonymous)

“Fire people who don’t pull their weight and reward those who do”

“Roof leaks, animal droppings and obvious maintenance issues are being rationalized as normal”

“Unsafe driving habits – management is setting the standard.”

“(Management) made the decision to single people out (who got hurt and in good faith reported it) and bring them up on a stage. This discourages me from ever reporting. Maybe they thought it was a learning opportunity, but I felt it was an embarrassment and deterrent to ever self-report.”

“If safety is not made simple, people will not use it. The Lock Out Tag Out system has turned into a nightmare.”

What safety issues have you observed in the last year that gave you cause for concern?

- “Driving at the Laboratory.”
- “Safety Starts when you enter your work area.”

“We are currently getting good reviews on the Lujan team.”

“Put solutions in the Crafts hands and trust them.”

“LANL has knowledgeable and skillful employees that can be brought together to solve problems.”

“Events such as the Lujan event can shake confidence in users and sponsors. “

“Requirements that increase risk.”

“Clear expectations are set at the local level.”

“Lab expectations are not always flowed down. For example, the statement that people do not understand the Lab mission. If they do not understand that, then how can they understand the safety culture.”

“Deal with poor performers”

Strengths
<ul style="list-style-type: none"> <li>• Excellent standard setting for good science and technology</li> <li>• Access (logging) issues in one facility. Engaged workers, DOE and management understanding all the error precursors and identified a solution. It wasn’t perfect but resolved the problem.</li> </ul>
Opportunities for improvement
<ul style="list-style-type: none"> <li>• Suboptimal solutions can occur in response to a short timeline. Efforts to include and communicate activities to solve problems need to reach employees where the information is relevant.</li> <li>• Multiple regulations and regulators can interfere with safe compliance with one another. A good example is the recent fall protection installation that may now impact lightning protection. The</li> </ul>

interim solution to not having fall protection is the increased use of man lifts. Each of these items should be considered as a whole with the actual workers engaged in the conversation.

- If a safety culture is defined as “what you do when no one is watching,” we have room for improvement in self reporting unsafe acts as there is very little incentive or perceived benefit to doing so. (Example of “pausing” work for procedure compliance or noting a peer not wearing appropriate PPE or not performing personal contamination control surveys consistently).
- Most formal employee feedback is provided using the Perform tool, and then only twice a year which is too infrequent to change behavior.
- Poor performers are not held accountable by managers at the Laboratory, but just passed from one organization to another. This impacts morale of others who take pride in their work and feel it is a negative impact and drag on all.
- Personnel stop bringing up safety concerns when they feel that no action is taken and thus feel reporting concerns is just a waste of time.
- Lock out/Tag out is a universally recognized safety system that should be simple and consistent to be most effective (my lock is there to protect me).
- Clear expectations appear to be a moving target. Accountability is not uniform across organizations and not equally applied.
- Employees perceive and complain that management’s cure for safety problems is more paperwork. People are becoming paranoid over safety.
- Employees perceive that too much regulation has resulted in non-practical procedures.
- Employees perceive that managers don’t have sufficient management training and LANL “turns mediocre scientists into poor managers”.
- Employees perceive there is too much communication on safety. They feel inundated and saturated.
- Employees perceive there is a lot of “dead wood” in the workforce, both managers and non-managers, and low performer are not held accountable.
- Many employees perceive LANLs approach to safety as a “compliance mentality” and “checking the boxes”; rather than as a sincere effort to protect employees and perform work safely.
- Trust is inversely proportional to distance from the group.
- Perception of the value of WSST’s varies widely with little middle ground.
- Complacency with safety.
- Those espousing safety should set the example wherever they are.
- All employee workspace should meet minimum health standards; repair or consolidate to acceptable locations.
- Create new behavioral standard around “acceptance is the standard.”
- Employee speeding in outlying areas of the lab.
- Employees sometimes do not appear to carry their strong safety culture outside of the work activities
- Laboratory mission, vision and objectives are not well communicated, nor is there a clear understanding at the worker level how their work contributes to the overall Laboratory mission.
- During management interviews there was some expression that it is difficult to reward higher performers and equally difficult to discipline less than adequate performers with the present performance management systems.

#### Recommendation opportunities (seedlings)

- Involve and utilize employees in solutions to problems. Accountability works in incidents as well as day to day activities.
- A questioning attitude regarding multiple layers of compliance can be effectively used as a defense

in depth.

- Establish a “Just Culture” (per Reason) and implement the Culpability Matrix that appropriately holds personnel accountable for their actions in the event of a safety or operational incident.
- Prompt and visible responses to safety concerns is a positive feedback loop leading to more participation by employees. The converse is also true, no visible response to a safety concern discourages subsequent participation.
- If managers are making people unwillingly share stories about how they are injured in a large group setting, it can have the undesired effect of driving safety reporting down.
- Senior leadership should personally communicate LANL’s approach to safety to all employees, learn why employees believe there is a compliance and check the box mentality and hold all employees accountable to the same standard for safety management and performance.
- Consider actions to enhance and ensure vitality of WSST’s

Team Summary Interviews/Observations— **Teamwork and mutual respect**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- IWD Reviews
- WSST

Interview “Quotes” (ensure anonymous)

“We recruit internationally for science and technology. I would like to see that level of rigor and pride apply to the administrative side (of the Laboratory).”

“The vast majority of people at LANL do a good job and are respectful and responsible.”

“The system encourages people to express concerns.”

“Definitely. We have SMEs to review health and safety. Always looking for improved ways to do things, to reduce risks and hazards.”

“There was a time when we were able to make a lot of decisions about safer courses of action.”

“I can talk to my immediate supervisor about issues.”

“I never see my group leader in the field”

“WSST’s are credibility builders.”

<p>Strengths</p>
<ul style="list-style-type: none"> <li>• LANL has a culture of problem solvers. Employees’ participation and empowerment can strengthen any program. Management has to provide the tools and the environment allowing for such participation.</li> <li>• Cross- or multi-organizational teams established for specific deliverables are very effective if they share a common goal.</li> <li>• The historic Laboratory’s spirit or culture of “get it done at all costs” is alive and well in many organizations, both those providing direct deliverables and those in a support role.</li> <li>• Good at the local and org level.</li> <li>• Most employees believe they can express different opinions and question actions or decisions with their co-workers and direct supervisors.</li> <li>• Interview evidence suggests that there is a high level of peer-to-peer trust at the working group level and with the first line manager. Safety issues are openly communicated, individual errors are discussed freely, the workers are encouraged to offer solutions, and immediate feedback is typically provided.</li> </ul>
<p>Opportunities for improvement</p>
<ul style="list-style-type: none"> <li>• Beyond the FLM, interview evidence suggests that workers would not openly discuss safety issues or individual errors above the group leader level. Reasons provided are; overreaction by management over the simplest of issues resulting in additional training, procedure changes, discussing the event and serving as the “bad example” in other group safety meetings. One focus group stated they do not report minor injuries as the process is so cumbersome and takes too long that it detracts from work. When certain levels of management overreaction or the process is too cumbersome, the individual is reluctant (or fail) to report the issue (first aid cases, individual errors, etc.).</li> <li>• Interviews suggest that workers are reluctant to raise issues that may involve a facility or process</li> </ul>

equipment repair. Reasons cited are it takes too long or it won't be done (waste of time), or the repair requires funds that they know are not available (again, waste of time).

- Interview evidence suggests that there is a high level of peer-to-peer trust at the working group level and with the first line manager. Safety issues are openly communicated, individual errors are discussed freely, the workers are encouraged to offer solutions, and immediate feedback is typically provided
- The historic Laboratory's spirit or culture of "get it done at all costs" is alive and well in many organizations and this can lead to personnel taking safety risks that are unacceptable.
- Teaming between LANS and external and regulatory organizations does not promote a safer work environment.

#### Recommendation opportunities (seedlings)

- Develop IWD and procedure methods more appropriate for discovery science and innovation. LANL must develop maturity to strike a balance between benefit and risk with respect to compliance without sacrificing safety.
- Clarify the LANL statements regarding "taking care of one another". Employees need to develop methods of empowerment and observation rather than wait on management or supervision to intervene.
- Having a group leader demonstrate that they can help be part of the team by pushing through an issue to resolution
- Streamline the reporting process and develop guidelines for levels of management that help provide a consistent approach to foster open reporting.
- Use the WSST as the forum to bring repairs to the Institutional WSST with a process to prioritize and post to the website for status.

Team Summary Interviews/Observations— **Credibility, trust and reporting errors and problems**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- Critique Process Improvement
- WSSTs

Interview “Quotes” (ensure anonymous)

“One bad experience in a safety incident critique spread like a virus and undermines many, many good critiques.”

“I self-reported a mistake to a group leader, felt threatened, and probably won’t self-report again.”

“I cut my hand while operating machinery and didn’t report it because I knew people would make a big deal out of it.”

“An employee incurred a serious work related injury and didn’t report it for fear of embarrassment and having to go on stage to talk about it.”

“Employees feel marginalized”

“Trash cans are full and roads never get plowed in the winter.”

“We didn’t have water for 4 months and had to use a portable toilet in winter.”

“I don’t believe anything will come out of this focus group meeting.”

“In my building we have trouble getting soap in our bathroom, but I bet on the 3<sup>rd</sup> floor in NSSB you don’t have that problem.”

“Managers need to be emotionally mature when issues are brought up and avoid over-reaction.”

“WSST’s are an invaluable effort at the lab and trusted by workers and management.”

“VPP has lost some credibility.”

“Trust exists at the group and local level.”

“I trust my boss to tell him about issues”

“I would be afraid to tell anyone a safety problem”

“LANL has spot award program that is easy to use”

“WSST’s good forum for getting items acted upon; demonstrates site’s commitment to action.”

“Managers need to have basic employee relations training before becoming first line managers.”

“Simplify and clarify the critique process to maximize usefulness to employees.”

“SPOT awards are an effective recognition and are viewed positively.

“WSSTs are effective in helping with resolving issues”

Employees often come up with the best, most practical actions.”

“Fix it quick. The Band-Aid becomes the solution.”

“I expect when workers give feedback management should listen.”

“When craft people attend the critiques it can become too much. We only use to have 1-2 critiques a week and now you can have 1-2 per day. And when the question arises on how can you prevent this from happening again, then you are hit with more training, procedures, and rules.”

“Always purchase things for safety, found money for AED and ergonomics.”

“They are very positive and supportive and they will say, “Ok let’s fix it.”

“Reflective listening. What can we do about it?”

Strengths
LANL has a tremendous asset in dedicated, bright employees at all levels. Few are not dedicated to the best interest of the institution and the nation. This fierce loyalty and broad skill set should be utilized

more effectively when problems and issues arise. Mobilizing the laboratory to solve problems is in our basic interest.

Line managers typically participate in taking employees injured at work to Occupational Medicine and assist in the reporting.

SPOT Awards were recognized by both managers and their employees as a positive feedback mechanism and a reward for appropriate behavior.

Interview evidence suggests that there is a high level of peer-to-peer trust at the working group level and with the first line manager. Safety issues are openly communicated, individual errors are discussed freely, the workers are encouraged to offer solutions, and immediate feedback is typically provided.

#### Opportunities for improvement

- The effectiveness of event or incident critiques to gather leading indicator data is lost due to fear of retaliation (whether a perceived or real concern).
- Employees see no benefit to reporting safety issues or unsafe conditions if they are not resolved in a timely manner. Follow through when issues are raised.
- Limited positive feedback is overwhelmed by negative perceptions.
- Critiques often have too many people and NNSA representation can inhibit or cause issues. The outcome of critiques is often a solution that can seem to point blame back at the individual who reported or had the problem to begin with. This has a chilling effect on reporting.
- Need to develop a top to bottom trust and credibility.
- Employees in support functions believe they are not valued or respected. They believe they are overloaded with work and understaffed.
- Some employees stated they will not self-report work related injuries because they will be used as an example and have to “get on the stage and describe what happened”. They perceive these results as punitive.
- Positive recognition, personally and with a written Thank You.
- In some cases solutions are developed by people who do not know the work
  - Greater transparency needed for long term items.
  - Greater engagement above immediate manager/supervisor.
  - Fixing infrastructure; send message of employee value
- Interviews suggest that mechanisms to provide worker feedback and follow up are inconsistently applied (range from very good to non-existent in some organizations).
- Beyond the FLM, interview evidence suggests that workers would not openly discuss safety issues or individual errors above the group leader level. Reasons provided are; overreaction by management over the simplest of issues resulting in additional training, procedure changes, or they would discuss the event and serve as the bad example in other group safety meetings. When such overreaction occurs, the individual is reluctant to report (first aides, individual errors, etc.).

#### Recommendation opportunities (seedlings)

- A fully supportive and partnering LAFO could be a tremendous asset to the Laboratory in challenging economic times.
- Re-evaluate the deployed services model as it makes it more challenging to form effective and successful teams.
- Conduct detailed analysis of the policies and practices related to self-reported injuries and improve the ones which contribute to perceptions of positive measures, solicit ideas from employees
- Provide leadership skills development for first and mid-level management.
- Consider setting aside fund for employee team to prioritize improvements in quality of work environment.

Team Summary Interviews/Observations— **Effective resolution of reported problems**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- Critiques
- Lab Lessons Learned
- Team Lead Discussions
- DOE Home Page
- POD
- WSSTs
- E-mail

Interview “Quotes” (ensure anonymous)

“Deployed security personnel looked at requirement and made some logical changes.”

“Employees at TA-55 get FOD support to fix safety related facility problems.”

“An employee submitted an FSR to fix a building fire hazard, got feedback that it was a great idea, and no action was taken”

“Employee identified a slipping hazard in their workplace, was told there isn’t any money to fix it”

“My direct manager takes care of issues I bring up.”

“Response time is discouraging”

“Feel dismissed when nothing happens with concerns”

“No feedback when concerns are raised.”

“Lessons learned from PFITS Coordinator”

“People were less concerned about safety in the past. Seems people are more conscious nowadays. People seem to care more in the last 8-10 years.”

“I put in a request and it never gets taken care of. I have a ticket in to repair my door for 9 months.”

“More of the same”

“Yelling and intimidation”

“Would like a preliminary report of what happened and not have to wait until every “t” is crossed, “I” dotted.”

“When I told the group leader about my suggestion he said, “If you are so smart then you should fix it.” Then I said, “It was just a suggestion.””

“It is difficult to take pride in your workspace when infrastructure is crumbling.”

“The falling ice shields at the NSSB entrances are a bad joke. And they were not even set up this past winter.”

“Some items get addressed but not very often.”

Strengths
<ul style="list-style-type: none"><li>• Typically, when the FOD or building owner is engaged, minor issues are resolved in a timely manner.</li><li>• Utilize our trained professionals with expertise to communicate and disseminate lessons learned.</li><li>• My boss helped fix one safety problem on the spot.</li><li>• Employees are aware of several ways LANL provides lessons-learned and feedback on incidents including WSSTs, meetings, websites, email messages, and training.</li><li>• Everyone knows at least one or two ways to voice concerns.</li><li>• From the interviews, Lessons learned in some locations/organizations are integrated into the weekly</li></ul>

safety meetings. The LL are timely, well written and very positively received by the workers and viewed as applicable for the work performed.

#### Opportunities for improvement

- There is limited feedback on BBS MOV or ATOMICS observations to those entering data into the systems, thus the process is viewed as just a “check the box” for managers to meet their safety numbers but of no other value.
- Minor safety issues and equipment conditions are usually addressed eventually, but not the major ones such as traffic safety and aged facilities that actually hurt and even kill people.
- Lessons learned timeliness could be improved. Lessons learned are often months after reports are written during which time the lessons could have been applied to other parts of the organization.
- Professional decorum in the time of problems is not always present and must be addressed.
- Response not consistent across the Lab. Positive response in some orgs-personality dependent. “Nothing gets done” is a common response in a number of orgs
- Demonstrate that we have heard the concern about not getting things done. This may be in the form of a prioritized list that the entire Lab can see.
- Nearly all employees interviewed believe facility issues are not addressed or are not fixed in a timely way.
- Chronic problems in old building aren’t getting fixed, this was a nearly unanimous complaint from employees.
  - It is difficult to “take pride in your workspace” when infrastructure is crumbling.
  - Except for issues taken to immediate supervisor/manager, there is a lack of communication on issues raised.
- From the interviews, it is apparent that most organizations do not have a Lessons Learned program.

#### Recommendation opportunities (seedlings)

- Managers need to have basic employee relations training before becoming first line managers.
- Lessons learned must be timely and relevant
- Feedback to requests and suggestions must be timely, professional, and respectful.
- BBS observations can be a powerful tool for identifying leading indicators and for promoting participation in safety activities by all personnel, but it must be endorsed and used by management to be effective.
- I think this is the most important issue from the entire assessment. Until we can demonstrate that we have heard concerns AND are doing something about them, it will be almost impossible to foster a greater safety culture.
- Allocate additional funds to repair, improve old buildings. Get employee input on the priorities. This is a pervasive issue in the workforce and almost certainly has decreased employee morale and productivity.

Team Summary Interviews/Observations— **Performance monitoring through multiple means**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- WSSTs
- Critique Process Improvement
- MOV
- Group meetings, Team meetings, POD, POW, All hands meetings
- MRB
- Performance Metrics
- ATOMICS
- WOLVES
- Plan of the Day
- Safety Share

Interview “Quotes” (ensure anonymous)

“LANL has gone above and beyond to promote safety. Very active and enthusiastic WSST.”

“Horizontal cooperation is improving”

“The RCT support staff is well integrated and seen as part of the team.”

“The relationship with the FOD organization has improved.”

“If there is machine maintenance, for example, the deputy group leader and group leader are there for every critical job”

“More standing jobs, the team leaders handle it.”

“The strength is local. Starts to lose its significance above the group level.”

“I use ATOMICS to report items”

“I feel comfortable talking to my boss about issues”

The relationship with the FOD organization has improved.

“I was told not to talk to anyone above the Group Leader”

“Almost never in the lab spaces. Rarely in my office.”

“Not unless there is something wrong. Then, there is too much management.”

“I rarely see my upper management in the work area so I could never report anything to him”

“I am nervous reporting issues to someone I do not know”

“Free up the time of upper managers to get out into the field”

“Demonstrate that we are using HPI”

“The Industrial Hygiene staff is more difficult to work with.”

Strengths
<ul style="list-style-type: none"><li>• In general, First Line Managers are seen and available in most organizations.</li><li>• Line management by major organization establishes an annual self-assessment schedule to collect performance data and reports out through Management Review Boards.</li><li>• Line management periodically statuses established performance metrics.</li><li>• Procedures and process limits are reviewed periodically.</li><li>• Safety (security and quality) statistics are reviewed regularly as lagging indicators.</li><li>• The scientific community has a questioning attitude by training so it is easier to carryover into safety and report issues to almost anyone</li></ul>

- MOV's are widely used across LANL, many managers conducting more than the expected minimum. From the interviews, it is apparent that this process helps managers connect with the people and the issues (safety or work assignment related) the workers encounter.

#### Opportunities for improvement

- Management above first line management is not present in many organizations. Workers are not connected to the management chain above the first line management.
- All levels of management should "walk the walk" and not just "talk the talk" thereby leading by example.
- Training and emergency alarms at sites around the Laboratory are not integrated nor consistent. Emergency response should be the same around the site.
- Management time in field sometimes viewed as "check the box" rather than time to demonstrate the value of employee.

#### Recommendation opportunities (seedlings)

- Managers need to have basic employee relations training before becoming first line managers.
- Group Leaders and above need to model appropriate interactions and behaviors with employees.
- Set aside enough time on management walk-arounds to connect with employees and understand their needs without undermining the interface by abruptly excusing yourself due to another scheduled activity.
- Determine why some parts of the deployed ESH staff are seen more positively than others.

Team Summary Interviews/Observations— **Questioning attitude**

List relevant existing organizational forums that serve to influence, foster, advocate SCWE

- WSSTs
- Critique Process Improvement

Interview “Quotes” (ensure anonymous)

“Lead by example ...How does that work? How will that work out?”

“I feel comfortable and don’t mind a good constructive argument “

“Senior leadership says ...I expect you to question... We question things because it is our nature”

“When someone shows you an inch you have to treat it like a mile.”

“Reward stop work”

“PAD models behavior expected of ADs and DLs.”

“LANL scientific community was founded on a questioning attitude. Developing this culturally means management at all levels need to properly model and reward this behavior.”

“As scientists, we are trained to question so it is easier for us to carry that over to safety

“I am uncomfortable talking to someone I do not know about safety.

“Rely heavily on active listening, allowing ideas to grow and when necessary, providing course corrections.”

“Managers can be put in the position of defending controls if employees push back.”

“A barrier to safety can be non-inclusive language in surveys”

Strengths
<ul style="list-style-type: none"><li>• The WOLVEs process in MIS is an emerging strength showing the capability of empowering employees.</li><li>• Working through a question or concern with an employee can demonstrate correct behavior. Most employees are not aware of the process necessary to address concerns. Shadowing skip level or higher managers may provide this awareness.</li><li>• Some sites at the Laboratory effectively use weekly safety/planning meetings to share recent events from related operations and from formal Lessons Learned distributed for this purpose.</li><li>• Peer to peer safety is often effective as personnel will watch out for each other when they view a safety concern as a real threat.</li><li>• Having safety in the forefront at all times. All meetings open with safety and safety share. Having visible managers modeling the questioning attitude.</li><li>• Most employees believe they can express different opinions and question actions or decisions with their co-workers and direct supervisors. (Also applies to teamwork and nurture respect attribute)</li><li>• Lab as a whole values intellectual curiosity and questioning attitude</li><li>• Senior manager models good behavior by asking questions, learning the activities and work of his employees, triggering questions in return. This includes questioning the rationale for Safety and Health controls that are not clear. Expects this to be naturally part of the work process. Expects there to be a natural tension from questioning but the challenge is to keep the tension productive. This includes questioning safety and health controls that may not seem appropriate.</li></ul>
Opportunities for improvement

- Upper management can model the correct response to a questioning environment and provide coaching to first level management regarding the healthy question and response.
- Office workers and those in low hazard jobs may not always benefit from the safety initiatives. Including this population of the laboratory should be considered in these actions.
- Safety Improvement Plans are widespread and fairly well understood by most employees. This can be used for an accountability plan developed from the employee base.
- Peer to peer safety is often inconsistent and depends largely upon the training and commitment of the peer.
- Focus on the trivial takes away from real significant safety issues (or the forest gets lost for the trees).
- Compliance is not enough to assure safety.
- Make workers feel safe in questioning.

#### Recommendation opportunities (seedlings)

- Investigate use of scientific method style questioning as part of an overall employee safety program. This naturally fits with many of our staff and recruits.
- The WOLVES program should be piloted in other organizations that would benefit from it.
- Consider developing a two way shadow program. Opportunities for employees to shadow management as well as an opportunity for management to work with employees for a day.
- Expand SIP based on employee input and hold all employees accountable to meet goals.
- Really use the HPI process at the Lab. Start every critique with the process and demonstrate that we are using it.