

**Independent Oversight  
Follow-up Assessment of Safety Culture at the  
Waste Treatment and Immobilization Plant**



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**Office of Environment, Safety and Health Assessments  
Office of Independent Enterprise Assessments  
U.S. Department of Energy**

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Safety Culture at the Waste Treatment and Immobilization Plant**

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## Acronyms

BARS	Behavioral Anchored Rating Scales
BNI	Bechtel National, Inc.
BOP	Balance of Plant
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
DPO	Differing Professional Opinion
ECP	Employee Concerns Program
E&NS	Environmental and Nuclear Safety
GSSC	General Support Services Contractor
HLW	High Level Waste Facility
HPA	Human Performance Analysis Corporation
HPT	High Level Waste and Pretreatment Facilities
HSS	Office of Health, Safety and Security
IMS	Issues Management System
INPO	Institute of Nuclear Power Operations
INSAG	International Nuclear Safety Advisory Group
IEA	Office of Independent Enterprise Assessments
IPT	Integrated Project Team
LAB	Analytical Laboratory
LAW	Low Activity Waste Facility
LBL	LAW, BOP, and LAB Facilities
NRC	U.S. Nuclear Regulatory Commission
O&AS	Office and Administrative Services
ORP	Office of River Protection
PDSA	Preliminary Documented Safety Analysis
PIER	Project Issues Evaluation Report
PIRB	Performance Improvement Review Board
PT	Pretreatment
PTF	Pretreatment Facility
QA	Quality Assurance
SCWE	Safety Conscious Work Environment
STARRT	Safety Task Analysis and Risk Reduction Talk
URS	URS Corporation
WTP	Waste Treatment and Immobilization Plant

## 1. Introduction

The U.S. Department of Energy (DOE) Office of Independent Enterprise Assessments (IEA) was established in May 2014 and assumed responsibility for managing the Department's Independent Oversight Program from the Department's former Office of Health, Safety and Security (HSS). HSS conducted this follow-up assessment of nuclear safety culture<sup>1</sup> at the Waste Treatment and Immobilization Plant (WTP) Project. The primary objective of the assessment was to provide information regarding the status of the safety culture at WTP. Assessment activities occurred during December 2013 to March 2014, with the primary onsite data collection effort occurring during January 27 – February 6, 2014.

WTP is DOE's largest ongoing design and construction project. Currently, WTP is reevaluating some aspects of the design of its pretreatment facility and has deferred some associated design and construction activities while options are being evaluated. Although WTP is not yet processing radioactive materials, WTP personnel are procuring, installing, and constructing systems, structures, and components that will be relied on for safe operation of an extraordinarily complex set of nuclear facilities. If these functions are not performed correctly and with high standards of quality, the safety of the WTP could be compromised during future operations by latent failures in design or safety analysis or in the installed systems, structures, and components. Therefore, a healthy nuclear safety culture, one in which employees feel empowered to raise safety questions without fear of retaliation, is essential at WTP during the current design and construction phase, as well as in the future operational phase.

Within DOE, the Office of Environmental Management has line management responsibility for WTP. At the site level, line management responsibility for the WTP falls under the Office of River Protection (ORP). Under contract to DOE, Bechtel National, Incorporated (BNI) is designing and coordinating the construction of the WTP. URS Corporation (URS) is a major subcontractor to BNI and performs a significant fraction of the design and safety basis work. BNI intends for BNI and URS personnel to work closely together, and in practice BNI and URS personnel are intermingled; for example, BNI personnel may work in an organization with a URS supervisor, or vice versa. BNI also has several other subcontractors and consultants at the WTP.

In June 2011, the Defense Nuclear Facilities Safety Board (DNFSB) forwarded Recommendation 2011-1, *Safety Culture at the Waste Treatment and Immobilization Plant*, to the Secretary of Energy. In January 2012, HSS issued an assessment report on the safety culture at WTP, titled *Independent Oversight Assessment of Nuclear Safety Culture and Management of Nuclear Safety Concerns at the Hanford Site Waste Treatment Immobilization Plant*, which met one of the action items in DOE Implementation Plan for DNFSB Recommendation 2011-1. From its 2011 assessment, the HSS Independent Oversight team concluded that most personnel at WTP believed that safety was a high priority but that a significant number of staff within ORP and BNI expressed reluctance to raise safety or quality concerns for various reasons. Therefore, HSS concluded that significant management attention was needed to improve the safety culture at WTP.

On January 30, 2012, the Acting Assistant Secretary for Environmental Management provided a letter to the DNFSB indicating that Action 1-3 of the DOE's 2011-1 Implementation Plan was completed. Among

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<sup>1</sup> While there are various safety culture models, the definition used in the Energy Facility Contractors Group report, which was accepted by the Deputy Secretary and referenced in the DOE Integrated Safety Management Guide, is: An organization's values and behaviors modeled by its leaders and internalized by its members, which serve to make safe performance of work the overriding priority to protect workers, the public, and the environment.

other things, the letter communicated that BNI had implemented a safety culture oversight process and described the BNI process and DOE's oversight of the process. As part of DOE's oversight, DOE committed that HSS would conduct a safety culture progress assessment at WTP in about 12 to 18 months. This follow-up assessment fulfills DOE's commitment to conduct a progress assessment of safety culture at the WTP. Where possible, comparisons are drawn between the data collected in this assessment and the 2011 assessment.

Before starting these assessments in 2011, HSS enhanced its capability to assess safety culture processes through consultation with the U.S. Nuclear Regulatory Commission (NRC), several nuclear power generating utilities, and associated support organizations to benchmark their processes. Recognizing that it has significant expertise in nuclear safety and issues management but limited on-staff expertise in systematic application of behavioral science-based methodologies for performing safety culture assessments, HSS contracted with an external company that specializes in human performance analysis to support the data collection and analysis efforts.

## 2. Scope and Methodology

This Independent Oversight follow-up assessment covered Federal and contractor employees working at the WTP. This report provides results for the Federal and contractor organizations at WTP as follows:

- ORP: The results for ORP include Federal employees and General Support Services Contractors (GSSC) that directly support ORP.
- BNI: The results for BNI include its subcontractors, including its primary subcontractor, URS.
- WTP Project: The results for the WTP Project include the subset of ORP Federal and GSSC employees assigned to the WTP Project and all BNI employees and subcontractors.

Onsite data collection was conducted primarily by HSS personnel. To ensure a valid and effective assessment of the existing safety culture, HSS used external independent safety culture experts to analyze various sources of data and perform an independent evaluation. The independent safety culture experts have extensive experience in the development and application of safety culture assessment methodologies used by commercial nuclear and other industries. Appendix A provides additional information about the composition of the Independent Oversight team, including the credentials of the independent safety culture experts.

With the guidance of the external independent safety culture experts, the Independent Oversight team selected an assessment methodology that provided an objective and systematic measurement of the organizational behaviors that impact safety performance, using multiple data collection tools to assess organizational behaviors. These tools include functional analysis, semi-structured focus groups and individual interviews, observations, and behavioral anchored rating scales.

The Independent Oversight team also arranged for the external independent safety culture experts to conduct a culture survey for project personnel using commonly used survey tools and techniques. The culture survey was conducted and analyzed by the external independent safety culture experts. The population sampled in the survey included Federal and contractor project employees.

The evaluation was conducted using the same methodology that aligns with the NRC procedures for independent safety culture assessment, which identifies nine traits that are viewed to be necessary in the promotion of a positive safety culture:

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

HSS tasked the independent safety culture experts to analyze the data collected during the assessment in accordance with their established methodology. Appendix B provides additional information about the methods, framework, and results of the safety culture assessment.

### **3. Results and Conclusions**

The safety culture follow-up evaluation performed by the external independent safety culture experts is provided in Appendix B, which provides positive observations and identifies areas in need of attention for each of the nine traits of a healthy safety culture. The independent safety culture experts evaluated the collective results to formulate the following conclusions. Additionally, since the same methodology was used during the 2011 assessment of WTP, comparisons are provided where noteworthy changes have been identified.

While the data collected and the results associated with the specific behaviors are presented for the ORP and BNI organizations in Appendix B, some general and overriding findings associated with the behaviors have implications for the entire WTP project. Therefore, general results, conclusions and recommendations are provided not only for the ORP and BNI organizations but also for the overall WTP Project.

The Independent Oversight team recognizes that ORP and BNI are making efforts to resolve many of the issues that are encumbering the WTP Project. The Independent Oversight team's conclusions are intended to provide insight into some of the continued difficulties the WTP Project may be encountering.

#### **ORP**

Several activities have been initiated by ORP since the 2011 independent assessment of safety culture and safety conscious work environment (SCWE). For example, ORP has established an Organizational and Safety Culture Improvement Council, made improvements in the Issues Management System, enhanced the employee concerns program (ECP), held SCWE training sessions for all Federal and GSSC staff, created a new managers/supervisors developmental leadership series as a result of the ORP Improvement Plan actions issued in April 2012. Additionally, senior management cited recent reductions in ECP concerns and non-retirement staff turnover as positive indicators.

Although positive, these efforts have not yet yielded measurable gains toward the establishment of a healthy safety culture within the ORP organization. The results of this assessment, both quantitative and qualitative, show a decline in the perceptions of personnel of some behaviors important for a healthy safety culture. In particular, attention to safety, coordination of work, problem identification and resolution, and roles and responsibilities are viewed more negatively now than in 2011. A lack of alignment and engagement on the stated values and expectations around those activities among the ORP management team, and consequently with the ORP staff, may be contributing to the limited progress in these areas.

There is a perception within ORP that the roles, responsibilities, authorities, and accountabilities for ORP with respect to the WTP Project are not clearly established. There is also a perception that support and oversight functions are not independent. The philosophy of the new senior management team to be more collaborative in their relationship with the contractor has created some confusion, and the perception of the loss of independence by many in ORP with respect to its role on the Project.

During the 2011 assessment, the Independent Oversight team identified that, while there was no fear of retaliation in the ORP work environment, there was a definite unwillingness and uncertainty among employees about the ability to openly challenge management decisions. Employees perceived that the environment was not conducive to raising concerns and that management did not want to or willingly listen to concerns. Most employees also believed that constructive criticism was not encouraged. These perceptions have not changed, and in fact, in the case of being able to openly challenge management and

to provide constructive criticism, the perceptions have become slightly more negative. The stated philosophy of ORP senior management – wanting more transparency with the contractor – is not perceived to exist within ORP’s own organization.

## **BNI**

BNI has implemented many new initiatives, actions, and program revisions since the 2011 assessment. In one example, BNI used a training model for the implementation of its SCWE training that was widely recognized as successful across the organization. All BNI employees received this training. Training sessions were populated with different functional groups and different organizational levels, and participants recognized the value in hearing different perspectives. In other examples, BNI restructured the WTP Project organization, including establishment of an organizational effectiveness managerial position; revised and strengthened several organizational processes, including the differing professional opinion (DPO) process, self-assessment processes, trending and analysis processes, performance indicators, and the cause analysis process; and instituted the WTP Leadership Academy to improve management and supervisory behaviors. These are just a few of the initiatives undertaken over the last few years.

Although improvements were needed, the volume of these initiatives has resulted in a general sense of confusion of priorities. In addition, much of the organization continues to work in “silos” and does not coordinate its work well. The combination of these concerns makes the effectiveness of many of these initiatives uncertain.

There is a lack of understanding in the BNI organization on the organizational processes that impact the WTP Project. Such processes as examining the extent of condition for problems that arise and incorporating lessons learned into activities are not being used to the extent that they could to help improve performance. The Independent Oversight team often heard that WTP is a construction site and not an operating facility as a rationalization for why some process had not been rigorously implemented. These processes are not unique to the operating phase of a complex nuclear facility but are equally important to all phases of the life cycle, including construction.

While the perceptions of employees in many of the BNI organization have not significantly changed since the 2011 assessment, some groups within the organization require additional senior management attention and oversight. Specifically, the BNI/URS Office & Administrative Services; the Organizational Effectiveness, Nuclear Safety, and Plant Engineering Non-Manual<sup>2</sup> work groups; and the BNI/URS Teamsters, Iron Workers, and Operating Engineers Manual work groups have consistently more negative perceptions than other groups in the organization on behaviors important to a healthy safety culture. These differences will inhibit the progress that BNI is attempting to achieve with many of its initiatives.

The role of Bechtel Corporate as an underlying driver for behaviors observed during this assessment that appear to be out of alignment with safety culture attributes and in project decision-making is not well understood by the BNI organization at WTP. Actions driven by corporate values and goals need to be more effectively evaluated and understood in terms of the goals and mission of the WTP project.

## **WTP Project**

Since the last HSS evaluation in 2011, many of the efforts to address improvements in safety culture are at the level of artifacts and claimed values, such as documented procedures and policies. While these

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<sup>2</sup> “Manual” is a WTP-specific term referring to crafts. “Non-manual” refers to all other workers within BNI.

efforts are important, they are insufficient to internalize the beliefs and values necessary to effectively change culture and therefore behavior. The lack of significant measurable changes in behavior indicates that the basic assumptions of those working on the Project have not yet been changed. The foundation of some of those assumptions may not be in the control of those managing the Project (e.g. political, funding, external stakeholder interests), but many of the assumptions related to safety and safety culture can still be improved.

The past two years have been a slow tempo for Project construction activities, and although there has been time to think about these types of activities and changes, continued time, attention, and continuous improvement are needed to ensure that the changes will be sustainable. The Project recognizes that the existing milestones are unrealistic and is currently engaged in a re-baselining effort for the schedule and associated milestones. If the changes to improve the culture remain limited and not internalized when the attainable milestones are in place, then their effectiveness will not be realized as the tempo of activities increases and the priorities shift toward production. Without due management diligence, resources currently devoted to many of these programs and activities may be diverted, decreasing effectiveness.

While perceptions and behaviors have not changed much in the two years since the last assessment across the WTP Project, the level of frustration in those below the management level has increased. Almost all those working on the Project, both Federal and contractor, want this project to succeed, and the lack of progress has been demoralizing. This frustration has implications for future performance.

## 4. Recommendations

A healthy safety culture is most often found within an organization where its leaders' espoused values and beliefs are aligned with its published vision, mission, and values and where effective processes and motivated people are found. The recommendations from this independent assessment of safety culture for ORP, BNI, and the WTP Project as a whole are presented below.

### ORP

- Efforts need to be made to align the ORP management team around clearly stated expectations for the behaviors that are necessary to promote and support a healthy safety culture. Barriers (e.g., issues with communication and interaction between ORP groups, lack of collaboration, resource allocation, leadership safety values and actions) exist at the senior and middle management level, and inconsistencies in implementing these behaviors will not facilitate the necessary cultural change.
- Managers at all levels need to be more engaged in the activities that are being initiated to help drive change. Staff needs to see the commitment of all managers in these activities to believe that the efforts are sincere.

### BNI

- BNI needs to better understand how Bechtel Corporate is aligned with the WTP Project goals. This understanding needs to be clearly communicated to Project personnel so the drivers behind the decisions are more transparent to everyone involved.
- BNI should consider implementing the training model used for SCWE training for all initiatives, from development through implementation and effectiveness reviews. The model was widely recognized as successful across the organization, and participants recognized the value in hearing different perspectives.

### WTP Project

- There is a recognized lack of senior experience on the Project to successfully move the Project forward. While especially true in the BNI Engineering organization, the ORP organization also needs some more experienced managers. Bringing this experience to the Project will demonstrate to all organizations that there is a sincere commitment to completing this Project in the most efficient and effective way possible.
- More senior management engagement with staff activities throughout the Project is needed. The cultures fostered in the individual ORP and BNI organizations directly influence each other. This inter-relationship presents a need for ORP and BNI management to ensure the espoused values fundamental to a robust safety culture are consistently imbedded and modeled across both of their organizations. Opportunities to model, discuss, and create the behaviors that will facilitate culture change should be utilized whenever possible. Management engagement and interaction with staff are required to change basic assumptions and drive culture change.
- The Project needs to ensure that the current re-baselining process results in a strategy that has a clearly defined schedule and priorities. Using an approach that recognizes the imperative of establishing an executable plan, the ORP and BNI organizations, should work to clarify the Project milestones and deliverables in order to arrive at mutually agreed to terms that support a long-term

strategy. Scenarios of various funding decisions should be built into the plan so that extreme changes will not be needed during the implementation of the strategy. The duration of the plan should be determined realistically but should be sufficiently formalized that it can be shared with and explained to all who are involved with the Project.

The Office of Environmental Management and ORP and BNI managers should evaluate the full results of this Independent Oversight safety culture report, including the culture insights provided in Appendix B, in accordance with established issues management processes and should initiate appropriate causal analysis, corrective actions, organizational enhancements, and effectiveness reviews as appropriate.

# **Appendix A**

## **Supplemental Information**

## **Appendix A Supplemental Information**

### **Dates of Review**

Scoping Visit	December 16-18, 2013
Safety Culture Survey Administration	January 13-31, 2014
Observations/Interviews/BARS	January 27 – February 6, 2014
Debriefing	March 10-11, 2014

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Dr. Sonja Haber, Independent Safety Culture Expert  
Dr. Deborah A. Shurberg, Independent Safety Culture Expert

## **Expertise and Credentials of the Independent Safety Culture Experts**

Human Performance Analysis Corporation (HPA) is one of the leading consulting groups working to assist organizations in **performance improvement** through the understanding and leveraging of the individual, process, and organizational behaviors necessary to facilitate safe operating performance.

The HPA team is composed of experts in **organization and management, safety culture, and human performance analysis**. HPA has decades of experience working across numerous different industries where high safety performance is required, both in the United States and abroad.

HPA provides performance improvement services to public and private sector clients conducting safety-sensitive operations across a wide range of industries including nuclear, healthcare, mining, research, engineering, transportation, and energy.

The principals are:

**Dr. Sonja B. Haber, Ph.D.** Dr. Haber has been conducting work in the area of human performance analysis for over 30 years. She has been involved in the evaluation of human performance strategies in various applications, including nuclear facilities. For over 20 years, Dr. Haber's work has focused on improving human performance within organizations that must operate with a high degree of reliability. She has been extensively involved in conducting fieldwork for various international agencies in efforts related to enhancing human performance. Her work has also included cross-cultural analysis of organizational issues in the areas of safety culture and management and supervisory skills. Most recently, Dr. Haber has been conducting safety culture evaluations in various organizations; providing consultation in organizational interventions including leadership and management training, enhanced communication, and observational skills training; and working toward the development of performance measures for organization and management processes.

**Dr. Deborah A. Shurberg, Ph.D.** Dr. Shurberg's primary interests lie in the development and implementation of methodological tools useful for the analysis and improvement of organizational functioning and in the assessment and evaluation of human resource practices critical to effective organizational performance. In particular, her work focuses on improving human performance within organizations that must function with a high degree of reliability and the assessment and improvement of organizational behaviors that impact safety culture. Dr. Shurberg has extensive experience across a variety of industries and countries, providing support in the diagnosis of organizational and management strengths and areas in need of improvement. She has significant experience in the development and implementation of intervention strategies within the nuclear industry, particularly on human-performance related topics, including communication skills, observational skills, and management and supervisory skills.

More information can be found at: <http://hpacorp.com/>

## **Appendix B**

# **An Independent Follow-up Assessment of Safety Culture at the Waste Treatment and Immobilization Plant**

Independent Safety Culture Evaluation Experts:

Dr. Sonja B. Haber, Human Performance Analysis Corporation

Dr. Deborah A. Shurberg, Human Performance Analysis Corporation

**Appendix B**  
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## **B.1 Introduction**

This appendix describes the results of an independent follow-up assessment of the existing safety culture at the U.S. Department of Energy (DOE) Office of River Protection (ORP) Waste Treatment and Immobilization Plant (WTP). The population addressed by the evaluation was ORP Federal and GSSC and Bechtel National, Inc. and their subcontractor personnel at the Hanford Site in Richland, Washington. The evaluation was conducted during December 2013 through March 2014. The primary objective of the evaluation was to provide information regarding the status of the safety culture components at the Waste Treatment and Immobilization Plant Project.

The assessment was conducted using the same methodology that aligns with the current U.S. Nuclear Regulatory Commission (NRC) procedures for independent safety culture assessment and that was used in a prior assessment conducted by the DOE Office of Health, Safety and Security (HSS) at the WTP Project between November and December 2011. In addition, the framework applied to the collection and analysis of data is that recently described by the NRC. Positive observations and areas in need of attention with respect to the traits necessary for a healthy safety culture are presented. The detailed results presented in this appendix support the summary results and recommendations provided in the main report.

## **B.2 Background**

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

According to Schein's three-level model, an organization's safety culture can be assessed by evaluating the organization's artifacts, claimed values, and basic assumptions. On the first level of the model are the organization's artifacts. Artifacts are the visible signs and behaviors of the organization, such as its written mission, vision, and policy statements. The second level consists of the organization's claimed or espoused values. Examples of claimed values might include mottos such as, "safety first" or "maintaining an open reporting work environment." The third level is comprised of the basic assumptions of the individuals within the organization. Basic assumptions are the beliefs and attitudes that individuals bring into the organization or that are developed because of experience within the organization. Examples of basic assumptions may include, "safety can always be improved" or "everyone can contribute to safety." The organization's basic assumptions regarding safety culture are less tangible than the artifacts and claimed values. They are often taken for granted within the organization that shares the culture.

Artifacts, claimed values, and basic assumptions are evaluated to identify the presence or absence of the safety culture traits that have been found to be important for the existence of a healthy safety culture within a nuclear facility, with reference to International Nuclear Safety Advisory Group (INSAG)-15, 2002; Institute of Nuclear Power Operations (INPO) Principles for a Strong Nuclear Safety Culture, 2004; and NRC Inspection Manual 0305, 2006. The NRC and its stakeholders have recently agreed upon nine traits which are viewed to be necessary in the promotion of a positive safety culture. These include:

- Leadership Safety Values and Actions
- Problem Identification and Resolution

- Personal Accountability
- Work Processes
- Continuous Learning
- Environment for Raising Concerns
- Effective Safety Communication
- Respectful Work Environment
- Questioning Attitude.

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

Most of the methodology used in this evaluation was originally developed with the support of the NRC in the 1991 timeframe to assess the influence of an organization and management on safety performance. The methodology entails collecting a variety of information that is largely based upon the perceptions of the individuals in an organization, as well as conducting structured observations of individuals performing work activities. Perceptions are often reality when it comes to influencing behavior and understanding basic assumptions. Therefore, the data collected regarding individuals' perceptions are critical to this type of evaluation.

### **B.3 Scope of Safety Culture Evaluation**

The scope of this safety culture assessment was defined to include all employees, both Federal and contractor, in the DOE Office of River Protection (ORP) organization and all contractor employees working for Bechtel National, Inc. (BNI) and their subcontractors on the WTP Project.

The HSS Team was on site at the WTP Project during January and February 2014, with a scoping and preliminary data collection visit conducted in December 2013. In addition, the Organizational Safety Culture Survey was electronically administered during that same time period with the survey being open for completion by employees from January 13 through January 31, 2014. The HSS Team presented the results to ORP and BNI on March 10 and March 11, 2014.

HSS personnel worked with the independent safety culture experts to collect onsite data. The HSS staff had been trained on applying data collection techniques and conducting focus group interviews.

This safety culture assessment is a "point in time" snapshot of ORP and BNI within the context of the WTP Project. Although the team recognizes that ORP and BNI may be making organizational and process changes to continue improving safety culture since the assessment was conducted, the team has not evaluated the impact of those actions. Therefore, changes that have occurred since the onsite assessment are not discussed in this report.

### **B.4 Methodology**

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

- Functional Analysis

- Structured Interviews and Focus Groups
- Behavioral Anchored Rating Scales (BARS)
- Behavioral Observations
- Organizational and Safety Culture Survey

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

#### **B.4.1 Functional Analysis**

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

In addition, a scoping visit was conducted December 16-18, 2013, to review documentation at the facility, conduct interviews, and finalize plans for the onsite assessment. During the scoping visit, interviews and focus groups were conducted with approximately 30 individuals across ORP and BNI.

#### **Documentation Review**

During the Team's activities, a wide variety of documents were reviewed, including WTP program and project plans, WTP and ORP technical and administrative procedures, project organization charts, interoffice memoranda, applicable DOE regulations and technical standards, corrective action reports, documented employee concerns, etc.

#### **Organizational Behaviors**

Based upon the information obtained from the functional analysis, the following organizational behaviors were identified for evaluation:

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

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

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

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

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

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

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

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

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

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

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

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

#### **B.4.2 Structured Interview and Focus Group Protocol and Behavioral Anchored Rating Scales (BARS)**

The Structured Interview and Focus Group Protocol was derived from a database of interview questions. A particular subset of questions can be selected to provide a predefined focus to an interview or focus group session. The Independent Safety Culture Assessment Team selected a set of questions to gather information related to the safety culture components and attributes from the organizational behaviors identified from the functional analysis.

A total of 51 individual interviews and 45 focus groups were conducted as part of the assessment. A total of 326 individuals were involved in one of these activities, 43 of them at the ORP (representing 6 focus groups and 9 individual interviews). Each interview and focus group lasted approximately one hour, and a few less formal follow-up interviews were conducted to provide further clarification when necessary. In addition, of the 51 interviews conducted, 12 were conducted with individuals who called in to a Hot Line

established for the purpose of giving ORP and BNI employees and other stakeholders an opportunity to speak with members of the Team.

The BARS were administered to 315 individuals who participated in the structured interviews and/or focus groups (i.e., logistics and time constraints in some cases prevented the administration of the BARS to all participants, and Hot Line interviewees were not given BARS to complete). Each interviewee was administered the BARS associated with four different organizational behaviors. The BARS provided the opportunity to quantitatively summarize qualitative data associated with the interviewee's perceptions of the organization. Approximately 1,254 BARS were collected representing 10 organizational behaviors (172 of the BARS were from ORP).

### **B.4.3 Behavioral Observations**

The use of behavioral observations provides an unobtrusive assessment of particular organizational behaviors and critical processes including work planning, management meetings, department meetings, and responses to planned or unplanned events. The selected organizational behaviors are specifically identified in the evaluation of the activities observed.

During the course of the safety culture assessment, approximately 30 observations were conducted. The data represent observations of a Corrective Action Plan Review meeting with Construction; project management team meeting; ORP senior management staff meeting; Performance Improvement Review Board (PIRB) meeting; Zero Accident Council meeting; the High Level Waste Facility (HLW) Core Team meeting; Low Activity Waste Facility (LAW) Hazards Analysis meeting; LAW and HLW safety walkdowns; LAW Hot Topics meeting; BNI strategy coordinating meeting; work observations of various construction activities; WTP 2014 Goals meeting; Defense Nuclear Facilities Safety Board (DNFSB) meeting; Performance Assurance staff meeting; High Level Waste and Pretreatment Facilities (HPT) Change Control Board meeting; ORP DOE Wednesday weekly staff meeting; LAW, Balance-of-Plant (BOP), and Analytical Laboratory (LAB) Facilities (LBL) Integrated Project Team (IPT) Critical Item Action Report meeting; and LBL IPT Plan of the Day meeting.

### **B.4.4 Organizational and Safety Culture Survey**

The primary purpose of administering a survey is to measure, in a quantitative and objective way, topics related to the behaviors of interest. By conducting a survey, a broad sample of the individuals in the organization can be obtained and it is possible to gather information from a larger number of personnel than can be reached through the interview process alone. The survey used in this assessment has been administered previously by the Independent Safety Culture Assessment Team Lead at over 40 different organizations.

When this assessment was conducted in 2011, the survey was only administered to the ORP population because BNI employees had recently completed their own survey just prior to the HSS assessment. For this assessment, the ORP population and the BNI population (including subcontractor personnel from each) were both included in the survey. For ORP, 100% of the population was invited to participate in the survey and for BNI a 30% random sample, stratified by work groups, was invited to take part in the survey. This represented a total number of 902 individuals invited to participate (186 individuals from DOE and 716 from BNI and their subcontractor population) to complete the survey as part of this assessment. From the entire survey sample, a total of 681 individuals responded to the survey which is a 75.5% response rate, an acceptable sample for drawing representative conclusions about the organization. The response rates for the individual DOE and BNI populations were somewhat lower due to approximately 14.6% of the respondents who did not indicate which organizational group they belonged

to. For the DOE population the response rate was approximately 65.5% and for BNI the response rate was approximately 64.1%.

## **B.5 Results**

The results presented below summarize the insights gained from the assessment team's analyses of the structured interviews and focus groups, BARS, observations, and survey data. The results are presented in terms of the safety culture traits and their associated performance attributes for each organization, ORP and BNI. Positive Observations and Areas in Need of Attention related to each trait are presented and provide the observations, insights and data to understand their impact on the overall health of safety culture. It is not the intention that each Area in Need of Attention result in a corrective action. The insights are intended to stimulate the organizations to reflect on their culture in order to understand the values and assumptions that may be driving behaviors and thus help to shape interventions supportive of a healthy safety culture. Developing a massive amount of corrective actions may perpetuate a compliance mentality, which is not conducive to creating and promoting a healthy safety culture; thus, efforts to assure that there is a traditional corrective action associated with each insight may be counterproductive. To the extent that corrective actions are identified for specific recommendations, it is recommended that they be managed in accordance with established causal analysis and issues management processes as appropriate.

### **B.5.1 Leadership Safety Values and Actions**

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

## **ORP**

### ***Positive Observations***

- Most interviewees agreed that if something is an immediate safety hazard, there is no question that safety takes priority over other activities.
- Interviewees expressed the opinion that there are always resources available to take care of safety issues.
- Some interviewees identified that management was supportive of the Organizational and Safety Culture Improvement Council.
- Among the four divisions in ORP, some interviewees indicated that the Nuclear Safety Division is the most systematic with respect to having a defined risk based process to quantify risk and how to accept the consequences of that risk for longer term activities.
- Generally, ORP interviewees do not perceive cost or schedule pressures in their work. Some indicated that there was pressure to produce some products, e.g., the safety design strategy (as required by DOE-STD-1189), but that the group received support to ensure an adequate review in the time allowed.
- Interviewees indicated that they often feel personal pressure to get resources aligned and get the job done.
- Most interviewees agreed that the Issues Management System (IMS), a corrective action that has been recently implemented, is a useful tool. Anyone can use it and can enter items anonymously.
- Changes in the award fee structure for the WTP contractor are generally viewed positively by ORP interviewees. Some rewards are now based on transparency and safety culture behaviors. Interviewees expressed the need to integrate more quality criteria into the rewards as well.
- Several interviewees indicated that the new senior manager had brought direction and leadership to the organization.

- Results from the BARS on Attention to Safety indicate that the majority of ORP management interviewees (85%) perceive that safety is a clearly recognized value across the organization.
- Results from the BARS on Time Urgency indicate that the majority of ORP management interviewees (85%) do not perceive schedule pressures while completing various tasks.

### *Areas in Need of Attention*

- Interviewees provided some examples of where decision making was not perceived to reflect the highest commitment to safety:
  - Many interviewees indicated their frustration with what they perceive to be the increased inappropriate downgrading or elimination of assessment findings by ORP management. Examples included:
    - An assessment had identified six Level 1 findings that were all downgraded to Level 2 and then presented to the contractor to decide if they were actually Level 1 findings.
    - An assessment initially resulting in Level 1 findings was reassigned to a different assessor and then cancelled even though the assessment had already had been performed and the findings identified.
    - Two additional recent assessments that were conducted had findings that were downgraded.
  - There is a perception among some staff that with the reorganization of ORP, more people are reporting to individuals who care more about cost and schedule than safety.
  - Several interviewees have questioned whether the role of safety in future planning is clearly defined, e.g., a decision on resuming construction in HLW was scheduled to be made in mid-February but many safety issues have not yet been settled.
  - Interviewees indicated that the safety margin management program for LAW is being completed with a corrective action plan that does not address margin of safety for safety systems. ORP staff indicated that they have not provided oversight.
  - Some interviewees expressed concerns about who decides the acceptable level of risk since everybody has a different interpretation of tolerance for risk. ORP senior management will ultimately decide, but interviewees expressed concern that they are not getting input from the subject matter experts on the staff.
- Many ORP interviewees expressed concern that with the new philosophy of being a part of the team (ORP and BNI), there will not be enough oversight of the contractor. Some interviewees assigned to conduct safety system oversight have not been able to do what they perceive their job to be, especially in LAW and BOP.
- Overall results on the BARS for Attention to Safety were lower among ORP respondents during this assessment than they were during the last assessment. They were also lower than the results for the BNI respondents on the same scale. This indicates that ORP respondents did not have a positive perception of the importance that safety has in their organization. This was especially true for the non-manager respondents.
- Perceptions around the allocation of resources are generally negative within ORP. Interviewees indicated that even where priorities are clearly defined, there is a need for additional staff to meet them. Issues are generally described as so big that personnel are unable to do their normal oversight activities.
- Results on the BARS for Resource Allocation were somewhat lower for ORP respondents during this assessment than during the last assessment and lower than the BNI respondents on this scale. However, for all groups, the perception of how resources are allocated is clearly not positive.
- Many interviewees expressed the opinion that while safety would not be compromised for schedule, they believed that quality might suffer to meet milestones. Interviewees identified that the Level 1 finding on the contractor's quality assurance (QA) program was assigned only because of issues at HLW. Interviewees expressed the perception that similar problems exist in LAW, but BNI is not

doing an extent-of-condition look at the program in LAW and neither is ORP directing them to do so. Many interviewees indicated they believe this is because of the pressure to start up LAW.

- Some ORP interviewees indicated that the pressure on the project is not cost or schedule since those have already been missed many times. The current pressure on finding technical solutions and making sure that risks are managed comes not from within, but from external stakeholders such as the DNFSB, the States of Washington and Oregon, and DOE Headquarters.

## **BNI**

### ***Positive Observations***

- Many BNI interviewees indicated that safety is a value on this project, not just a priority. They described safety as the foundation for all activities and that there is no trade off with safety for schedule. One example cited was when individuals were working in a space under a temporary floor cover, a large load was in the process of being placed on the floor cover, and work was paused while additional reinforcement was installed over the floor cover for the load.
- While the Team was on site, a wall board was inadvertently dropped. Work was stopped until a solution was found to prevent such an incident again, and recognition was given to the personnel working the job for doing the right thing.
- Almost all interviewees acknowledged that all employees are provided with whatever safety equipment is requested. Interviewees expressed the opinion that this was the safest site they had ever worked on.
- Interviewees and observations by the Team indicated that every meeting starts with a safety topic. Employees are encouraged to identify aspects of safety that can be put in procedures, and employees consider the job hazards analysis to be a valuable tool.
- Opportunities to discuss safety and identify issues were described by many employees, and some were observed by the Team. They included Safely Speaking, Zero Accident Council meetings, safety walkdowns, Plan of the Day meetings, etc.
- Interviewees identified that they can provide input and feedback on certain activities, and if their suggestions meet the codes that must be adhered to, the ideas are generally accepted. This had occurred for fall protection, first man up, and labeling of a fresh air duct for ventilation.
- Some interviewees indicated that they were not given deadlines but just given tasks and told to get it done right and safely. They perceived that the schedule could be moved rather than working towards deadlines.
- Other interviewees explained that if you overrun the schedule you will get help and that they understood that it is important for the quality in the work to be there.
- Many interviewees indicated that the pressures they face are mostly self-induced and not from senior management.
- Results from the BARS on Attention to Safety indicate that approximately 78% of the BNI interviewees who completed this scale do perceive that safety is a priority and value in their organization. This was an improvement from the results on the same scale in the 2011 assessment.
- Results from the Safety Scale on the electronic survey indicated that BNI/URS Corporation (URS) Non-Manuals had statistically significant higher scores on this scale than the Manual group did. This indicates that Non-Manuals have a more positive perception about the recognition of the value of safety in their organization than those in the Manuals group.

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

- Interviewees provided numerous examples of their perception that management gives mixed messages with respect to their commitment to safety:
  - Message is safety comes first, but still have to get certain quantities done.

- Message is safety first in meetings, but not always in the field.
- Safety message varies by foreman, by hallway directive (informal to a local location and therefore not consistent across WTP), and by behavior, e.g., interviewee described seeing management personnel jumping on a live load at four feet lift to test it; the foreman was aware of the incident, but nothing was ever done about it.
- Some interviewees described being told to do things safely and take the time to do it right but then get asked, why isn't it done yet?
- Some supervisors dissuade individuals from asking about a procedure because they don't want to have to answer questions or stop work.
- Engineering procedures have been signed off without feedback from the Engineering and Nuclear Safety (E&NS) group in violation of the project process for developing procedures.
- Supervision has attempted to get different people to do work refused by some as "unsafe" rather than correct the problem.
- Some reactions to safety related events are perceived as overcompensation for seemingly small issues, e.g. removal of razor knives from everyone because of one incident, and then other actions are taken to improve safe working conditions for which the hazards have not been analyzed , e.g., using fertilizer for ice melt.
- Many interviewees indicated their perception that the emphasis on safety is primarily focused on industrial safety and not nuclear safety.
- Many interviewees indicated that they perceive that the project is a training ground for BNI engineers, e.g., one engineer that had been on the project for a while and was near a deadline in his work was moved and four brand new engineers came in to replace him. Engineering is perceived by many to be the weak link in getting work done and often the lack of experienced engineering support results in further delays, e.g., foreman are showing engineers what they should be looking at.
- Some interviewees indicated that resource issues could have a potential impact on safety performance.
  - URS has the right skill set now for the vitrification process but most will be retiring before reaching the current milestone dates.
  - Some interviewees expressed concern over a high turnover rate within engineering (BNI management reported a 25% resignation rate within engineering the previous year).
  - Many interviewees would like to see more engineers back at the site and would like those who were moved to town to move back.
  - The formal procurement process is cumbersome (e.g., taking up to two months to procure AAA batteries).
  - Supervision would not purchase some tools required to fix some parts and therefore the craft had to build them to repair needed equipment.
  - Management moves superintendents around a lot and there is a perception that this is to train them on different crafts, and then transfer them to another project. Turnover in general across the project has been high across all organizational levels.
- The perceptions of the sense of time pressure are highly variable, depending on who it is and what they do:
  - Interviewees indicated that all concrete pours are milestones and those individuals directly involved with the pour feel a lot of pressure and work under the perception that completing a pour does come before safety.
  - Many interviewees indicated that the amount of pressure felt is dependent upon who the superintendent is. Superintendents make decisions based upon schedules because the perception is that is how they get their bonuses.
  - The perception of many interviewees is that the schedules that are developed are not realistic because those creating them forget how many real work hours are in a day, schedules are constantly overrun, there have not been any real consequences for not meeting schedules, and there is no real sense of urgency by most working on the project.

- Most interviewees indicate that time pressure is felt by the managers on the project but that it does not run through the entire organization.
- Some interviewees indicated that the foremen often take the pressure off the craft but that they see corners cut by others due to time pressure. In one example, interviewees described a situation where 10 feet in height were added to each HLW wall in the design, but because of the pressure to complete the pour, this change was not communicated to the concrete workers, so the concrete pipe was too short and the concrete pump could not be used. Instead, a concrete bucket suspended from a crane was used, putting the workers in an unsafe situation due to pressure to get the work done to meet a milestone. In another example, a crane was left out of the design for a building, so a hole had to be cut in the floor to allow crane access, thus changing the design.
- Some interviewees actually indicated that though they did not feel pressure, they felt as if they should. Some interviewees indicated that they perceive there is more pressure to slow down work just to cover hours.
- Data on the BARS for Resource Allocation indicated that only slightly more than 25% of the BNI respondents who completed this scale felt positively about the way the organization distributes its resources, including time, money, people, and equipment.
- Results from the BARS on Time Urgency indicate that a little more than half of the BNI interviewees who completed this scale (58%) do not perceive schedule pressures while completing various tasks.

## **B.5.2 Problem Identification and Resolution**

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

### **ORP**

#### *Positive Observations*

- Multiple mechanisms for identifying problems within ORP were described by interviewees, including talking with supervisors and managers, the ombudsman program, the employee concerns program (ECP), DOE Headquarters, IPT meetings, the Differing Professional Opinion (DPO) process, the IMS, the Hotline, various periodic meetings, and QA.
- Some interviewees described a “Hot 20” risk list with issues from the management system that were identified as high priority items.
- The “Grand Challenges Program” developed by the new senior manager challenges all employees to identify ways to save money.
- Some interviewees described efforts to become more proactive in identifying problems through the use of an integrated assessment schedule, more interactive IPT meetings, and meetings focused at looking three months out on the project.

#### *Areas in Need of Attention*

- Multiple reasons as to why problems may not be identified were described by interviewees. They included: not wanting to hold up progress, apathy since nothing in the past had been done about the problem, don’t know what the IMS is or how to use it, not knowing the direction that identifying the problem will take, getting assigned the problem, concern about impact on budget, everybody is overworked why bring up additional work, don’t want to get management involved.
- Several interviewees indicated that the geographic considerations of size and location can affect the adequacy of communication and information flow across ORP.

- Interviewees indicated that they perceive that often external reviews are the only way to make things happen.
- While the IMS is generally perceived by interviewees to be a positive step forward for problem identification in the ORP organization, several issues still need to be resolved for it to be fully effective.
  - Some interviewees indicated that the system needs more senior management support and encouragement and that issues should not be resolved outside the system.
  - Interviewees noted that there are too many issues in the IMS and nobody has enough time or resources to do much with them unless they are an imminent safety issue.
  - Several interviewees expressed the desire for ORP personnel to be more honest in their reporting and not worry that problems are a reflection on them. Sometimes ORP personnel are more likely to defend the contractor than risk having the contractor upset with them.
- Data from the BARS on Problem Identification and Resolution indicates that only about 18% of all ORP interviewee respondents believed that employees are encouraged to notify management of problems they observe and that there is a system that evaluates the problem and makes a determination regarding future action. This perception was held equally by ORP managers and non-managers.

## **BNI**

### ***Positive Observations***

- Most interviews identified that multiple mechanisms exist within BNI to report problems and that everyone is encouraged to do so. Mechanisms described included the Project Issues Evaluation Report (PIER) process, “safety speaks” process, reporting to the foremen and stewards, DOE Employee Concerns process, safety logbook, safety representatives; chain of command, Safety Education Through Observation process, Craft Safety Council, craft safety representatives, Bechtel safety personnel, and Project Management Team meetings. It is a stated management expectation to identify problems.
- Almost all interviewees described the use of Safety Task Analysis and Risk Reduction Talk (STARRT) cards, the automated job hazards analysis, and discussion during the Plan of the Day meetings to identify hazards for work activities.
- Some interviewees indicated that there were no inhibitors to identifying problems.
- Self-assessments were acknowledged by some interviewees as a good way to identify problems and to let management know about potential issues. For example, one self-assessment identified that a change in regulations would result in a different standard for protecting against silica hazards.
- Several interviewees indicated that individuals were encouraged to write up issues from lessons learned and to integrate them into the procedures.
- Some supervisors indicated that they are going out into the field together with their craft personnel to identify problems.
- Many interviewees acknowledged the efforts of the new Project Director in reinforcing and supporting the need for an effective corrective action program.
- The Team observed a good example of the questioning of allowing a work around in the PIER system. A suggestion was made to pull long-term PIERs (greater than 180 days) related to the new preliminary documented safety analysis (PDSA) punch list out of the system and put them on a separate punch list. The discussion included the idea that you shouldn’t close PIERs just because you move them somewhere else.
- Data from the BARS on Problem Identification and Resolution indicated that approximately 65% of the BNI interviewee respondents who completed this scale perceived that the organization encourages project personnel to draw upon knowledge, experience, and current information to

identify and resolve problems positively. This belief was held equally among BNI managers and non-managers.

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

- Interviewees and observations by the Team did identify problems with the problem identification and resolution processes at BNI that deserve additional attention:
  - Many interviewees indicated that they did not report medical injuries because they describe the process as an interrogation. A number of interviewees expressed their anxieties about having to be interrogated in “safety church” if they reported an injury or accident.
  - Several interviewees describe senior management as claiming to want to hear issues, e.g. quarterly luncheons, but then label the individuals who raise concerns in a derogatory manner.
  - Some interviewees indicated that when they identified an issue with a part that they needed to use to complete a job they were not listened to or respected for their knowledge. The request for a new part was refused and it took five months to rebuild the equipment.
  - Schedule constraints were identified by some interviewees as a contributor to problems not being reported.
  - Many interviewees complained that it takes too long to resolve issues and that reflects on the value that the organization places on problem identification and resolution.
- The value of the PIER process for BNI performance improvement is not yet being realized:
  - There are nine Level 1 findings currently open, and the effectiveness reviews on some of the closed items are not perceived to be very good.
  - Several interviewees indicated that they have received instructions from senior management about several PIERs that were written, indicating that they should not be included in the system because they reflect badly on the organization.
  - Interviewees describe that inexperienced people who cannot make decisions are being sent to the PIRB. They perceive this to be giving the wrong message about the value of the PIRB.
  - Several interviewees indicated it is difficult to get people to pay attention to the “little” issues, like organizational or programmatic problems, compared to larger technical issues.

### **B.5.3 Personal Accountability**

*All individuals take personal responsibility for safety.*

### **ORP**

#### ***Positive Observations***

- Some interviewees indicated that the continuing interaction with the contractor, updating the award fee for safety culture, and transparency are helping to define accountabilities.
- Some interviewees indicated that reporting is encouraged, acknowledged, and appreciated. Efforts focus on understanding the problem and finding a solution, less on attribution.
- Many interviewees indicated that they wanted to do a good job and want to see the project succeed.

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

- Many interviewees expressed concerns about the ever changing management with changing strategies and changing roles and responsibilities. A frequently identified concern was that the philosophy of the new management team has reduced the oversight role of ORP. Examples included:

- Award of a multimillion dollar procurement for equipment in LAW that no one in the ORP Engineering Group reviewed.
- Emergency generator contract issued for vendors, but vendors were not qualified; ORP requested review but BNI did not have any qualified personnel to qualify the vendor (Level 1 finding).
- ORP no longer involved in assessments, now part of Design Change Teams; when ORP comments, perception that BNI ignores ORP's comments.
- Project people are making changes to ORP findings.
- Perception that BNI has used ORP presence in meetings to indicate that ORP agrees with decisions that are made in the meeting.
- Perception that things are not properly planned and there is concern that document reviews will not be done properly once the project is rescheduled.
- Several interviewees indicated that there are inconsistencies in how people are held accountable in ORP. Individuals perceive that accountability strongly depends upon who your manager is and whether you would report something to them. The other reason it is perceived to be inconsistent is that it depends upon the nature of the work involved, whether it is oversight, access to facilities, and whether there are formal or informal expectations associated with the work.
- Most interviewees indicated that while roles and responsibilities may be defined at some level, there is a lot of ambiguity and lack of understanding at the worker level as to how things are to be done. The Team's observation of a staff meeting in ORP revealed uncertainty in what role the DOE participants in a joint meeting between BNI and DOE should take, support or oversight. The manager at the meeting took the issue as an action item to be resolved.
- Data on the BARS for Performance Quality indicates that only about 50% of the ORP interviewees who completed this scale perceive that project personnel take personal responsibility for their actions and the consequences of the actions. The BARS data also reflects low scores on commitment and pride in the organization.
- Scores on the Commitment Scale from the electronic survey validated the Performance Quality data. ORP personnel had statistically significantly lower scores on Commitment than any of the other WTP organizations. The perception of commitment within ORP is also lower now than it was in the 2011 assessment.
- Data on the BARS for Roles and Responsibilities indicates that less than 10% of the respondents to this scale have a positive perception of the extent to which facility personnel's positions and departmental work activities are clearly defined and carried out. Among the ORP non-managers, none of the respondents had positive perceptions about this behavior. The results on this scale are significantly lower than they were during the 2011 assessment.

## **BNI**

### ***Positive Observations***

- Many interviewees expressed the belief that individuals should hold themselves accountable and responsible for safety.
- Interviewees indicated that within some groups they automatically look out for each other, e.g., forgot to put up red tape, stopped, and corrected it.
- Interviewees perceive being held accountable through performance evaluations and ratings; work packages that include work and safety requirements; supervision, some of whom allow individuals to set their own schedule and then hold them to it; discipline if necessary; filling out STARRT cards in the morning; being aware of hazards; and rules and expectations handed out during orientation.
- Several interviewees indicated that they perceive that individuals would be treated better for reporting than if they ignored an issue.
- Some examples were provided where self-reporting was rewarded and did not result in disciplinary action, e.g., wrong calculation was self-identified in PIER with no repercussions; unacceptable

anchor bolts was a major issue involving significant rework, but the person identifying the problem was rewarded and did not experience any retaliation from raising the issue.

- For the most part, interviewees from the crafts indicated that their job descriptions and roles and responsibilities are clearly identified.
- Several interviewees indicated that the organizational structure change that moved the design authority out of project management was a positive move to enhance accountability.

### *Areas in Need of Attention*

- Accountability is perceived by many interviewees to be an issue across the different BNI groups. Some examples include:
  - Interviewees expressed a lot of variability about whether to report something or not. While some interviewees believed that individuals should report problems and described concern about getting into more trouble if it was not reported and later discovered (as mentioned above), others did not believe it would result in discipline.
  - Many interviewees indicated that variability in how individuals were held accountable resulted in double standards, primarily between Manuals and Non-Manuals (i.e., between craft and non-craft employees).
  - Some perceive that certain individuals are untouchable if they make a mistake, while others are easily dispensable.
  - Some interviewees indicated that they are afraid to make a move and make a mistake because they are usually blamed and reprimanded; others indicated a lot of subterfuge in trying to stay below the threshold and not having to report any issues.
  - Interviewees expressed that if there was an event, they often don't hear the outcome or know if anybody was held accountable.
  - Many interviewees expressed concern about their performance ratings if they reported a mistake.
  - The Team observed a lack of accountability for a backlog of corrective actions at a PIRB meeting. There is a perceived lack of accountability for corrective actions in timeliness, ownership, and quality, e.g., effectiveness reviews are not always as comprehensive as they need to be to accurately assess the corrective action's impact on changing performance.
- Some interviewees indicated that accountability can't be good enough at BNI because the same mistakes are made over and over.
- Some individuals expressed the belief that there really is no accountability and that "rework is not a big deal."
- Several interviewees indicated that one of the biggest problems with accountability is in BNI hiring subcontractors that are not bound to the same jurisdictional guidelines as the BNI craft. Many perceive that the subcontractors are brought in by BNI to get around the safety rules and therefore can get the job done quicker and cheaper.
- Many interviewees indicated problems with roles, responsibilities, accountabilities, and authorities. To many interviewees, it is not clear who is involved in the decision-making process and where the accountability for the decisions is held.
- Without clear documentation, interviewees indicated that managers set up processes and approaches to work by how they feel it should be done and it is not clear if this is in alignment with the overall organization's approach.
- Interviewees describe the relationship between BNI and URS on the contract as confusing. Reporting structures in some groups result in performance management issues that are not clearly defined by a formal agreement.
- Interviewees described "One System" (a program to eventually integrate WTP and Tank Farms into one contractor) as creating confusion because it was created without considering that programs between WTP and the Tank Farms are sometimes different (e.g., QA) and that some documentation is different and cannot be used between programs.

- Data from the BARS for Performance Quality indicated that only 40% of the BNI interviewed individuals who were asked about this behavior were positive in their perception that employees take personal responsibility for their actions and the consequences of the actions. It also includes the perception of commitment to and pride in the organization.
- Data on the BARS for Roles and Responsibilities indicates that only about 45% of BNI respondents on this scale have a positive perception of the extent to which facility personnel's positions and departmental work activities are clearly defined and carried out. BNI managers had more positive perceptions about this behavior than BNI non-managers.

#### **B.5.4 Work Processes**

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

#### **ORP**

##### *Positive Observations*

- Many interviewees identified the offsite retreats between ORP and BNI as indicative of efforts being made to improve coordination.
- Interviewees indicated that there has been more direct coordination among the Federal Project Directors, WTP, and Tank Farms, and through One System.
- Some interviewees identified the Electronic Suspense Tracking and Routing System (E-STARS) as contributing to a decline in coordination issues because it adds a level of formality to coordination and focuses on the work products.
- ORP interviewees indicated that they attend more meetings since the new senior management team was put in place and that this provides needed support to the projects and helps coordination with the contractors, e.g., HLW Core Team meeting.

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

- Issues with the planning and coordination of work identified by many interviewees across ORP often come from the many unrealistic schedules associated with the WTP Project which often result in a lot of wasted time and effort.
- Interviewees identified that there are still issues in coordination with BNI that impact the project. In particular, E&NS on the contractor side is often bypassed, and ORP's counterpart from that group has not been involved in several of the coordination activities between ORP and BNI.
- Among survey respondents, Coordination of Work is perceived to be negative across ORP and statistically significantly different from other WTP organizations. In particular, respondents in certain survey categories, i.e., Bechtel-Other, DOE General Services Support Contractors, and Subcontractor organizations) had more positive perceptions about the coordination of work than respondents in the Bechtel-HPT and DOE-Federal organizations.
- Data from the BARS for Coordination of Work indicated that less than 10% of the ORP respondents on this measure believe that when work plans are implemented, most departments and individuals know their roles and responsibilities. They also believe that departments work individually and usually do not have the acceptance or support of other departments, nor are all the involved parties included in the planning. This represented a significant decline since the 2011 assessment. ORP managers had a slightly more positive perception about this behavior than ORP non-managers.
- Data from the BARS for Formalization indicated that only about 50% of ORP interviewees who completed this scale believe that rules and procedures governing plant activities are readily available and that personnel are aware of the importance of procedural adherence. ORP managers had more

positive perceptions about this behavior than ORP non-managers. There was a slight decline in the perception of this behavior across ORP since the 2011 assessment.

## **BNI**

### ***Positive Observations***

- Several interviewees indicated that there was a more open and transparent working relationship now between BNI and ORP.
- Several interviewees described that the workflow between some departments was improved through an integrated schedule and formal procedures that govern processes, e.g., Startup has turnover procedures and system descriptions to transition from construction to startup to operations.
- Interviewees described several significant efforts for procedures including development, implementation, and review:
  - Almost all interviewees indicated that it is BNI policy to follow work instructions verbatim.
  - The work control process ensures that you have the latest version of any project document.
  - No existing BNI procedure set was initially available to deal specifically with WTP so a unique set was developed and is in continuous improvement. If a procedure is found to be ineffective, inconsistent, or in conflict with work, a PIER is written.
  - Procedure for first time use is a validation of the procedure to be sure that the work can be performed as described and that the system works as expected.
  - Procedures get reviewed every year to make sure they are applicable and meet the requirements of the project.
  - During this assessment, interviewees discussed the imminent rollout of a major revision to engineering procedures.
- Data on the BARS for Formalization indicates that 75% of BNI respondents on this scale have a positive perception of the extent to which there are well-identified rules, procedures, and/or standardized methods for routine activities as well as unusual occurrences. BNI non-managers had more positive perceptions about this behavior than BNI managers.

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

- Scheduling and planning are perceived by many interviewees to be problematic. Examples included:
  - Some groups attend more than one Plan of the Day meeting and yet when the workers get to the field the work doesn't happen and there does not appear to be any coordination.
  - Interactions among the trades is described by many interviewees as something that has to be worked out on their own and the success of that effort often depends upon the attitudes of the other craft involved.
  - Individuals often get called off from one job to another and then cannot complete their original job which frustrates others that have been involved in that work.
  - Scheduling of jobs sometimes results in work being physically conducted above others working, e.g. building scaffolds over area where electricians were working; multiple crafts working in the same small space at the same time.
  - Groups do not interface with the overall work flow on the project, e.g., QA scheduled an audit of Engineering during revision of engineering processes.
  - Poor planning on having the necessary materials to do a job, e.g., spent a lot of time trying to find scaffolding materials.
  - The Team observed a PIRB meeting where the scheduled presenters were unavailable due to poor planning and coordination between different groups.
  - The Team showed up at several planned meetings that were rescheduled or cancelled at the last minute due to unavailability of the meeting lead or key attendees.

- The way work is conducted and work packages are described as being different in the different facilities.
- Many interviewees expressed frustration at the non-alignment in work activities between Construction and Engineering, e.g., almost all of the material in the Materials Handling Facility for the PreTreatment Facility (PTF) is getting covered by mud and grit waiting for Engineering to fix a technical issue (hydrogen problem) that does not seem to have a path forward; took 900 days to decide to use an alternative warehouse for \$109 million of equipment when BNI ran out of space in regular warehouse.
- Engineering is often described as the barrier to getting work done, e.g., Engineering and Procurement have a Level 1 finding for receiving equipment that doesn't meet the specifications; the corrective action plan was not acceptable to DOE; Engineering and E&NS work flow interface on an organizational level often gets held up.
- Jurisdictional issues are described by many interviewees as the biggest issues in coordination of work. There are 14 different unions and the jobs that they can perform are clearly defined. If it is determined that trades are intentionally allowed to perform tasks outside their jurisdiction, foremen can be disciplined for allowing this.
- Interviewees describe distracting priorities between functional managers that do not take the project schedule into consideration, e.g., rolling out a corrective action for a Level 1 finding, a set of procedures, at the same time as the staff were in training.
- Interviewees indicated that Nuclear Safety (i.e., the E&NS group) would receive changes in the PDSA but would not always communicate with Engineering about the impact the changes would have on design.
- Interviewees indicated that subcontractors don't have to work to the same system guides that BNI does so that there can be two different sets of work instructions for the same system.
- Data on the BARS for Coordination of Work indicates that only 40% of the BNI respondents on this scale have a positive perception of the planning, integration, and implementation of work activities of individuals and groups. This represented a decline in the perception of this behavior since the 2011 assessment.

### **B.5.5 Continuous Learning**

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

#### **ORP**

##### *Positive Observations*

- Interviewees indicated that lessons learned are obtained from outside ORP and then distributed internally, both formally and informally. Lessons learned are obtained from the Energy Facility Contractors Group, Savannah River Site for documented safety analysis upgrades, and the DOE database.
- Some interviewees perceive the enhanced cooperation with BNI as another means to share lessons learned.

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

- Interviewees indicated that the DNFSB requested ORP to enhance its reporting process. Many perceive that this has only created more formality and more metrics rather than opportunities to learn.
- Interviewees could not recall learning from successes. They expressed the belief that DOE does a great job at communicating failures, but not successes.

- Data on the BARS for Organizational Learning indicated that approximately 40% of ORP interviewee respondents believed that while the organization usually holds review sessions to discuss operating problems and attempts to uncover solutions to past difficulties, the information is generally only communicated to the population when it concerns significant activities. This perception has not changed since the 2011 assessment.

## **BNI**

### *Positive Observations*

- Interviewees described multiple mechanisms to communicate operating experience and lessons learned. These include weekly meetings, awards, recognition opportunities, newsletters, PIERs, trend process, IPT meetings, all hands meetings, leadership team meetings, training, procedure changes, DOE lessons learned, Bechtel lessons learned, and PIRB.
- Interviewees indicated that external and independent reviews, such as the Secretary of Energy's technical teams, have identified significant issues that WTP is learning from, e.g. mass and energy balance, PT off-gas.
- Interviewees described internal initiatives that they perceive that BNI is using to try to improve their performance. These include the corrective action program, self-assessments, trending program, and an integrated review plan for 2014.
- Several interviewees indicated that a goal of the new WTP project manager is for WTP to become more of a learning organization.
- Interviewees described how a setup for flushing in the LAB worked well and some of the individuals involved were then moved to LAW to try the same setup. Interviewees described this as an example of learning from success.
- Some interviewees discussed on how post job briefing minutes are incorporated into test packages. In particular, the procedure for grounding on medium high voltage incorporated lessons learned on taking off the grounds and this became part of the lockout/tagout permits as well.

### *Areas in Need of Attention*

- Many interviewees indicated that they perceive that BNI does not learn from successes, only from failures. Interviewees indicated that seldom is a critique held on a successful project.
- The Team observed a meeting during which it was identified that BNI did not meet its 2013 performance goals. There was no discussion on what lessons were learned, who was being held accountable, and what consequences there would be.
- Many interviewees perceive BNI as being reactive to events or information and not really learning from them. Examples included:
  - Overreaction to a few small events resulted in the "Stop the Drop" slogan and a change in the type of safety glasses.
  - A "knee jerk" reaction was perceived in the response to an event with a grinder wheel where the individual slipped and was injured. There was nothing wrong with the wheel, but all wheels were removed from use.
  - Lack of communication on the outcome of PIERs.
  - Insufficient time devoted to identifying ways to improve. For example, the perception is that BNI received the Level 1 finding on QA because problems are being bandaged, rather than fixing the processes.
  - After 13 years, same problems are still being revisited.
- Data on the BARS for Organizational Learning indicated that only 42% of the BNI respondents to this scale had a positive perception on the extent to which project personnel and the organization use

knowledge gained from past experience to improve future performance. In particular, less than 20% of the BNI managers who responded to this scale had a positive perception about this behavior.

### **B.5.6 Environment for Raising Concerns**

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

## **ORP**

### ***Positive Observations***

- Interviewees identified multiple mechanisms available to identify safety concerns, e.g., supervisors, managers, ECP, human resources, DPO, and Hotline.
- Interviewees acknowledged that the new senior management team at ORP has made improvements in accepting concerns raised specific to project technical issues.
- The statement that management does not tolerate retaliation of any kind for raising concerns was agreed to by approximately 80% of the ORP survey respondents. While not statistically significantly different, only 65% of respondents in the ORP Nuclear Safety Division had positive perceptions about this statement.
- Among survey respondents, approximately 80% agreed with the statement that everyone in the organization is responsible for identifying problems. While overall this represents a high percentage of people agreeing, it still indicates that approximately 20% of the population did not completely agree with this statement. All survey respondents in the Nuclear Safety work group believed this statement to be true.

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

- Some interviewees perceived that the new senior management team at ORP has not made improvements in accepting concerns raised specific to cultural issues.
- Overall, only 30% of all ORP survey respondents feel that they can openly challenge decisions made by management. Respondents in the Contract Specialist/Budget/Finance/ Project Control, General Engineering/Physical Scientist, Program Manager, and Administrative work groups feel most negatively about being able to challenge decisions. Only 65% of managers who responded to the survey feel positively about being able to openly challenge management decisions.
- Approximately 58% of survey respondents agreed with the statement that they feel that they can approach the management team with concerns. Respondents in the Contract Specialist/Budget/Finance/Project Control Specialist, General Engineering/Physical Scientists, and ORP other groups believed this to a lesser degree than respondents in the other work groups.
- Only slightly more than 50% of survey respondents agreed with the statement related to management wants concerns reported, and only 40% believe that constructive criticism is encouraged. Work group differences were largely in the same direction described for the other responses.
- Some interviewees indicated that they perceived a chilled environment at ORP and they did not believe that ECP concerns and DPO issues were always addressed or resolved in a timely manner. Additionally, some interviewees described being told by supervision not to write a DPO because it would be a career limiting decision.
- Some interviewees explained that they had been “warned” by supervision not to say certain things because it could result in termination, e.g. emergency turbine generator commercial grade dedication.
- Interviewees confirmed the survey data results indicating there is a need within ORP for management to proactively demonstrate that they want concerns raised. Interviewees believe that

management needs to set clear expectations around respect for dissent and individual opinions and to demonstrate their commitment by modeling the expected behaviors.

- While some interviewees indicated that the number of ECP concerns had gone down, other interviewees indicated that they did not trust or use the ECP process if they had a concern. Some interviewees described not raising the concern at all while others looked to different mechanisms to resolve their issues.
- Some organizational work groups had consistently more disagreements with several survey statements related to SCWE than other groups. In particular, the Contract Specialist/Budget and Finance/Project Control Specialist and the General Engineering/Physical Scientist work groups tended to either disagree or score lower than other work groups on the majority of the statements related to SCWE.

## **BNI**

### ***Positive Observations***

- Most interviewees clearly understand the mechanisms available to identify safety concerns, e.g., supervisors, managers, safety representatives, ECP, human resources, and Hotline.
- Several interviewees indicated that people were encouraged to report safety concerns.
- Interviewees indicated that everyone had SCWE training last year.
- Among survey respondents, approximately 76% of BNI and 80% of URS agreed with the statement that everyone in the organization is responsible for identifying problems. While overall this represents a high percentage of people agreeing, it still indicates that approximately 20-24% of the population did not agree with this statement. Survey respondents in the Non-Manual Business Services and Office & Administrative Services (O&AS) work groups believed this statement to be true to a lesser degree than respondents in the other work groups.

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

- Overall, only 45% of all BNI/URS survey respondents feel that they can openly challenge decisions made by management. While not statistically significantly different, respondents in the Non-Manual O&AS, Information Systems & Technology, Organizational Effectiveness, and Nuclear Safety and Plant Engineering work groups feel most negatively about being able to challenge decisions. About 70% of managers and supervisors/leads who responded to the survey feel positively about being able to openly challenge management decisions.
- Approximately 58% of BNI and 62% of URS survey respondents agreed with the statement that they feel that they can approach the management team with concerns. Respondents in the Non-Manual O&AS, Organizational Effectiveness, Project Controls and Plant Operations and Commissioning work groups believed this to a lesser degree than respondents in the other work groups.
- Approximately 58% of Bechtel and 68% of URS survey respondents agreed with the statement related to management wants concerns reported. Non-Manual work group differences were largely in the same direction described for the other responses.
- Only 46% of BNI and URS survey respondents believe that constructive criticism is encouraged. Again, Non-Manual work group differences were also largely in the same direction described for the other responses.
- The statement that management does not tolerate retaliation of any kind for raising concerns was agreed to by approximately 72% of the BNI and 80% of the URS survey respondents. While not statistically significantly different, the Non-Manual O&AS, Organizational Effectiveness and Operations and Commissioning work groups had less positive perceptions about this statement.
- In general, across all of the SCWE questions, the Manual work groups had statistically significantly more negative perceptions about these behaviors than the Non-Manuals. Fairly consistently across

the SCWE questions on the survey, the Teamsters, Ironworkers, and Operating Engineering work groups had the more negative perceptions compared to the other craft.

- Among employee categories the managers and supervisors/leads had statistically significantly more positive perceptions than the craft. Somewhat surprising is that the craft supervision respondents looked more like the craft in their responses to the survey questions than to the supervisors/leads and were statistically significantly more negative than the managers and supervisors/leads on many survey questions.
- Some interviewees perceive a double standard between workers and management with respect to how individuals are treated for raising safety concerns. Individuals describe a perceived lack of respect, especially for the craft, from management in not being interested in their opinion since they are often not as well educated as them.
- Interviewees perceive that investigations conducted after an event are really focused on the individual(s) involved and in attributing blame rather than really trying to understand what happened and why it happened.
- Several interviewees indicated that there are negative implications for raising safety concerns and therefore people choose not to speak up:
  - There is a strong perception that ratings and evaluations will be affected (e.g., an individual brought up an issue during Safely Speaking, and although the issue was resolved, the individual's rating went down almost immediately).
  - Management may reject an application to sit on a safety committee because they don't really want to hear all the problems that they know a particular individual will raise.
  - Many believe that there is no confidentiality or anonymity once you go to supervision.
  - If an injury is self-reported, it counts against your evaluation and gets talked about all over the site.
  - Anonymous PIERS are used a lot because of fear of retaliation.
- Some interviewees indicated a lack of trust in the ECP. They perceive that it is not anonymous and that information is shared without their permission. A few interviewees had the same reservations concerning the anonymous PIERS.

### **B.5.7 Effective Safety Communication**

*Communications maintain a focus on safety.*

#### **ORP**

##### *Positive Observations*

- Interviewees identified multiple mechanisms for communication in the ORP organization:
  - Bi-weekly meetings with the contractor
  - Meetings with the senior Federal manager
  - Employee meetings, IPT meetings, all hands meetings, and emails are used regularly for communication
  - Information through Plan of the Day meetings
  - Weekly status meetings.
- Some interviewees perceive that communication has improved between ORP and the contractor, between some of the ORP groups, and outside of ORP with external stakeholders, since the new senior management team has arrived.
- Horizontal communication within ORP is perceived by interviewees to be fairly effective.

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

- Several interviewees identified communication as a significant issue for ORP:
  - Communication is perceived to be better within the senior management level than between the senior management level and ORP groups.
  - The Framework Document was an attempt to communicate, but it is at a very high level and it was six months before many of ORP staff heard about it.
  - A lot of stove-piping in ORP with little cross communication. Individuals are often surprised by recommendations and conclusions in their technical area that they were not consulted on.
  - Not much communication from the senior management team, more from personal connections, Facility Representatives, and the contractor.
  - Impediments to communication are in vertical communication. Information filters down to a certain level and then stops.
- Interviewees expressed the concern that having ORP spread across five different facilities exacerbates the communication issues.
- Some interviewees expressed the belief that the contractor has more access to the senior DOE managers than the Federal employees do. Interviewees indicated that some of the DOE senior managers don't come out to the site, and some interviewees have never met some of the new senior managers.
- Data from the BARS on Communication indicated that only approximately 45% of the ORP interviewee respondents who completed that scale had positive perceptions about the exchange of information, both formal and informal, between the different departments or units in the project, including the top-down and bottom-up communication networks.

## **BNI**

### ***Positive Observations***

- Multiple mechanisms for communication were identified by BNI Interviewees. They included:
  - Weekly meetings
  - Staff meetings
  - Emails (computer access for all)
  - Safety log book
  - Safely Speaking/Safety Church meetings
  - Coordination meetings
  - Plan of Day meetings/IPT meetings
  - Face to face interactions
  - Safety representatives
  - PIERs
  - "Peggy's Posts" (communications from the BNI WTP project director)
  - Case studies on website.
- Some interviewees indicated that they believe that they are pretty well informed about what is going on around the Project.

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

- Many interviewees identified barriers to effective communication within BNI. Examples included:
  - Real time events are not quickly communicated (e.g., from Tank Farms to WTP).
  - Many decisions have to go through multiple layers of management to get an answer from engineering.
  - When craft asks supervision a question the decision usually has to be made off site and is often only first communicated 3 to 6 weeks later.

- Information changes as it flows down in the organization to the point that sometimes it is not the same message as it was at the top of the organization, e.g. issues with procurement.
- Meetings vary by foremen (e.g., one can be done in 2 minutes while others take 40 minutes); don't always get same information.
- Sometimes supervisors are in so many meetings they don't get back to the office during the day and if they have important information it may be missed by their staff.
- There is a disconnect in the communication between town and the site. It is generally only one way from the town to the site. Interviewees perceive that the individuals in town are not interested in what the site has to communicate.
- No engineering contacts on night shift so generally just get written turnovers.
- A prime barrier is that there are two different companies involved, URS and Bechtel, with different missions. URS has an operational focus and has often had to explain many things that are different from the way BNI would do it, e.g. hiring.
- Interviewees indicated that sometimes information is intentionally withheld from them. Case in point was the announcement about the new Project Director. The Weapons Complex Monitor was not available on the BNI Intranet so that word of the appointment would not get out to the employees before it was formally announced by BNI management.
- Interviewees expressed the belief that the change with the engineering procedures was not as good as it should have been because of weaknesses in BNI's communication process. There had never been change management on such a large scale.
- Data from the BARS on Communication indicated that only approximately 40% of the BNI interviewee respondents who completed that scale had positive perceptions about the exchange of information, both formal and informal, between the different departments or units in the project, including the top-down and bottom-up communication networks. Managers who responded to this scale had slightly more positive perceptions of communication than non-managers.

### **B.5.8 Respectful Work Environment**

*Trust and respect permeate the organization.*

#### **ORP**

##### *Positive Observations*

- Results from the Communication Trust Scale on the electronic survey indicated that ORP survey respondents had fairly positive perceptions regarding the freedom they feel to discuss the problem and difficulties in their jobs with an immediate supervisor without jeopardy. There was no change in these perceptions since the 2011 assessment.

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

- The overall organizational culture style exhibited by the ORP organization can be characterized as a Constructive Cultural Style, indicated by the slightly higher scores on questions related to the sensitivity to others, humanistic values, achievement and self-actualization on the electronic survey. However, since the 2011 assessment, these scores decreased and those behaviors associated with a Passive Defensive Cultural Style increased. This style indicates the belief that behaviors associated with the values of being dependent upon others to act, to seek approval from superiors, to always behave in a conventional way and not "rock the boat," and to avoid responsibility because of the fear being punished if a mistake is made, are those valued by the organization and required to succeed.
- Survey respondents in ORP had statistically significantly higher scores on the Passive Defensive Cultural Style than those in the BNI/URS groups.

- The BNI/URS Non-Manual group had the most positive organizational profile while the ORP group had results which were statistically significantly more negative and similar to the BNI/URS Manual group.
- No statistically significant differences were obtained within the ORP organization among employee categories on the Passive Defensive Cultural Style Scales. This indicates that all ORP survey respondents had very similar perceptions about these behaviors.
- Results obtained on the Communication Accuracy Scale from the electronic survey indicated that ORP survey respondents had less positive perceptions of the accuracy of information that they receive from other organizational levels (superiors, subordinates, and peers) than they did in the 2011 assessment.

## **BNI**

### *Positive Observations*

- The overall organizational culture style exhibited by the BNI/URS organization can be characterized as a Constructive Cultural Style, indicated by the slightly higher scores on questions related to the sensitivity to others, humanistic values, achievement and self-actualization on the electronic survey. While not statistically significantly different from the ORP survey respondents, the BNI/URS respondents had more positive perceptions about these behaviors than the ORP respondents did.
- Results from the Communication Trust Scale on the electronic survey indicated that BNI/URS survey respondents had positive perceptions regarding the freedom they feel to discuss the problem and difficulties in their jobs with an immediate supervisor without jeopardy. While not statistically significantly different, the BNI/URS scores on this scale were lower than that of the ORP survey respondents.

### *Areas in Need of Attention*

- Interviewees, especially among the craft groups, described perceiving a lack of respect for their opinions by some members of the Non-Manual groups and management.
- Results obtained on the Communication Accuracy Scale from the electronic survey, while not statistically significantly different, indicated that BNI/URS survey respondents had slightly less positive perceptions of the accuracy of information that they receive from other organizational levels (superiors, subordinates, and peers) than ORP survey respondents.
- On both the Communication Trust and Communication Accuracy Scales, BNI/URS Non-Manual respondents had statistically significantly more positive perceptions than BNI/URS Manual survey respondents.
- On both Communication Scales, among employee categories across the WTP organization, craft supervision had statistically significant more negative perceptions than managers and supervisors/leads.

### **B.5.9 Questioning Attitude**

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

## **ORP**

### ***Positive Observations***

- Some interviewees indicated that the processes for raising concerns have somewhat improved (e.g., IMS, DPO).

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

- Results from the electronic survey administered at ORP indicated a fairly negative perception among most survey respondents about management's interest in having concerns reported and in the ability to openly challenge management's decisions.
- Many interviewees did not perceive support from upper level management for their identification of problems or challenging of conditions and activities.
- While some processes for raising concerns may have improved and while they may be compliant with the requirements, interviewees indicated they are generally slow and often don't involve the person who initiated the action.

## **BNI**

### ***Positive Observations***

- Interviewees from all BNI/URS organizational groups identified several mechanisms to challenge decisions and identify discrepancies.

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

- Results from the electronic survey administered at BNI/URS indicated a fairly negative perception among most survey respondents about management's interest in having concerns reported and in the ability to openly challenge management's decisions.
- Many interviewees in certain BNI organizational groups had indicated that as a result of the fear of retaliation as well as the way they perceived that some supervision and management treated them they no longer felt comfortable to challenge existing conditions or activities.

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