

**Independent Oversight Assessment of
Safety Culture at the
U.S. Department of Energy
Office of Environmental Management
Headquarters**



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**Office of Safety and Emergency Management Evaluations
Office of Enforcement and Oversight
Office of Health, Safety and Security
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**Independent Oversight Assessment of Safety Culture at the
U.S. Department of Energy Office of Environmental Management Headquarters**

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Acronyms

BARS	Behavioral Anchored Rating Scales
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
EM	U.S. Department of Energy Office of Environmental Management
EM-HQ	U.S. Department of Energy Office of Environmental Management - Headquarters
HSS	Office of Health, Safety and Security
NRC	Nuclear Regulatory Commission
WTP	Waste Treatment and Immobilization Plant

1. Introduction

The U.S. Department of Energy (DOE) Office of Enforcement and Oversight (Independent Oversight), within the Office of Health, Safety and Security (HSS), conducted an independent assessment of the safety culture¹ at the DOE Office of Environmental Management (EM) – Headquarters (EM-HQ). The primary objective of the evaluation was to provide information regarding the status of the safety culture at EM-HQ. The data collection phase of the assessment occurred in April and May 2012.

The EM mission is to complete the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research. EM has management responsibility for several site offices and major DOE sites, including various cleanup sites, operating facilities, and construction projects.

The Defense Nuclear Facilities Safety Board (DNFSB) issued DNFSB Recommendation 2011-1, *Safety Culture at the Waste Treatment and Immobilization Plant*, on June 9, 2011. In the Department's Implementation Plan dated December 27, 2011, the Secretary of Energy directed HSS to perform safety culture assessments of five major ongoing large nuclear design/construction projects to determine the extent of condition of safety culture concerns such as those identified at the Hanford Site Waste Treatment and Immobilization Plant (WTP). EM has line management for two of the five other ongoing large nuclear design/construction projects cited in the Secretarial commitment: the Salt Waste Processing Facility Project at the Savannah River Site and the Sodium Bearing Waste Treatment Project at the Idaho Site. HSS, in coordination with EM, decided to also perform a safety culture assessment of the EM-HQ organization because of its line management role for the WTP and two other large nuclear design/construction projects.

Before starting the assessment, HSS enhanced its capability to assess safety culture processes and capability, 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.

¹ 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.

2. Scope and Methodology

This Independent Oversight assessment covered EM-HQ including Federal employees and contractor personnel assigned to support EM-HQ. Many of the EM personnel at site offices and contractors supporting EM at major construction projects are covered by the safety culture assessments of WTP and EM's two other ongoing large nuclear design/construction projects.

An experienced HSS manager led the assessment. 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. Onsite data collection was conducted by a team consisting of HSS personnel and an external independent safety culture expert. 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 a methodology for the assessment that provides 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 group 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 EM-HQ Federal and contractor employees.

The evaluation was conducted using the same methodology that aligns with the current 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 and framework for the safety culture assessment.

3. Results and Conclusions

The safety culture 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 conclusions about the status of the safety culture to facilitate the identification of improvement strategies. The remainder of this section presents the conclusions of the independent safety culture experts as they apply specifically to EM-HQ.

Efforts by the new senior management of EM-HQ are clearly being recognized by the organization. The reorganization of the Office, the Employee Improvement Teams, the Integrated Project Team Approach and more open communication and accessibility were identified by most interviewees as new and positive initiatives towards changing the work environment.

There is a very narrow focus within EM-HQ as to what safety means. Most interviewees during this assessment assumed industrial safety when discussing safety. The lack of visibility and importance of the DOE ECP combined with a poor sense of ownership and accountability for safety is problematic. Most interviewees believe that EM-HQ's Office of Safety, Security, and Quality Programs (EM-40) is solely responsible for safety.

There is a strong sense of pressure within EM-HQ of being driven by external stakeholders. Consequently there has been a shift in the relationship with the sites to facilitate the meeting of deliverables. EM-HQ is now focusing on assistance, advocacy, and assessment as compared to its greater emphasis on the oversight function in the past. While some oversight remains through assessments, it is more collaborative than in the past. Combined with their concerns that the Office of Health, Safety and Security has not been as conservative in its policy and oversight roles as it should, there is a perceived sense by some EM-HQ staff that insufficient oversight is being conducted by EM-HQ and DOE HQ in general over the field activities.

The data collected during this assessment indicates a homogeneous organization with respect to the perceptions and beliefs across the EM-HQ Organization. The lack of statistically significant differences across work groups and employee categories on most of the measures being evaluated is indicative of a pervasive culture. Combined with the perception by employees' sense of tenuousness with several managers in acting positions, and the reductions in staffing mandated by budget decisions, the effective implementation of many of the new initiatives (cited above) in EM will be a challenge.

4. Recommendations

A healthy safety culture is most often found within an aligned organization that has effective processes, and motivated people. The following recommendations provide EM-HQ with initial steps that the Independent Safety Culture Evaluation Team believes are necessary to effectively implement and execute actions that will result in improved safe and reliable performance.

1. As the EM Organization transitions into its new structure, it should seek to provide more clarity regarding the roles and responsibilities of each of the Office's units. More formalization around the processes and procedures that are expected would also be beneficial for those trying to implement new initiatives. The oversight function in particular should be clearly identified and defined going forward.
2. EM-HQ Senior Management should make a concerted effort to broaden the understanding of how safety is defined and how it applies to all aspects of the Office's activities. The internalization of a healthy safety culture will only be accomplished when the role of safety is understood as a way of doing business, regardless of what the business is.
3. While not an issue necessarily specific to EM-HQ, as a major office in DOE there should be an effort to support the need for greater visibility, promotion, and acceptance of an Employee Concerns Program (ECP) for HQ.

EM-HQ should evaluate the results of this Independent Oversight safety culture report in its entirety, including the Positive Observations and Areas in Need of Attention provided in Appendix B, and the above conclusions and recommendations. In addressing improvements, the Areas in Need of Attention should be considered and used as examples for an action that would address a behavior that would help several if not all of these points. 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 Area in Need of Attention 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 and initiate appropriate, processes as appropriate.

Appendix A
Supplemental Information

Appendix A Supplemental Information

Dates of Review

Scoping Visit	March 16, 2012
Onsite Data Collection:	May 14-18, 2012
Survey Open Period	April 11-27, 2012
Closeout:	July 6, 2012

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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:

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 and intervention of human performance strategies in various applications, including nuclear facilities. For the last 23 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.

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 Evaluation of Safety Culture at the U.S. Department of Energy Office of Environmental Management Headquarters

Independent Safety Culture Evaluation Team:

Dr. Sonja B. Haber, Consultant, HPA

Dr. Deborah A. Shurberg, Consultant, HPA

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B.1 Introduction

This Appendix describes the results of an independent evaluation of the existing Safety Culture at the Department of Energy (DOE) Headquarters Office of Environmental Management (EM-HQ). The population of the evaluation was all employees, federal and long-term (worked on a regular basis for greater than six months) contractors, assigned to EM-HQ. The evaluation was conducted during April and May 2012. The primary objective of the evaluation was to provide information regarding the status of the safety culture traits at EM-HQ.

The evaluation was conducted using the same methodology that aligns with the current U.S. Nuclear Regulatory Commission (NRC) procedures for independent safety culture assessment. 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 (INSAG-15, 2002; INPO Principles for a Strong Nuclear Safety Culture, 2004; NRC Inspection Manual 0305, 2006). The NRC and its stakeholders have recently agreed upon nine traits which are viewed to be necessary in the promotion of a positive safety culture. These include:

- Leadership Safety Values and Actions
- Problem Identification and Resolution
- Personal Accountability
- Work Processes
- Continuous Learning

- Environment for Raising Concerns
- Effective Safety Communication
- Respectful Work Environment
- Questioning Attitude.

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

Most of the methodology used in this evaluation was originally developed with the support of the U.S. Nuclear Regulatory Commission (1991) to assess the influence of organization and management on safety performance. The methodology entails collecting a variety of information that is largely based upon the perceptions of the individuals in an organization, 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 evaluation was defined to include all employees, federal and long-term contractors, assigned to EM-HQ. The Safety Culture Data Collection Team was on site at EM-HQ during May 2012. 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 April 10 to 27, 2012.

The Safety Culture Data Collection Team was used by the Independent Safety Culture Evaluation Team to assist in collecting onsite data and included HSS personnel from the Office of Enforcement and Oversight and the Office of Environmental Protection, Sustainability Support & Corporate Safety Analysis. The HSS staff had been trained on applying data collection techniques and conducting focus group interviews.

This safety culture evaluation is a 'point in time' snapshot of the EM-HQ. Although the team recognizes that the EM-HQ may be making organizational and process changes to continue improving safety culture since the point in time at which the evaluation was conducted, the team has not evaluated the impact of those actions. Therefore, changes that have occurred subsequent to the time of the evaluation 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 EM-HQ, (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 evaluated were identified from the information collected during this analysis.

Documentation Review

During the Data Collection Team's activities, a wide variety of documents were reviewed including DOE orders, policies, and program documents related to the scope of the evaluation. EM-HQ organizational charts, interoffice memoranda, and applicable standards were also reviewed.

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 & 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 Questions from 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 Evaluation Team selected a set of questions to gather information related to the safety culture traits from the organizational behaviors identified from the Functional Analysis.

A total of 20 individual interviews and 8 focus groups were conducted as part of the assessment. A total of 59 individuals were involved in one these activities, with 20 individuals being individually interviewed and 39 participating in focus groups. Each interview lasted one hour and each focus group lasted approximately one and a half hours. A few less formal follow-up interviews were conducted to provide further clarification when necessary.

The Behavioral Anchored Rating Scales (BARS) were administered to most individuals who participated in the structured interviews and/or focus groups. 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 234 BARS were collected representing 10 organizational behaviors.

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 Evaluation, a few observations were conducted. The data represent observations from the EM Weekly Meeting with the Deputy Assistant Secretaries, an EM-41 Office Director Meeting with Staff, and an EM-1 Operations 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. Portions of the survey used in this evaluation have been administered previously by the Independent Safety Culture Evaluation Team Lead at over 50 different organizations.

A total population of approximately 406 personnel was invited to participate in the survey of which 285 actually completed the survey, representing a response rate of 70.2%. While this response rate is considered to be acceptable for the purposes of drawing representative conclusions regarding perceptions and attitudes about the work environment, there was one DOE-EM-HQ Office which had a response rate of 44.9% (EM-70), as well as two additional DOE- EM Offices which had response rates of 61% and 61.6% (EM-60 and EM-50, respectively). Lower than desirable response rates in these offices indicate that conclusions drawn from the survey data for these three offices should be interpreted cautiously.

B.5 Results

The results presented below summarize the insights gained from the evaluation 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. 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. In addressing improvements, the Areas in Need of Attention should be considered and used as examples for an action that would address a behavior that would help several if not all of these points. It is not the intention that each Area in Need of Attention result in a corrective action as would occur with an Area for Improvement. Developing a massive amount of corrective actions only perpetuates a compliance mentality, which is not conducive to creating and promoting a healthy safety culture.

B.5.1 Leadership Safety Values and Actions

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

Positive Observations

- Several interviewees provided indications of their perception that the current EM Senior Management is more committed to safety than the previous management was. Examples included:
 - Safety is now listed as the number one goal in EM's Annual Performance Plan; it had previously been listed as the fifth goal;
 - There is a perception that safety has become the first concern, ahead of production.
 - Everyone is encouraged to be responsible for safety.
 - Efforts are being directed at putting a balance on project management to be based on quality and safety versus cost and schedule.

- No undue pressure by management.
- While schedule pressure always exists, it is the response that indicates the appropriate balance; an appropriate response was perceived to be made at IWTU by slowing down the project to better understand the issues.
- Input from the field was requested to engage more people in the overall EM budget position and to encourage thinking about more than just their particular site.
- Interviewees indicated that performance management plans have a safety expectation to be graded.
- Some interviewees indicated that if management is kept informed of deadlines that may be missed, there are no negative repercussions, e.g., correspondence deadlines with the Defense Nuclear Facilities Safety Board.
- Some interviewees perceive the role of EM-HQ to isolate the sites from the time pressures that HQ has; consequently, they believe that the sites do not perceive the pressure for information.
- Interviewees recognize that more resources are needed on the federal side for oversight of safety, work planning and work control at the sites.

Areas in Need of Attention

- Many interviewees expressed a very narrow focus of safety. Examples included:
 - Some Senior Managers indicated that they do not perceive that they have any direct responsibilities for safety and that the site representatives have the interest in following safety issues.
 - There is a pervasive belief that EM-40 owns safety and that the Mission Units do not fully understand their roles and responsibilities with respect to their interactions and integration with the field.
 - There is the perception that there are no safety issues at HQ, only building safety issues.
 - Interviewees in some Mission Units don't perceive that they have a direct impact at the sites with respect to day to day safety operations, but rather have oversight and indirect impact on safety through DOE Orders.
 - Interviewees that do not have direct contact with the field do not perceive a role in addressing safety.
 - Some interviewees did not understand why this assessment was being done at HQ.
 - Some interviewees perceive that HQ is about policy and resources and that work is done by contractors, so safety incidents are by contractors, not by the federal employees.
 - There is the perception that only the EM-40 has the responsibility to implement the recommendations from the DNFSB.
- Statistically significant differences were obtained between the EM-HQ Work Groups on the Perception of Hazard Scale. Respondents in EM-40 had significantly higher scores on this scale than any of the other groups supporting the idea that others perceive EM-40 as responsible for safety.
- Several interviewees indicated that their informal relationship to EM-40 based upon their knowing or having worked with individuals in the office has been the mechanism that has gotten the office involved with appropriate issues, e.g., WTP conference calls on the status of the implementation of the DNFSB's recommendations.
- Some interviewees do not perceive that the Office of Health, Safety and Security has been conservative enough in its policy and oversight roles with respect to safety issues because of the production mentality of the PSOs. An example concerning deposition velocity was described which basically was perceived as HSS not promoting a conservative approach to the issue.
- Some interviewees indicated that EM-HQ has not done a good job at managing differing professional opinions (DPOs) and some have the perception that consensus thinking has become too much of a value. Some individuals described examples of how the DPO process has been perceived to be used to allow the sites to do what they want instead of what might be technically supported.

- Many interviewees perceive that there are too many urgent deadlines on too many things. Some examples provided include
 - Deadlines in support of Recommendation 2011-1 are superseded by demands of EEOC (U.S. Equal Employment Opportunity Commission) which take priority over DOE ECP because of the potential consequences that can be issued to DOE by EEOC for lack of timely action.
 - Response to requests from external stakeholders and senior management. Things have to be done immediately or sooner.
- Many interviewees indicated that the Waste Treatment Plant Project is significantly impacting all decision making within EM and the significant 2 million dollar per day expense of WTP is pulling resources away from other areas.
- Interviewees expressed the belief that there is an honest desire to do a risk based budget but that politics plays the significant role in budget decisions. e.g., the belief that the Paducah decision was more about jobs than risk reduction.
- The Team believes that the minimally acceptable response rate to the survey and issues with getting participation in some interviews and focus groups are indications that the message to participate in the assessment was not communicated well or perceived to be important enough for individuals to act upon.
- Results on the Behavioral Anchored Rating Scale for Attention to Safety indicate that approximately 28% of the EM-HQ Non-Managers that completed this scale had negative perceptions about the value of safety in the organization and an additional 45% of the EM-HQ Non-Managers that completed this scale provided a mid-range score which indicates that they perceive that project management reflects a delicate balance of emphasizing safety, while at the same time making it clear that there is a need to keep the project on schedule. Among EM-HQ Managers completing this scale 82% perceived that safety is clearly understood to be a priority for the organization.
- Results from the Behavioral Anchored Rating Scale on Resource Allocation indicate that 100% of the EM-HQ Non-Manager interviewees that completed this scale are either uncertain or do not perceive that employees have sufficient resources to implement corporate goals nor do they perceive that the employees understand how these goals relate to their daily activities. Among EM-HQ Managers approximately 33% had negative perceptions about the allocation of resources.
- Results from the Behavioral Anchored Rating Scale on Time Urgency indicate that approximately 52% of EM-HQ Managers individuals that completed this scale perceive that most tasks are completed on time without compromising safety or quality. EM-HQ Non-Managers perceived this to a slightly greater extent than Managers did.
- Results on the Attention to Safety Scale on the electronic survey were on the low side of scores compared to a database of other similar organizations' responses to the same questions. This indicates that survey respondents had a more negative perception of the importance that safety has to success in their organization as measured by the perceived value the organization placed on various safety promoting behaviors.

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.

Positive Observations

- Multiple mechanisms for identifying problems within EM-HQ were described by interviewees including:
 - Staff Process Improvement Teams,
 - Ombudsman,

- All hands meetings,
 - Facility representatives,
 - Dialogue with Senior Management,
 - Individual dialogues,
 - DPO,
 - ECP,
 - HSS,
 - ORPS Reports,
 - Suggestion box,
 - Leadership by example,
 - Email, etc.
- Some interviewees indicated that there was nothing to inhibit the identification of problems. Some interviewees indicated that while the DPO process at HQ was fairly new for EM, they think it is pretty good. It represents the first time that workers have been encouraged to put in writing differences in opinion regarding decisions that have been made, e.g., Tank and Tank Waste Management – EIS in work for 9 years; DPO on SRS Tank Closure.

Areas in Need of Attention

- Interviewees identified some issues that might inhibit the identification of problems or concerns. These included:
 - A lack of trust;
 - A perception that there is a lack of leadership competence to deal with problems identified;
 - Concern over how a manager will respond to the messenger raising issues;
 - Different priorities within the organization;
 - Some DPOs have not been addressed;
 - A lack of feedback drives behavior not to raise any more issues;
 - The perception that the culture is not conducive to being open about problems;
 - Overload of information and the issues get lost;
 - Perception that if you raise problems you are a whistleblower or troublemaker;
 - Some individuals are not comfortable identifying issues, e.g., at the AM meeting nobody raised the issue that the reorganization is not working, yet people have said that and believe that;
 - Lack of ownership of issues in the field;
 - Being a team player and not wanting to be outside of the group;
 - Group think; and
 - Consensus making behavior.
- Interviewees indicated that they perceive issues with the DPO process that may be inhibiting its effectiveness. These include:
 - People are not as proactive about the DPO process as they should be and that they are happy to have one individual responsible for it;
 - It seems to be a slow process;
 - Some perceive it to be used as a means to get back at management.
- Some interviewees believed that plans are developed to address problems and then they are closed without being fully evaluated or tested, e.g., at WTP there were 17 major issues, 11 secondary issues, plan was developed and then all were closed, including the mixing issue which was never fully tested because of concerns over schedule.
- Interviewees indicated a lot of talk about an open reporting culture and yet several individuals identified that within EM they believe that if you raise an issue above your supervisor it is considered insubordination.
- Data from the Behavioral Anchored Rating Scale on Problem Identification and Resolution indicated that only 50% of the EM-HQ Manager and 33% of the EM-HQ Non-Manager interviewee respondents who completed this scale provided a high rating indicating that they perceived that the

organization encourages project personnel to draw upon knowledge, experience and current information to identify and resolve problems positively.

B.5.3 Personal Accountability

All individuals take personal responsibility for safety.

Positive Observations

- Many interviewees indicated that the reorganization of EM, while still in the learning mode, was creating good opportunities for accountability. Examples included:
 - Empowering individuals at all organizational levels to make decisions;
 - The ADAS' are new positions and have a strong sense of empowerment to take ownership and accountability for day to day activities;
 - EM-HQ has new roles to advise, support and assist the field offices, delegating authority down and out to the field;
 - Creation of the Employee Improvement Teams;
 - Process reviews that will put processes in place that make sense and are usable;
 - Reinstatement of the programmatic role in EM;
 - Communication from Senior Management that will help create trust which in turn will help improve quality, and;
 - Performance elements that will follow DOE Safety Standards.
- Interviewees indicated that the relationship with the union is good right now.
- Many interviewees indicated that, everybody is supportive of the EM Senior Advisor and implementing the approach that is being promoted.

Areas in Need of Attention

- Several interviewees indicated that DOE and the contractors are not always working to the same standards, e.g. SWPF the welds are blemished; the contractor said they were okay, the project office said it was not acceptable.
- Interviewees indicated that EM-HQ has several issues with oversight including:
 - Concern that the sites are structuring oversight based on resources, rather than on what needs to be audited;
 - More reviews and oversight are needed, especially on smaller projects;
 - The role of HSS is often as a resource in assessments and accident investigations, rather than as a true oversight group;
 - The perception that there is a lack of independence from the contractor on the reviews of safety, e.g., external audits versus internal reviews;
 - Lack of ownership and initiative on oversight, e.g., SPRU issues with lack of oversight on contamination incident;
 - The perception that oversight has to be legislated; and
 - The question of who is doing oversight in HQ of HQ.
- Data on the Behavioral Anchored Rating Scale for Performance Quality indicates that about 85% of the EM-HQ Manager and 100% of the EM-HQ Non-Manager interviewees who completed this scale are either negative or uncertain in their perceptions that project personnel take personal responsibility for their actions and the consequences of the actions. Perceptions of Performance Quality across EM-HQ were the lowest of all the behaviors evaluated.
- Accountability is perceived by several groups to be an issue at EM-HQ especially with respect to roles and responsibilities. Some examples include:

- Perception that DOE has not defined what they want with the new reorganization and need to define roles and responsibilities better.
- Perception that nobody in DOE political positions wants to deal with nuclear safety issues.
- DNFSB recommendations are a moving target; previously closed issues are reopened, e.g., WTP, some sites have DNFSB presence, others don't.
- The roles of the Office of Safety in EM and the Office of Health, Safety and Security are perceived to be unclear and there is a lack of leadership around safety and security.
- Across Mission Units, some confusion exists in terms of responsibilities, e.g., EM-10 and EM-20 on the National Environmental Protection Act which has a large impact on the EIS.
- Some interviewees indicated that it is not clear at which level EM-HQ engineers interact with the field offices.
- EM-70 is responsible for workforce planning and yet has not been actively involved in recent efforts.
- Not all Mission Units understand their relationship with the Office of Safety.
- Some interviewees indicated that people within EM have responsibilities but not necessarily the competency to make the decisions and understand the information to make the decisions, e.g. TQP – difficult to figure out what is required of position and the perception that the process is being neglected by DOE-EM Management.
- Data on the Behavioral Anchored Rating Scale for Roles and Responsibilities indicated that 50% of EM-HQ Manager and 68% of EM-HQ Non-Manager interviewees who completed this scale provided a low or mid- rating indicating a perception that employees do not or may not understand their duties, know who to go to when a task needs to be done or clearly understand their role in completing cooperative activities.
- Scores across EM-HQ on the Commitment Scale from the electronic survey were low in comparison to similar organizations that took the same survey.

B.5.4 Work Processes

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

Positive Observations

- Interviewees described and the Team observed that EM-HQ Management holds regularly scheduled meetings to communicate status and discuss issues around the complex. In some cases there are formal agendas, time management of the meeting, and good participation by all parties in the room.
- Interviewees indicated that EM-HQ Security uses HSS policies and standards to conduct its activities.
- Interviewees discussed the development of a new Information Technology System – Environmental Management Electronic Records System (EMERS) to formalize procedures, similar to the Office of Science's Standards-based Management System (SMS).
- Several interviewees indicated that management supports following procedures and holding individuals accountable to do so.
- EM-HQ employees indicated that they were encouraged to set up Project Teams for inter-office coordination.
- In the reorganization EM-30 acquired 3 program elements, with 3 Offices. Initiated interdisciplinary teams for all sites at HQ and they are working across offices – Integrated Project Team approach.
- HQ ECP is more active now in communicating and supporting the field ECPs.
- Interviewees indicated that EM-40 has assigned a POC to each Mission Unit.

Areas in Need of Attention

- Interviewees described a lack of formalization – policy directives, office procedures, agreements which control work and outline roles and responsibilities across the EM Organization. Examples included:
 - Some interviewees indicated that despite working in EM for several years they were not aware that the organization had operating procedures.
 - Several interviewees indicated that they were not sure that the procedures that do exist apply to the work that they do.
 - Some interviewees indicated that even where there are procedures on contract reviews and correspondence, no one really uses them. Most of the procedures are expert based rather than highly circumscribed.
 - Field ECP procedures are being used to develop a HQ ECP Procedure and to review the field procedures.
 - Some offices, e.g., Budget, are perceived to need more procedures.
- Interviewees indicated that a new process for serving customers, issuing tickets, has been implemented in EM -70 that is perceived to be demeaning to the employees that have to use it.
- Several interviewees indicated that they depend upon the EM-40 to ensure that the right things about safety are in the contracts.
- Some interviewees indicated that there are issues in the coordination of work between the site offices and EM-HQ with respect to timely decision-making, e.g., employees' opinion of a prime example was Mound's dislike of their instate agreement; site office wanted a letter from HQ that indicated it was not a site office decision but rather from HQ.
- Many interviewees agreed that the issues with coordination of work are the interfaces between units and that is because they are always reacting to or dealing with items that need their immediate attention.
- Data on the Behavioral Anchored Rating Scale for Formalization indicates that 75% of EM-HQ Manager and 72% of EM-HQ Non-Manager Respondents to this scale have a negative or neutral perception of the extent to which there are well-identified rules, procedures, and/or standardized methods for routine activities as well as unusual occurrences.
- Data on the Behavioral Anchored Rating Scale for Coordination of Work indicates that 72% of the EM-HQ Non-Manager respondents to this scale have a negative or neutral perception of the planning, integration, and implementation of work activities of individuals and groups. Among EM-HQ Managers who responded to this scale 68% had a positive perception about the coordination of work.
- Data from the Coordination of Work Scale on the electronic survey indicated that while there were no statistically significant differences between the different EM-HQ employee categories on this scale, the overall score was lower than for similar organizations that have taken the same survey.

B.5.5 Continuous Learning

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

Positive Observations

- Interviewees indicated that there is an effort to get back to where things can be done more routinely across the sites so that the sites can help each other.
- Some interviewees indicated that EM-HQ does communicate its successes, e.g., recognition of individual employees by Senior Management to staff.
- Interviewees described situations in which lessons learned have been communicated:
 - SPRU did a case study on what led to the contamination event;
 - Good collaboration with the field on the ARRA projects which went well;

- On the Acquisition side there is a retrospective process which describes what worked, what didn't work, lessons for training, internal portal for sharing, define and make changes to process to improve it;
- WIPP M & O Contract was awarded 5 months ahead of schedule by reducing the amount of information that had to be submitted by the contractor.

Areas in Need of Attention

- Interviewees perceive that EM does not do a good job of going back and re-examining situations for the lessons learned, e.g., explosion at Hanford in 1998 shut down the facility; never went back to look at examination of safety and there was another explosion 3 years later.
- Several interviewees identified that there has been a fundamental assumption in EM to go down a path and never re-examine if it is the right one because there won't be a way to deal with changing the direction.
- Some interviewees indicated that the political impact on budgets results in a lack of accountability so there is no motivation to try to learn and do things differently.
- While many interviewees identified the concept of lessons learned, they perceive that the organization is missing opportunities to use this information as part of a learning process.
 - Lessons learned at DWPF at SRS were captured, but people generally don't look at them; the senior individual from DWPF was sent to WTP to run the project but inherited the design so lessons learned could not be applied.
 - Lessons learned are informal; individuals indicated that there is no well-defined process for self-improvement.
- Data on the Behavioral Anchored Rating Scale for Organizational Learning indicated that 100% of EM-HQ Manager and 68% of EM-HQ Non-Manager interviewee respondents provided negative or neutral ratings suggesting that they do not believe that individuals and groups of employees pay close attention to past behaviors and how they can be improved in the future. They do not believe that information about past activities is necessarily formalized and available for future reference.

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.

Positive Observations

- Most interviewees indicated that there are multiple mechanisms available to identify safety concerns, e.g., supervisors, managers, Ombudsman, HR, and Hotline.
- Some interviewees indicated that they don't perceive a fear to raise concerns now and that people are more comfortable with the new management.
- Most interviewees were aware of the EM-HQ Ombudsman.
- Efforts were described to work with the Richland Office on their ECP since the ORP and RL ECP were combined.

Areas in Need of Attention

- Some interviewees indicated that they perceive there is a fear of retaliation among some groups in EM-HQ. Moving people out of their jobs, freezing them out of information, lowering their performance appraisals, and even termination of employment were cited as examples of perceived retaliation.

- Interviewees and observations by the Team indicated that the DOE-HQ ECP does not appear to be an effective program. Examples included:
 - Many interviewees were not clear about whether EM-HQ had its own ECP and if so where it was located.
 - DOE-HQ ECP/EEO information is buried in the Office of Economic Impact and Diversity (ED) and it does not get the recognition, visibility or importance that it should.
 - Many interviewees were not even aware that HQ had an ECP and efforts by the Team to contact the office were basically unsuccessful.
 - DOE-HQ ECP focuses on support and guidance for the field ECPs.
 - DOE-HQ ECP had no direct knowledge of the status of EM-HQ safety culture or EM-HQ safety concerns.
 - DOE-HQ ECP was contacted by EM last year to establish an alternative method to report concerns and that process is still in development by EM and DOE-HQ ECP is not involved.
 - An ECP survey was conducted in 2008 across the DOE Complex and the results were just recently issued to contractors and DOE Field ECP Staff; training on ECP is scheduled for August 2012.
 - There is the belief that the nature of the work at HQ creates less demand for an ECP than the work conducted in the field.
 - There is a perception that there are no real ECP concerns at HQ because the HQ HR process works well and individuals can easily find representatives to address their issues.
 - Previous individuals in the DOE-HQ ECP Office were dedicated to the position on a full-time basis; current staffing is on a part-time basis.
 - There is a lack of knowledge about the status of cases opened during the tenure of previous individuals in the position.
- Among EM-HQ survey respondents, about 75% agreed with the statement that everyone in the organization is responsible for identifying problems. While overall this represents a higher percentage of people agreeing than disagreeing, it is still lower than is seen in other similar organizations on which survey data is available and indicates that about 25% of the population did not fully agree with this statement.
- The statement on the electronic survey that management does not tolerate retaliation of any kind for raising concerns was agreed to by only 45% of the EM-HQ survey respondents.
- Among EM-HQ survey respondents only 43% of employees feel that they can openly challenge decisions made by management.
- Approximately 50% of EM-HQ survey respondents believe that constructive criticism is encouraged.
- Approximately 58% of the EM-HQ survey respondents agreed with the statement that they feel that they can approach the management team with concerns.
- Among EM-HQ survey respondents 50% agreed with the statement related to management wants concerns reported.
- Approximately 45% of EM-HQ survey respondents agreed with the statement that concerns raised are addressed.
- While there were no statistically significant differences among the EM-HQ Work Groups on any of the Safety Conscious Work Environment Questions from the electronic survey, the EM-1/EM-2/EM-3 and EM-60 Work Groups had consistently more negative responses to the questions.
- There were statistically significant differences between the EM-HQ Employee Categories on several of the Safety Conscious Work Environment Questions with DAS/ADAS and Office Directors exhibiting more positive responses than the other categories of Non-Manager Excepted Service and Non-Manager GS. Differences were obtained on the Responsible for Identifying Problems, Feeling Free to Openly Challenge Management Decisions, and Feeling Free to Approach Management with Concerns.

B.5.7 Effective Safety Communication

Communications maintain a focus on safety.

Positive Observations

- Interviewees identified multiple mechanisms for communication in the EM-HQ Organization, including:
 - Fedcasts;
 - Management meetings;
 - Recurring conversations between management and staff;
 - Efforts to communicate with those in the Cloverleaf Offices;
 - All hand meetings;
 - AM with EM breakfasts;
 - One on one communication;
 - Emails;
 - Open door policy.
- Most interviewees indicated that Senior Management tries to speak with one voice and makes it clear that everyone needs to be involved and work together.
- Some interviewees indicated that they believe that they are beginning to become better informed about what is going on in EM.
- Interviewees described how the ADASs are working on talking across the different offices to develop common processes, make budget decisions, and conduct project and program reviews.
- Observations by the Team indicated that efforts are made to include all parties regardless of their locations in Operations and Management Meetings. Call-in telephone numbers and video conference calls are frequently used for communications.

Areas in Need of Attention

- Several interviewees indicated that there are issues around the effectiveness of communication in EM-HQ. Examples included:
 - A level of informality around the assessment of the effectiveness of communication; it is done primarily by word of mouth.
 - There is the perception that not enough is done to listen or close the loop on communication.
 - Managers do not ask enough follow-on questions, e.g., what do you want to do about this issue?
 - Interviewees describe individuals that have maintained a negative attitude towards everything over many years and present a barrier to implementing effective communication.
 - There is too much information especially from email.
 - There is the perception that the implementation of employee engagement is lagging because all resources go towards the mission and can't be used for other things.
 - Interviewees perceive the lack of trust factor as the biggest issue in communication.
 - Some interviewees indicated that they only know about their own group and don't receive information about other groups.
- The Team and interviewees identified several examples of missed opportunities to enhance the communication process within EM-HQ:
 - Lack of staff meetings within one of the Mission Units over the last several years.
 - Several interviewees indicated that they have not heard from EM-1 or EM-2 about the issues surrounding the need to change behaviors within EM.
- The USEC situation was not communicated in terms of its value for the Department, and specifically EM. Employees did not perceive this as the best decision for EM.
- Data from the Behavioral Rating Scale on Communication indicated that 42% of the EM-HQ Manager and 30% of the EM-HQ Non-Manager interviewee respondents who completed that scale

had positive perceptions about the exchange of information, both formal and informal, between the different units in the EM Organization, including the top-down and bottom-up communication networks.

- Data from the electronic survey on several of the Communication Scales indicated that EM-HQ survey respondents had some of the lowest scores across the DOE database on their opinions about perceived Trust in Communication. Scores on the Communication Accuracy, Desire for Interaction, and overall Satisfaction in Communication were also on the low end of the values obtained from similar organizations on the same scales.

B.5.8 Respectful Work Environment

Trust and respect permeate the organization

Positive Observations

- Some interviewees described good working relationships across the Mission Units within the EM Organization. Issues can usually be worked out before they become too problematic.
- Several interviewees indicated that the reorganization is aimed at improving the working relationships between EM-HQ and the site offices.
- Interviewees indicated that the relationship between EM Senior Management and the union had improved with the new management team.

Areas in Need of Attention

- The overall score for the EM-HQ Organization on the Job Satisfaction Scale of the electronic survey was the lowest score obtained in a database of similar organizations that have taken the same survey. No statistically significant differences between EM-HQ Work Groups or Employee Categories were obtained on the Job Satisfaction Scale indicating a fairly homogeneous perception across the respondents who took the survey.
- Similarly the EM-HQ survey respondents indicated low scores on their perceptions of Trust in Communication regarding the freedom they feel to discuss the problems and difficulties in their jobs with an immediate supervisor without jeopardy. This was the lowest score obtained in the database across similar organizations that have taken the same survey.
- Results from the Communication Trust Scale on the electronic survey indicated no statistically significant differences between work groups or employee categories among EM-HQ survey respondents.
- Results obtained on the Communication-Accuracy Scale from the electronic survey indicated that overall EM-HQ survey respondents have somewhat negative perceptions of the accuracy of information that they receive from other organizational levels (superiors, subordinates, and peers).

B.5.9 Questioning Attitude

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

Positive Observations

- Interviewees indicated that the new EM Management Team is supportive of their identifying issues and deficiencies and documenting conditions and activities for follow up.

Areas in Need of Attention

- Several interviewees indicated that they believed that EM-HQ was sometimes compromising their oversight activities through schedule and cost pressures.
- Interviewees indicated that a questioning attitude was not always appreciated depending upon the circumstances of the situation, e.g., political decisions that could not be controlled or changed.
- Many interviewees do not perceive the DPO Process as a timely and effective means for questioning decisions and may be why it is not used more frequently at HQ.

B.6 References

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