



Internal Safety Culture Task Force

Final Report

April 2009

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Task Force members express their deep appreciation for the contributions of our colleague Giovanna (Jenny) Longo, who passed away before this report was issued.

Foreword

As leader of the Internal Safety Culture Task Force at the U.S. Nuclear Regulatory Commission (NRC), I would like to extend my personal and most sincere thank you to all members and former members of the Task Force for their exceptional efforts. Most especially, I would like to thank the Assistant Team Leader, June Cai, who worked so tirelessly and effectively to manage a myriad of logistical details, meticulously ensured the integrity of our data and our process, superbly edited the final report, and was a constant positive presence throughout this effort.

We individually brought to this task a valuable diversity of perspectives from every corner of the agency. We engaged each other in true dialogue, respecting each other's views and seeking to achieve a shared understanding of an exceedingly broad and complex topic. Evident in our dialogue was the principle behind author James Reason's belief that the safe control of complex hazardous technologies requires diverse perspectives from its human "controllers" (e.g., operators and regulators). As he points out, when diverse perspectives are shared freely, richly, and deeply, it becomes more likely that important information, connections, and insights will not be missed. Our work as a Task Force set a clear example of the value of maintaining an open and collaborative working environment that encourages a respectful dialogue of individual viewpoints, perspectives, and opinions. I strongly believe that, by living our NRC organizational value of Respect, we facilitate this necessary flow of information and that this has great relevance to the effectiveness of our agency's internal and external communications and the continuing achievement of our mission.

On behalf of the Task Force, I would also like to thank each and every NRC employee, supervisor, and manager, every benchmarked organization (both internal and external), and each member of the public who provided us with their comments and suggestions. Although we could not fully represent every one of these inputs in our report, we thoughtfully considered all of them, and they collectively provided valuable insights that added to our dialogue. This report represents another contribution to a widespread and longstanding "conversation" that has taken place since the NRC was created. The Task Force intended its contribution, in part, to help provide a more tangible framework and understandable vocabulary that would improve our ongoing dialogue on how to maintain a sound and effective internal safety culture. Over the past several months, the Task Force has engaged in thoughtful dialogue with many people over fundamental values, principles, and practices. I very much look forward to continuing that dialogue and know that it must never end.

Doug Coe
Internal Safety Culture Task Force
April 2009

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Executive Summary

The U.S. Nuclear Regulatory Commission (NRC) chartered the Internal Safety Culture Task Force in October 2008 in response to the Commission direction to “provide the Commission with a report outlining potential initiatives that could improve the agency’s internal safety culture.” This direction was related to the ongoing agency efforts to improve the oversight and assessment programs for addressing safety culture for licensees.

Drawing from the approach and terminology used by the NRC’s oversight of licensees in the safety culture area, the Task Force is proposing an integrated framework¹ to describe the NRC’s internal safety culture and to serve as the basis for continuing improvement. This framework consists of two parts: the “characteristics” of the agency’s internal safety culture, which are best described through a set of organizational functions important to a strong safety culture, and the “attitudes,” which equate to the agency’s expressed values and principles that underlie all activities. For consistency, the Task Force is proposing internal safety culture characteristics that are aligned with those being provided for Commission consideration for communicating the Commission’s safety culture expectations to all licensees and stakeholders, but tailored specifically for the agency’s internal context.

The Task Force conducted a series of data collection activities, including focus groups, interviews, internal and external benchmarking, and communications and outreach efforts, to form the basis of its recommendations. The collected data showed that, in general, employees strongly support the agency’s mission and feel pride in their work and that the agency has many existing processes and practices that support a healthy safety culture. In addition, from the data, the Task Force identified the following five high-level themes as areas on which the agency should continue or further increase focus in its effort to ensure a strong internal safety culture:

- 1) lack of clarity and confusion by some about what the agency means by internal safety culture
- 2) the importance of providing effective communications regarding expectations, feedback on performance, and bases for decisions
- 3) agencies and organizations with a focus on safety culture that were benchmarked had strong leaders who modeled safety culture behaviors
- 4) continuing concerns regarding the effectiveness of the agency’s differing views processes (e.g., Open Door Policy, Non-Concurrence Process, and Differing Professional Opinions Program)
- 5) the challenge in communicating and demonstrating the appropriate focus in meeting the potentially conflicting goals of production or timeliness and quality

In addition to these high-level themes, this report discusses notable insights from specific data collection activities. For example, the focus group results highlighted the need for improvements in some first-line supervisors with communication, performance management,

¹ Framework, as used in this report, means a frame of reference, or overarching guidance, that sets direction for the staff and that the staff can use to understand and discuss the importance of an internal safety culture at the NRC.

and people management skills; technical expertise in the areas they are managing; and more stable turnover rates. Other issues brought up by some of the focus groups included adequately capturing and transferring of knowledge from departing staff and outdated or inaccurate procedures and policies. From the benchmarking activities, both internal and external, this report identifies a number of similarities across organizations and groups.

Based on the results and insights collected, as well as the views and experiences of its members, the Task Force developed a set of recommendations for strengthening the NRC's internal safety culture. The recommendations, at a high level, are as follows:

- (1) The NRC's Strategic Plan should incorporate the Task Force's proposed internal safety culture framework and ensure there is alignment between it and the agency's mission, goals, objectives, vision, values, and principles. Further, elements of the framework should be integrated, where appropriate, into the agency's performance management tools, both at the organizational and individual levels, to reinforce expectations and hold employees accountable to the principles, values, and goals that constitute a strong safety culture.
- (2) The agency should develop training on internal safety culture principles and expectations to increase awareness and educate all employees. In addition, the agency should develop or emphasize training for employees at all levels to improve the interpersonal skills that are critical to supporting a strong safety culture.
- (3) The agency should assess the effectiveness of the current set of disconnected systems that comprise the agency's problem identification, evaluation, and resolution process to identify areas for improvement. Based on the results, the agency should develop activities, enhancements, or initiatives to address identified weaknesses and areas in need of improvement.
- (4) The agency should establish clear expectations and improved accountability for keeping its policies and procedures current and aligned and for maintaining their quality. These expectations would apply to procedures at the office or lower levels and supplement ongoing initiatives to update and maintain agency management directives.
- (5) The agency should establish a dedicated advisor (or organization) to lead and coordinate efforts to implement and maintain a framework for ensuring a strong internal safety culture. Regarding implementation of this recommendation in terms of the specific grade level and reporting relationship, the Task Force identified two approaches but did not reach agreement on which the Task Force, as a whole, would recommend.

Taken together, the recommendations address all the themes of concern identified from the data and aim to create effective and lasting improvements for supporting a strong safety culture for the agency. In addition to these recommendations, the Task Force suggests all offices review the list of internal good practices and insights developed from the external benchmarking efforts for supporting a strong safety culture to determine their applicability to each office. The Task Force also acknowledges a number of existing activities that support elements of a strong safety culture, such as the Knowledge Management efforts, the NRC Team Player initiative, and personnel health and safety activities.

Finally, as approved by the Commission in the Staff Requirements Memorandum to COMSECY-09-001, "Internal Safety Culture Task Force Interface with Office of the Inspector

General Safety Culture and Climate Survey,” dated February 6, 2009, the staff will review of the recommendations of this report relative to the results of the 2009 Office of the Inspector General’s Safety Culture and Climate Survey no later than 3 months following issuance of the final survey report. The staff will provide further recommendations or modifications to this Task Force report, as appropriate.

Introduction

The U.S. Nuclear Regulatory Commission (NRC) considers the safety culture of its licensees to be an important element in its mission to protect public health and safety. The “Proposed Internal Safety Culture Framework” section of this report contains discussion on the formal definition of safety culture that the agency has adopted and a statement proposed for the agency’s internal safety culture.

Following the Davis-Besse reactor vessel head degradation event in 2002, the agency enhanced the inspection and oversight program for reactor licensees to more fully address safety culture. Several other offices have initiated activities related to oversight of areas important to safety culture at licensee facilities, and a draft Commission policy statement on safety culture that would apply to all licensees and certificate holders is currently under development.

Complementary to this external focus on licensees’ safety culture, the NRC chartered the Internal Safety Culture Task Force (“Task Force”) in October 2008 in response to the Commission direction in its staff requirements memorandum (SRM) M080317B, “Staff Requirements—Briefing on State of NRC Technical Programs,” dated April 3, 2008, to “provide the Commission with a report outlining potential initiatives that could improve the agency’s internal safety culture” (see Appendix A). In the SRM, the Commission directed the staff to provide the report within 3 months of the next Office of the Inspector General (OIG) Safety Culture and Climate Survey.

Background

Objectives

The objectives of the Task Force are to provide the Commission with potential initiatives to increase awareness of and improve the agency’s internal safety culture and to identify best practices currently used across the agency.

Interface with the OIG Safety Culture and Climate Survey

The Task Force’s efforts are independent of OIG’s triennial Safety Culture and Climate Survey but provide a complementary means to identify improvements. The OIG’s survey is a safety culture assessment method that takes a “snapshot” of employee perceptions approximately every 3 years to identify both what is going well and what areas need improvement. The survey derives information from the NRC workforce on its attitudes, perceptions, and beliefs about the work environment at the agency. The Task Force did not conduct a survey or a full safety culture assessment. The Task Force’s approach was to understand what programs and processes currently exist in the agency that support a strong safety culture and determine opportunities for improvement. The Task Force accomplished this by considering views from all levels of staff and management and by collecting information both internally and at external organizations that have important safety objectives. Given its agencywide scope, the Task Force also sought to establish an overarching framework to maintain an ongoing emphasis on the internal safety culture.

In January 2009, the OIG announced that its next survey would be conducted in May 2009, with results available to the staff in July or August 2009, and a final report issued by early fall 2009. In support of a scheduled May 2009 Commission meeting on this topic, the Task Force requested an alternative approach to accomplishing the Commission's SRM direction. In the SRM to COMSECY-09-0001, "Internal Safety Culture Task Force Interface with Office of the Inspector General Safety Culture and Climate Survey," dated February 6, 2009 (see Appendix A), the Commission approved the staff's approach to complete the Task Force report with recommendations to the Commission in April 2009 and to complete a review of the survey results for possible influences on those recommendations no later than 3 months following issuance of the OIG's final survey report. The staff would provide this review to the Commission and, as appropriate, recommend further actions or modifications to its earlier actions, based on insights derived from the survey results.

Historical Perspective on NRC Internal Safety Culture

As noted by NRC Historian J. Samuel Walker in NUREG/BR-0175, "A Short History of Nuclear Regulation, 1946–1990," issued January 2000, the NRC became an independent regulatory agency through an Act of Congress in 1974 amidst a series of controversies and public debate over its predecessor Atomic Energy Commission's dual responsibilities for developing and regulating nuclear technologies. The NRC's mission was defined broadly (i.e., "...public health and safety, and common defense and security..."), and therefore it is not surprising that many different views have existed, and will continue to exist, both in the public realm and within the agency itself, on how the agency should achieve its mission.

In examining the broad question of how the agency should further improve its internal safety culture, the Task Force considered, at a high level, not only how the agency has incorporated safety culture into its regulatory oversight responsibilities, but also the nature and evolution of the historical internal "conversation" on this topic within the agency. Appendix B provides a sampling of documents related to this conversation. This list is not exhaustive, and there are likely many other fitting examples that are not included. Unlike the more publicly visible initiatives related to safety culture in the NRC's oversight of licensee activities, the internal conversations may have been less visible, but they have still been long standing. This brief historical summary demonstrates that, although the agency's vocabulary has evolved to include "safety culture," the goal has always been to decide how to best accomplish the mission through a clearly defined set of objectives and use of effective processes and programs to implement appropriate priorities.

In addition to the OIG employee surveys of safety culture and climate (see previous section), the agency has addressed safety culture improvements more directly in recent years, as its organizational improvement initiatives have evolved. Some of the most notable of these were the agency's response to the Davis-Besse reactor vessel head degradation event, including an initiative to improve the long-term effectiveness of corrective actions. Therefore, the latter portion of the historical timeline shows an increasing number of references to these types of initiatives. In making its recommendations, the Task Force aimed to not simply repeat past recommendations but to build on them to instill an ongoing emphasis on maintaining and improving the agency's internal safety culture.

With the unprecedented recent growth and addition of new employees to the agency, the Task Force believes that it is important to ensure all employees recognize that they are a key part of an evolutionary effort to continuously improve the way the agency achieves its mission. As evidenced by this sampling of history, the external environment, the technologies the agency

regulates, and the tools used by agency staff continue to change. Therefore, the agency must adapt to continue achieving its mission. As the NRC's Executive Director for Operations (EDO) noted in 1991², this applies not only to the technical staff, but to the corporate support (i.e., legal, financial, information technology) and administrative staff, as well.

The Task Force hopes that the historical summary in Appendix B will refresh the agency's awareness of both the wide diversity of views on improving internal operations and safety culture and the great importance of continuing this conversation.

Context of the Results and Recommendations

The Task Force was composed of members across all organizational levels (e.g., from participants in the Nuclear Safety Professional Development Program to Senior Level System (SLS) employees) and functions (e.g., technical and inspection offices, corporate support, and administrative staff). This diversity facilitated the sharing of many thoughtful perspectives in dialogues throughout the process. In addition to collecting a range of data, which is discussed later in this report, the Task Force members drew upon their own diverse experiences and knowledge in formulating the recommendations.

In addition, it is important to reiterate that the Task Force did not conduct a full safety culture assessment, where the overall health of the organization, including all the strengths and weaknesses, is systematically and thoroughly evaluated and the results reported. The Task Force primarily focused on identifying areas for enhancement to strengthen the agency's internal safety culture.

Note on Terminology

In this report, several terms relating to NRC individuals are used, including "employees," "staff," "first-line supervisors," and "management." These terms are used as consistently as possible throughout the report, although there may be a few references where clear distinctions are not possible (e.g., where data are presented in the aggregate). The term "staff" is used to describe individuals in nonsupervisory positions. The term "first-line supervisors" is intended to include individuals at the team leader and branch chief level. "Management" is used to encompass levels of management starting with those above the first-line supervisor level up through senior agency management. When the intent is to include individuals from all levels (from staff to senior management), the term "employees" is used.

Proposed Internal Safety Culture Framework

What Is Safety Culture?

In 2006, the NRC worked extensively with a range of external stakeholders to enhance the inspection and oversight program of reactor licensees to more fully address safety culture. In defining safety culture and identifying components important to safety culture that apply to the inspection and oversight program, the NRC considered and incorporated stakeholder input, where appropriate. At that time, the NRC adopted, for application to reactor licensees, the International Atomic Energy Agency (IAEA) International Nuclear Safety Advisory Group

² This is referenced from "NRC Technical Staff Performance Expectations," dated September 17, 1991. An excerpt of this document is included in Appendix B.

(INSAG) definition of safety culture³, which it referenced several years earlier in other applications.

In general, all definitions of safety culture express organizational characteristics (e.g., programs and processes that are more readily observable) and attitudes (also called beliefs, norms, and shared understandings). Employee attitudes and behaviors combine with processes within an organization to ensure a safety-first focus. To some degree, all these definitions include the concept that attitudes are shared by the organization as a whole and by its employees as individuals. Safety culture is driven by the values its employees use when deciding what is important.

From the outset, the Task Force struggled with the concept of creating a more usable statement to describe the agency's *internal* safety culture. The Task Force found that the INSAG definition serves well as a generic definition for the term "safety culture" but that the definition did not speak to everyone in the agency's internal audience. This was reinforced throughout the Task Force's interactions with employees during the collection of data. Because the Task Force found that the concept of internal safety culture was not clearly articulated and therefore not consistently understood, it started with, as a working definition, an expanded, "customized" version of the INSAG definition⁴. In evaluating and developing a potential definition, the Task Force gave significant thought to including all employees, without regard to their specific functions (e.g., serving in the security versus safety area, or performing administrative and corporate support functions versus nuclear-related technical activities). The Task Force recognized the importance of every employee's contribution in supporting the agency's mission and a strong internal safety culture. From the initial working definition, and based on insights from its various activities, the Task Force then developed and reached agreement on the following statement of the agency's internal safety culture.

Internal Safety Culture Statement

The NRC's Safety Culture is comprised of the *characteristics* of our programs and *attitudes* shared by all NRC employees that ensure the agency's mission is always at the forefront of all work activities.

This statement can be considered to be interpretive of the INSAG definition for the NRC's environment and serves as an internal aspirational target.

Current Framework

The Task Force reviewed how the current agency planning and performance management framework relates to safety culture. The goal was to understand how the NRC currently addresses and communicates about internal safety culture. The Task Force found that the agency does not have an overarching framework for defining and applying the concepts of internal safety culture or a related standard set of communications. Although elements of safety culture are addressed by various means in many areas and safety culture expectations are

³ Safety culture is "that assembly of characteristics and attitudes in organizations and individuals which establishes that, as an overriding priority, nuclear plant safety issues receive the attention warranted by their significance" (Safety Series No. 75-INSAG-4, "Safety Culture," February 1991).

⁴ The Task Force started with a working definition that added this second sentence to the INSAG definition: "This is internalized and modeled by NRC individuals, at all organizational levels, through their work activities in support of the agency's mission and guided by the agency's values."

often communicated by agency leaders, there has not been a formal, defined, and consistent framework for communicating and implementing the agency's expectations for internal safety culture. This section will provide an overview of the current NRC goal and accountability framework, which contains many elements related to safety culture, and will then present the Task Force's recommended framework for characterizing internal safety culture and applying its concepts.

About the NRC

All organizations use a combination of concrete and abstract tools in their self-definition strategy and to promote a shared understanding of their purpose and mission. The NRC's mission is focused on safety and security, and the mission is tied to all of the NRC's work activities through its Strategic Plan. Under the section "About NRC" on its Web site, the NRC provides information on the following topics:

- summary of its statutory authority
- history overview
- budget and performance expectations
- definition of organization and functions
- identity with regard to locations
- Strategic Plan—purpose and mission
- values—attitudes to support the mission

"Statutory authority" and "history" provide the genesis of the agency and where it has been; "budget and performance," "organization and functions," and "locations" provide a snapshot of the history and current state of the agency; and "Strategic Plan" and "values" project the direction in which the agency is heading and how it intends to get there. An organization's safety culture can be connected to its past, its current position, and its intended goals for the future. The Task Force believes the most appropriate tools for articulating the agency's goals for a strong internal safety culture would be found in the forward-looking Strategic Plan and in the agency's aspirational expressions, such as the NRC's values and principles.

Strategic Plan

In the introduction to the Fiscal Year (FY) 2008–2013 Strategic Plan, the NRC sets forth three items as "Key Elements":

- a stand-alone mission statement:

License and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.
- a values statement that, among other values, embraces the NRC's stand-alone "Principles of Good Regulation":

The safe use of radioactive materials and nuclear fuels for beneficial civilian purposes is enabled by the agency's adherence to the principles of good regulation—*independence, openness,*

efficiency, clarity, and reliability. In addition, regulatory actions are effective, realistic, and timely.

- two Strategic Goals⁵:

Safety: Ensure adequate protection of public health and safety and the environment.

Security: Ensure adequate protection in the secure use and management of radioactive materials.

The Strategic Plan also sets forth the following three “Organizational Excellence Objectives”:

- *Openness*: The NRC appropriately informs and involves stakeholders in the regulatory process.
- *Effectiveness*: NRC actions are high quality, efficient, timely, and realistic, to enable the safe and beneficial use of radioactive materials.
- *Operational Excellence*: NRC operations use effective business methods and solutions to achieve excellence in accomplishing the agency’s mission.

NRC Values

The NRC Values Web page lists three distinct items:

- the five principles of good regulation (independence, openness, efficiency, clarity, and reliability)
- a set of seven stand-alone organizational values:

Integrity ... in our working relationships, practices, and decisions.

Excellence ... both in our individual and collective actions.

Service ... to the public, and others who are affected by our work.

Respect ... for individuals' roles, diversity, and viewpoints.

Cooperation ... in the planning, management, and work of the agency.

Commitment ... to protecting the public health and safety.

Openness ... in communications and decisionmaking.

- an open, collaborative working environment (OCWE) that encourages all employees and contractors to promptly voice differing views without fear of retaliation

⁵ Strategic Goals can change from plan to plan as directed by the Commission. The previous FY 2004–2009 Strategic Plan had the following five goals: safety, security, openness, effectiveness, and management.

To facilitate an OCWE at the NRC, the agency has several mechanisms for expressing differing views and having them heard by decisionmakers, including an Open Door Policy, a Non-Concurrence Process, and a Differing Professional Opinions (DPO) Program.

Interface Between the Strategic Plan and NRC Values

The NRC's Strategic Plan incorporates, albeit inconsistently, the items from the NRC's Values Web page. For example, the principles of good regulation appear in a separate Strategic Plan "Values Statement." The concept of an OCWE is discussed only as a means to support the NRC's safety strategies and is not given any higher or broader level of treatment. From the list of the seven NRC organizational values, the current plan highlights "Openness," "Effectiveness," and "Operational Excellence," as Organizational Excellence Objectives, but it makes no specific mention of other listed values such as "Respect" and "Integrity."

Figure 1 graphically shows the NRC's guiding principles (i.e., major elements of the NRC's Strategic Plan and other official elements that express the NRC's intentions and expectations).

NRC Guiding Principles

**Strategic Plan
Fiscal Years 2008–2013**

- NRC Mission Statement
- NRC Values statement (includes five Principles of Good Regulation ¹)
- Safety Goal
- Security Goal
- Effectiveness, Excellence and Openness Strategies

U.S. NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

1 Independence, Openness, Efficiency, Clarity, and Reliability

2 In Strategic Plan *only* under the Openness Strategy



Figure 1

Proposed Framework for the Agency's Internal Safety Culture

The formal INSAG definition and the Task Force's Internal Safety Culture statement both describe safety culture as being comprised of characteristics and attitudes. The "characteristics" of the agency's internal safety culture are best described through a set of descriptions of organizational functions important to a strong safety culture, referred to as "safety culture characteristics." The "attitudes" portion equates to the agency's expressed values and principles that underlie all activities. For consistency, the Task Force is using, as part of its internal safety culture framework, safety culture characteristics that are aligned with those being provided for Commission consideration for communicating the Commission's expectations for safety culture to all licensees and stakeholders.

As part of the Reactor Oversight Process (ROP), the NRC originally developed and adopted a set of 13 safety culture components in 2006, which are included in the Appendix to Regulatory Information Summary (RIS) 2006-13, "Information on the Changes Made to the Reactor Oversight Process to More Fully Address Safety Culture," dated July 31, 2006. The original set was developed through a review of various sources of information, including documents from the Institute of Nuclear Power Operations and the IAEA and with extensive stakeholder involvement. During development of a draft agency policy statement on safety culture for application to all licensees and certificate holders, the NRC revised the original set of components and renamed it "characteristics." The revisions were made based on experience gained during the initial implementation period of the ROP revisions, with consideration of internal and external feedback, to improve the overall structure and organization, and to more fully incorporate security.

The Task Force based its proposed set of internal safety culture characteristics on these revised characteristics, to be consistent with what the staff has proposed as the Commission's expectations of safety culture in the draft policy statement. The Task Force believes that there is great value in the NRC using the same standards for internal safety culture as it communicates to the broader licensee community and potentially could be used to enhance the effectiveness of licensee oversight programs. Maintaining such consistency is intended to help improve both public and internal confidence in agency operations. Moreover, they appear to be comprehensive and useful for internal safety culture, based on their success in providing the basis for the focus group and benchmarking questions. Because the draft policy statement is still in the development phase, the set of characteristics could potentially change before it is approved by the Commission and finalized. If there are changes to the final set, the Task Force recommends continued alignment and consistency between the safety culture characteristics used internally and externally for licensees.

The nine internal safety culture characteristics are not prioritized. All characteristics are granted equal weight but can be grouped by shared concepts: the first three relate to problem identification, evaluation, and resolution; the next three focus on the individual contributor level; and the last three focus on organizational-level contributors. The concepts covered by the characteristics are often related and may overlap; they are not mutually exclusive. The Task Force defined the safety culture characteristics as expectations for a strong safety culture as opposed to truisms and believes that they can be used as a way to determine the health of the internal safety culture (e.g., through performance management and monitoring processes) and to identify and implement improvements (e.g., used as a basis for conducting self-assessment and improvement activities).

Proposed Safety Culture Characteristics for Internal Safety Culture

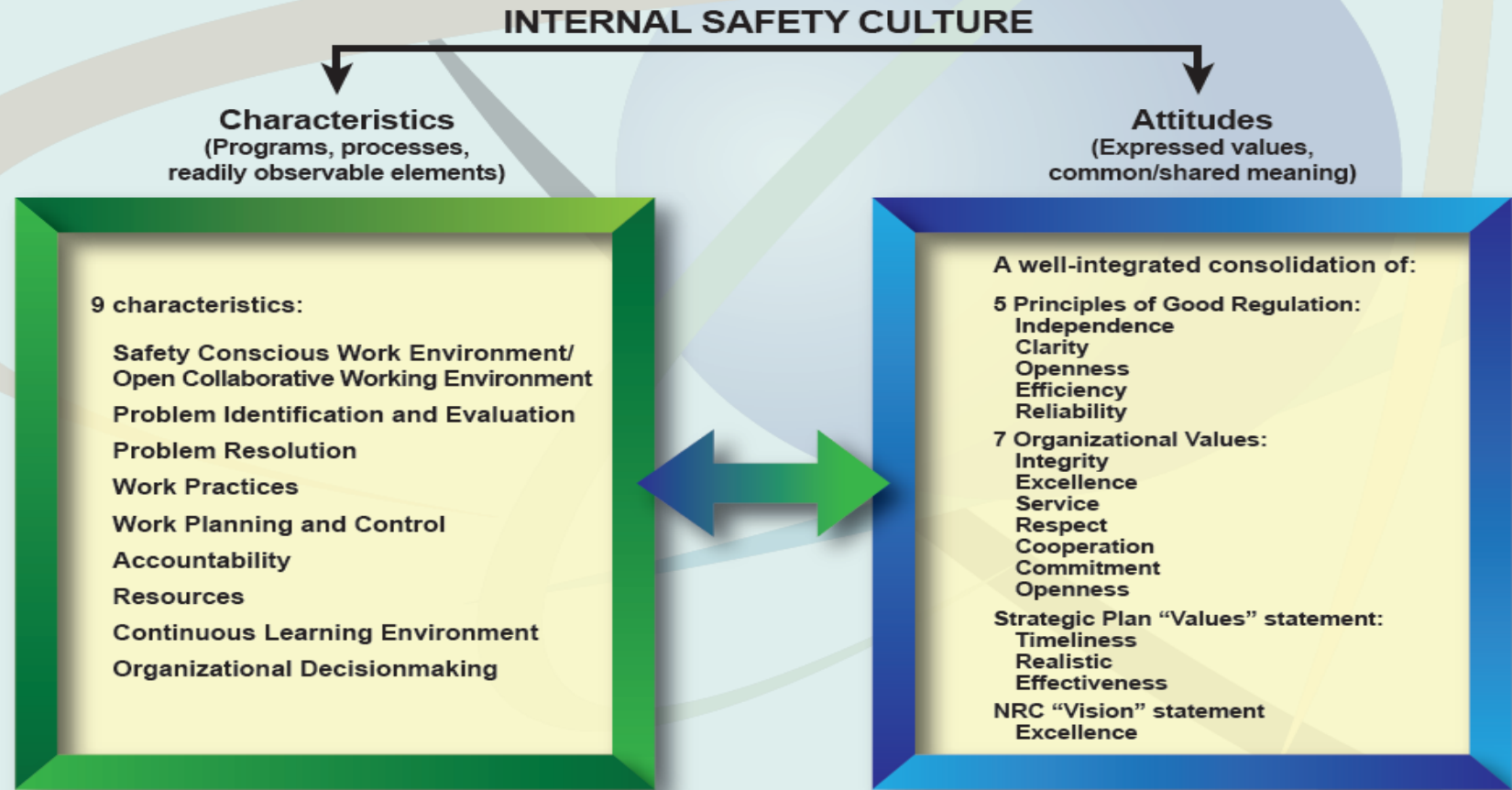
- Safety-Conscious Work Environment/Open Collaborative Working Environment—NRC management maintains a safety-conscious work environment/open collaborative working environment⁶ in which all employees feel free to raise concerns without fear of retaliation.
- Problem Identification and Evaluation—the NRC ensures that issues potentially impacting safety or security are promptly identified and fully evaluated, commensurate with their significance.
- Problem Resolution—the NRC ensures that actions are taken to correct safety and security issues in a timely manner, commensurate with their significance.
- Work Practices—NRC employees demonstrate ownership for the safety and security strategic goals and strive to meet high standards in their day-to-day work activities.
- Work Planning and Control—the NRC processes for planning and controlling work ensure that individuals, supervisors, and work groups communicate, coordinate, and execute their work activities in a manner that supports safety and security.
- Accountability—the NRC ensures that roles, responsibilities, and authorities in support of the strategic goals of safety and security are clearly defined and reinforced.
- Resources—the NRC ensures that personnel, equipment, procedures, and other resources are available and adequate to ensure the strategic goals of safety and security.
- Continuous Learning Environment—the NRC maintains a continuous learning environment in which opportunities to improve activities related to the strategic goals of safety and security are sought out and implemented.
- Organizational Decisionmaking—significant organizational decisions at the NRC are made in a manner that supports the strategic goals of safety and security.

To illustrate how these concepts apply internally to the agency, the Task Force has developed examples (called “aspects”) to describe how the agency could demonstrate support for each characteristic (Appendix C contains the complete list). These aspects reflect comments and feedback gathered from NRC employees through interviews and focus groups, and they incorporate the agency’s organizational values.

Figure 2 depicts the Task Force’s proposed framework for internal safety culture.

⁶ For licensees, the NRC has traditionally used the term “safety-conscious work environment.” Internally, the NRC has expanded this concept to include an “open, collaborative working environment” to be meaningful to every NRC employee. The NRC also includes a clause in cost-reimbursement solicitations and contracts for professional services that provides a procedure for the expression and resolution of DPOs of health and safety concerns related to the contract.

Recommended Internal Safety Culture “Framework”



This “framework” is intended to be inclusive of every NRC employee, organization, and function.

Figure 2

Data Collection and Outreach Activities

Methodology

To obtain an accurate and comprehensive understanding of the current programs and processes that support a safety culture and the potential opportunities for improvement, the Task Force conducted a series of data-gathering activities to obtain views from all levels of staff and management within the agency as well as from outside organizations. These activities were organized into three areas: (1) focus groups and interviews, (2) benchmarking, and (3) communications and outreach. The sections below describe the general approach for each activity, followed by a summary of the themes identified from all the activities.

Focus groups and management interviews

With assistance from a contractor (HGM Management and Technologies, Inc.), the Task Force conducted focus groups in the fall of 2008 with a representative sample of staff and first-line supervisors. The composition of the focus groups was designed to ensure representation across several key variables, including discipline, grade level, and tenure with the agency. For each group, individuals meeting the targeted variables were selected randomly and extended invitations for voluntary participation. The combination of using a representative sample and selecting the participants randomly provided support for the validity and reliability of the data and decreased the risk that systemic biases would influence the results. In total, 20 focus groups were conducted with approximately 153 individuals representing headquarters, all the regional offices, and the Technical Training Center. For additional information on the conduct of the groups, refer to the contractor report in Appendix D.

The focus group questions were designed and organized around the proposed safety culture characteristics. Using a similar set of questions, the Task Force also conducted individual interviews with managers across most offices to gain an understanding of their perspectives. The sampling of management was principally done at the division level but also included other levels, from first-line supervisors through office directors and regional administrators. Appendix F summarizes the results from the management interviews.

Benchmarking

The Task Force conducted benchmarking activities to gather information about practices, programs, and processes that could be considered for candidate good practices. The Task Force used the proposed safety culture characteristics to design the questions and organize the information collected. The Task Force benchmarked seven external organizations, both private organizations and other government agencies, that have a similar organizational focus towards safety. The Task Force asked their representatives a series of questions to understand each organization's views and treatment of safety and collected information on programs and practices that support their internal safety culture. Appendix E lists participating organizations and the questions they were asked. Some Task Force members also offered insights from their personal knowledge and awareness of practices from other external organizations, and these were considered in conjunction with the data collected.

Internally, the Task Force engaged with a majority of the agency's offices to identify existing programs, processes, and practices that provide support for each of the proposed safety culture characteristics and other general relevant activities, as appropriate. Because the offices differed in terms of size, complexity, and function, there were varied levels of applicability of the

characteristics across offices. The internal benchmarking focused on office-level practices that could be candidates for broader application within the agency. Appendix H contains the results of the internal benchmarking process.

Communications and Outreach

The Task Force conducted a range of communications and outreach activities to solicit insights, both internally and from external stakeholders, on how the NRC can improve its safety culture. The Task Force held a public meeting on December 4, 2008, and invited a set of external panelists to share insights on the topic of internal safety culture. The NRC also provided an opportunity for comment during the meeting to attendees who participated in person or through Webinar (a new Internet meeting technology the agency is testing). Appendix I includes the panelists' presentations from this public meeting.

Internally, the Task Force set up a Web site that provided information about its activities and a way for NRC employees to submit comments (anonymously, if desired) and to provide suggestions for improvement. To publicize its activities and the Web site, the Task Force used communications tools such as newsletters and management updates and distributed notepads with the Web site link. In addition, many Task Force members conducted presentations and outreach at various staff meetings, such as office and division meetings. In all the communications efforts, the Task Force encouraged individuals to contact any of its members to provide input. Discussions were also held with specific groups, such as participants in the Nuclear Safety Professional Development Program and first-line supervisors, to collect insights from their unique perspectives. Several members of the Task Force also conducted interviews with employees who had actively participated in either the DPO or Non-Concurrence Program to identify opportunities for improvement.

Because of the volume of information collected, the Task Force reviewed and considered all inputs in the aggregate and was not able to provide individual responses to submitters. Appendix G includes a summary of the staff inputs collected by the Task Force.

Review and Analysis

The Task Force compiled and analyzed the information and insights gathered from all the activities described above in the aggregate. All Task Force members received information packages containing the raw data, as well as summary tables of the different types of inputs, in advance of a Task Force meeting on February 17–20, 2009, where these materials were discussed. The Task Force collaboratively examined the data and summary information to identify overall themes and trends. From this information, and drawing upon insights from the members' own experiences and expertise, the Task Force identified and developed its overall set of recommendations.

Results and Insights

From the data gathered internally, the Task Force identified that all employees, from the staff through management levels, exhibited a continuing strong sense of support for the NRC mission and pride in their work. This echoes one of the most consistent positive results from past OIG surveys and other agencywide surveys. In general, employees, including those who do not work directly in technical roles, feel very connected to the agency's public health and safety mission and are proud of their personal contributions.

Although the agency is doing well in many areas to foster an organizational culture that supports achieving its mission, the focus of the Task Force was to identify areas for enhancement, and therefore it conducted the data collection and analysis activities in a manner that supported that approach. Based on its review of all the data, the Task Force identified several high-level themes as areas where the agency should continue or further increase its focus. Most of the themes (1, 2, 4, and 5) were developed based on converging supporting information from across multiple data sources. Theme 3 rose out of the strong, consistent insights observed by Task Force members during external benchmarking activities. In addition to these high-level themes, additional observations and trends were noted from specific data-collection activities, and these are described after the discussion on the general themes.

General Themes

Theme 1—In general, the inputs from staff revealed lack of clarity and some confusion about what the agency means by the concept of safety culture. There was no broad, consistent level of understanding about how individuals fit into the agency's safety culture, why safety culture is important, or the agency's expectations for safety culture. During the focus groups, staff with technical responsibilities were most aware of the concept of safety culture (although knowledge levels varied), but most nontechnical staff were not certain what the term meant or if safety culture even applied to them. Several of the Task Group members who co-moderated the groups noted that some of these focus group participants seemed to improve their understanding of safety culture and their connection to the agency's internal safety culture towards the end of the sessions, after the discussions on concepts related to internal safety culture. A number of employee inputs received by the Task Force were related to personnel safety and work environment conditions, further illustrating the confusion that can exist on the concept of safety culture. Results from management interviews generally demonstrated an understanding of safety culture and what supports a strong internal safety culture.

Theme 2—This theme centers on the importance of communications, in a variety of formats. First, input from staff indicated they strongly want consistent and timely feedback from their supervisors and managers on their personal performance and information on the results and contribution of their efforts. During several focus groups, many participants discussed not receiving regular feedback from supervisors and managers about events and factors that affect their work, including schedules and work plans. In addition, internal input collected from all employee levels supported the need for providing clearer expectations. Staff want to understand the expectations and standards for their performance in their current work environment. For example, they would like a clear understanding about the standards against which their work products will be evaluated and whether their products meet those standards. Some of the input indicated that staff sometimes do not feel they are receiving clear feedback about work quality from supervisors and managers. In addition, the staff want to understand the bases of decisions, particularly where they have expressed differing views during the

decisionmaking process. If they offered such views, they would like feedback to understand if and how their views were considered.

Results from management interviews indicate that management understands the importance of effective communications, but that many competing demands on their time can create challenges in making such behaviors a standard part of the feedback and decisionmaking processes on a day-to-day basis.

Theme 3—During the external benchmarking process, agencies and organizations that had focus on safety culture described having strong leaders throughout the organization who modeled safety culture behaviors and were engaged and present. In addition, their organizational systems, processes, and goals were aligned with the organization's safety culture principles. Those organizations that were in the process of establishing an internal safety culture framework or program, or were strengthening existing processes or programs, explained that the effort needed to start from the top and emphasized the importance of educating executive leadership about safety culture to achieve alignment and ownership. Furthermore, a number of the benchmarked organizations had specific positions with close reporting relationships to the leadership that focused on their internal safety culture (e.g., monitoring the health of the safety culture in the organization, conducting assessment activities, and overseeing improvement initiatives).

Theme 4—Several of the focus groups and general employee inputs questioned the effectiveness of the agency's differing views processes (e.g., Open Door Policy, Non-Concurrence Process, and DPO Program). The data indicated continuing perceptions that engaging in these processes may lead to some form of adverse consequences in the workplace (e.g., being excluded or viewed negatively), even though the managers interviewed stated continued support for using those processes. For example, while about half of the focus groups indicated they felt willing to speak their minds and that management handled differing opinions well, some participants in approximately half of the groups also noted feeling some reluctance to raise concerns due to fear of a negative work environment. Therefore, there appeared to be some mixed opinions from the focus groups regarding a willingness to raise concerns. In general, the input from staff indicated the desire to understand the basis for outcomes of issues entered into these systems, to understand the processes, and to facilitate the acceptance of these programs as part of agency practice.

The data collected from interviews with employees who had actively participated in either the DPO or Non-Concurrence Program, and from some of the Web site inputs, provided further examples to illustrate the issues in this area. For instance, several staff questioned the effectiveness of the Open Door Policy because, in their view, it was seen as bypassing management and jumping the management chain. In addition, several staff who had engaged in the DPO program or Non-Concurrence Process stated that they experienced negative consequences for using those processes (e.g., negatively affecting performance ratings, being marginalized both by supervisors and peers, and having tasks or jobs reassigned). Several staff with first-hand knowledge of the DPO process or Non-Concurrence Program expressed concerns about not having all their concerns or the exact nature of those concerns responded to, the likelihood of predetermined outcomes, the lack of management accountability to complete commitments made during these processes, and the excessive amount of resources required to implement the processes.

Theme 5—The challenge in communicating and demonstrating the appropriate focus in meeting the potentially conflicting goals of production or timeliness and quality appeared as a common

theme from the focus group results and was supported by insights from management interviews and some employee inputs. The focus group results indicated there was a perception among some participants that the agency may be too “metrics” oriented, versus “quality-driven,” in the production of deliverable work products. Employee inputs included the view that mixed messages regarding the agency’s regulatory role can be conveyed if production goals are emphasized and if industry groups are perceived to influence the Commission. Another employee view was that the agency’s role was not to issue licenses but to conduct safety reviews. Insights from management interviews included agreement on the potential for sending mixed messages in this area and recognition of the need to establish clear quality expectations.

Regarding accountability for safety through the current performance appraisal process, some managers interviewed noted that “safety” is not always included as a specific element in staff performance standards. Because there are many judgment factors that must be considered in prioritizing work, safety or quality considerations may not always need to be the main driving force, depending on the circumstances involved. The views from staff in this area, as provided by some focus group participants, were perceptions that the current performance management system is subjective, may be “quota-like,” and should be reviewed for improvements.

In addition to these general themes, notable insights from specific collection activities are discussed below.

Focus Groups

Overall, participants from across all the focus groups expressed a sense of pride in their work and their contributions to the agency. However, some of the focus group data did highlight some areas of concern. For example, one area was related to first-line supervisors, including the need for improvements in communication, performance management, and people management skills; technical expertise in the areas they are managing; and in stabilizing turnover rates. Another theme from the focus groups was concern about adequately capturing and transferring knowledge from departing staff. There were also a number of concerns related to the agency’s policies and procedures being outdated or inaccurate. The contractor’s report in Appendix D contains more detailed information on the results.

External Benchmarking and Public Outreach

Almost all the external organizations benchmarked by the Task Force were undertaking activities in the safety culture area and were at different stages in the process. Some were in the design or implementation stage of a safety culture program or system, while others were focused on sustaining existing programs and activities. The Task Force noted that several of the organizations began their safety culture initiatives after their organization or industry experienced an accident. Many of the organizations provided specific training on safety culture, particularly for new employees, to introduce them to their expectations and values related to safety culture. Most had programs for employees to report concerns (e.g., ombudsman, hotlines, and differing opinion programs).

The Task Force noted that many of the organizations examined during the external benchmarking activity shared the following similarities related to supporting a strong safety culture:

- Establish and communicate the organization’s basic tenets (e.g., philosophy, values, principles), to indicate what is important to the organization.

- Create a visible presence of communicating and demonstrating safety culture at the top of the organization. Start with leadership and drive strong safety culture principles down through processes and behaviors.
- Develop a framework that sets the standards for an organization's safety culture. Use it to measure the health of the safety culture and the effectiveness of associated programs. Align individual performance goals and accountability standards with safety goals and organization values.
- Develop and use effective assessment tools, such organizational surveys and metrics, to monitor the health of the safety culture.
- Empower the front line staff and encourage ownership at the individual level.
- Be aware and acknowledge that integrating safety culture throughout the organization can be challenging and requires a consistent long-term focus and effort by all employees.

The panelist presentations from the December 4, 2008, public meeting generally supported many of the themes and characterizations from the external benchmarking activity.

Appendix E contains a list of the benchmarked organizations, while Appendix I contains presentation materials from the public meeting.

Internal Benchmarking

The good practices collected by the Task Force in benchmarking internally within the agency demonstrated that support for many of the characteristics of safety culture already exist and are integrated into the daily work processes of offices. However, they have not necessarily been characterized or described explicitly as safety culture practices. The Task Force took a broad approach of collecting a wide variety of information for inclusion in the listings. The following are some themes identified from the data:

- (1) Most of the practices identified focused on the areas of information sharing, accountability, and training.
- (2) Many of the practices were aimed at keeping staff informed, which is critical for supporting a strong safety culture, as discussed under Theme 2. A number of offices described conducting various meetings, both formal and informal, to facilitate information sharing and ongoing discussions.
- (3) Several of the offices linked specific elements of their operating plans to performance expectations for staff and provided periodic reinforcements of these expectations in formal and informal settings.
- (4) Among the many examples of training programs and opportunities were knowledge transfer activities, conferences and retreats, and formal training courses.

- (5) Many offices use electronic tracking mechanisms to ensure the proper flow and management of work processes and to support work prioritization and planning, as well as systems for identifying and tracking problems.
- (6) Most offices specifically strive to encourage an informal sharing of concerns and differing views and the use of the agency's differing views programs, when appropriate.

For more detailed information on these practices, refer to Appendix H.

Task Force Recommendations

The data collected by the Task Force indicate that efforts related to supporting a strong internal safety culture have been ongoing throughout the agency and that there are areas where the agency is doing well. However, since the Task Force focused on identifying areas for improvement, it developed the following set of recommendations to further strengthen important elements of the agency's internal safety culture. By their nature, these recommendations are interrelated, share elements in their goals and objectives, and provide support for and build upon each other. Therefore, to achieve the most effective and lasting results, the Task Force suggests that these recommendations be considered as a set and that their implementation be well coordinated.

The importance of establishing a framework to express the agency's internal safety culture and then frequently communicating the expectations cannot be overstated. For example, the data indicates that many employees do not understand the concept of safety culture and are not clear on how it applies to them, if at all. Therefore, as the agency moves to enhance efforts to improve its internal safety culture, communication must be consistently conveyed from many sources and in a variety of formats to reinforce the concept that the NRC is a "safety-first" organization. The focus on safety culture must be demonstrated and emphasized by the top levels of the organization, as shown by insights collected from the Task Force's external benchmarking.

Strengthening a common understanding of safety culture expectations requires a constant effort and should ultimately be woven into the characteristics of agency programs and the attitudes and behaviors of the workforce. Employees will need to see tangible results from this initiative so that the agency can demonstrate its commitment to continuous improvement in its internal safety culture. By communicating regularly to educate and inform employees, the NRC can create a lasting emphasis on maintaining a strong internal safety culture.

Recommendation 1:

The NRC's Strategic Plan should incorporate the Task Force's proposed internal safety culture framework and ensure there is alignment between it and the agency's mission, goals, objectives, vision, values, and principles. Further, elements of the framework should be integrated, where appropriate, into the agency's performance management tools, both at the organizational and individual levels, to reinforce expectations and hold employees accountable to the principles, values, and goals that constitute a strong safety culture.

The Task Force believes that this initiative would set the foundation for defining and conveying the agency's internal safety culture framework and expectations. Under this proposal, the

framework for internal safety culture would emanate directly from the Strategic Plan and then cascade down to agency accountability and performance management tools.

The Task Force believes its proposed framework for internal safety culture should be integrated into the Commission's Strategic Plan because the Plan sets the tone and direction for all NRC activities. This would clearly communicate the message that safety is an overriding priority at the NRC. The Task Force also views this as an opportunity to align the various "guiding principles" used by the agency in the Strategic Plan, including the mission statement, vision, goals, objectives, organizational values, and principles of good regulation. These concepts, while worthy and necessary, did not appear to the Task Force to be well integrated. The next update of the Strategic Plan would present a fitting opportunity to clearly and coherently integrate the above guiding principles and incorporate them into an internal safety culture framework.

Management can establish expectations and influence behaviors by using performance management tools, such as operating plans, performance metrics, Senior Executive Service performance plans, employees' performance elements and standards, and self-assessments, that connect, as appropriate, to the safety culture framework. This effort can be linked to current, ongoing efforts to create consistent agencywide performance measures and other initiatives taken under the Performance Improvement Officer activities. If the proposed framework is accepted as what is important to fostering a strong internal safety culture, then the agency should monitor the observable and measureable elements of this framework as part of its systems for performance accountability and internal controls. This is intended to ensure that expectations being communicated on internal safety culture would be clearly translated into how individuals are held accountable.

This recommendation supports the characteristic of accountability and should increase awareness, understanding, and demonstration of internal safety culture concepts and expectations. Although the Task Force is not making specific recommendations regarding implementation details, Appendix J contains examples to illustrate some potential approaches for carrying out this recommendation.

Recommendation Basis

As described in Theme 1, the Task Force identified varied levels of understanding and some confusion from some staff surrounding the concept of safety culture. Providing a clear framework for internal safety culture would set the foundation for communicating and clarifying the agency's expectations for all employees. This should particularly help address the inclusion of employees in nontechnical roles by making the agency attitudes and characteristics clear and tangible for all employees. Several of the external organizations benchmarked by the Task Force established a clear framework for safety culture and used it as a basis for communications and related activities.

Adopting specific safety culture characteristics into performance management tools would drive the agency to improve how it conveys the relationship between the goal of quality versus that of production and timeliness, as discussed in Theme 5. Adopting this recommendation would allow the agency to communicate, clarify, and reinforce its safety-first focus. This recommendation also addresses the desire of staff to have clearer expectations and more accurate feedback on their performance, as noted in Theme 2. Linking employees' goals and performance elements to safety goals was a good practice observed at several benchmarked external organizations, as discussed under Theme 3. Finally, this recommendation would

provide support for Recommendation 4, which discusses how management can demonstrate commitment to quality by maintaining policies and procedures current and better aligning them at all levels.

Recommendation 2:

The agency should develop training on internal safety culture principles and expectations to increase awareness and educate all employees. In addition, the agency should develop or emphasize training for employees at all levels to improve the interpersonal skills that are critical to supporting a strong safety culture.

An effective training program should be incorporated into the agency's Knowledge Management efforts to clearly communicate what safety culture means for the agency and to ensure that all employees understand how safety culture fits into their daily activities and how they, in turn, contribute to it. Training programs should educate as well as encourage and should emphasize individual responsibility. Although the training should apply to all employees, there should be particular emphasis on new employees, so that they are introduced to the agency's safety culture expectations from the outset (e.g., starting during the "onboarding" process) in a clear and consistent manner.

Training is also needed to develop and improve interpersonal skills that are vital to creating and maintaining a strong safety culture, emphasizing topics such as conflict management, fostering creative tension, innovation, collaboration, the value of diverse views, and team-building. These skills are crucial to a strong internal safety culture at all levels of the agency. In particular, all employees (staff level through management) need an improved understanding of the value of having diverse perspectives in the decisionmaking process and the need to effectively communicate the basis for a decision.

Furthermore, there should be a particular focus in the training for first-line supervisors, since these positions can profoundly affect staff behavior and performance. The relationship between staff and their direct supervisors is critical to sustaining a culture where diverse opinions are sought and encouraged. The NRC should evaluate its supervisory training classes, currently under development for the NRC Leaders Academy, to ensure they effectively cover the skills listed in the previous paragraph.

Through effective training programs, the staff and managers will become more aware of the value in raising and considering issues and concerns and will be equipped with knowledge of the available processes and options for doing so. In addition, both staff and their supervisors and managers will gain awareness of how behaviors, such as their response to concerns raised by others, can significantly affect the health of the safety culture. All employees would also gain an improved understanding of the agency's expectations related to safety culture and could use such awareness to guide their activities and behaviors. These training activities should periodically be assessed and modified, as needed, to ensure continued effectiveness.

Recommendation Basis

This recommendation addresses Theme 1, regarding lack of consistent understanding among staff on what safety culture means, particularly for those working in nontechnical areas. The training would clearly communicate the agency's expectations for safety culture and the important role everyone plays. In addition to current employees, this training would be

particularly beneficial in helping new employees become familiar with the agency's expectations. In the external benchmarking activities, many of the organizations had specific training activities related to safety culture, particularly for new employees.

Training that focuses on interpersonal skills would address areas of concern identified in several of the other themes, particularly in Theme 2 related to communications (e.g., clarifying expectations, providing feedback, and explaining decision outcomes). The training could provide guidance on how to improve communication techniques, activities, and content, particularly for first-line supervisors, which would address the issues identified by the focus groups regarding first-line supervision. The training would also address Theme 4, in terms of valuing diverse views and avoiding behaviors that could be perceived as negative consequences for raising differing views.

Recommendation 3:

The agency should assess the effectiveness of the current set of disconnected systems that comprise the agency's problem identification, evaluation, and resolution process to identify areas for improvement. Based on the results, the agency should develop activities, enhancements, or initiatives to address identified weaknesses and areas in need of improvement.

An organization's long-term success requires a culture of continuous learning and improvement. The building of a strong safety culture is dependent, in part, on all employees being able to and being encouraged to freely identify issues that they believe may affect the effective and efficient implementation of the agency's work activities. Once issues are identified, they must be evaluated, resolved, and effectively incorporated into the organization's processes to prevent recurrence and to facilitate continuous improvement.

When the Task Force set forth to identify mechanisms available for employees to raise issues, express differing views, or make suggestions, it realized that there are currently a variety of disconnected systems for doing so. Some examples include the differing views processes (DPO, Non-Concurrence Process, and the Open Door Policy), the Employee Suggestions Program, the Generic Issues Program, the OIG, the agency's Allegation Program, the National Treasury Employees' Union (NTEU), the Employee Assistance Program, the petition process in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 2.206, and many office- and program-specific systems (e.g., the Office of Nuclear Reactor Regulation's Corrective Action Program, the Office of Research's feedback portal, and the ROP Feedback Process). In addition, the agency has Management Directive 6.8, "Lessons-Learned Program," dated August 1, 2006. This program was developed in response to the recommendation for an agencywide corrective action program in the "Effectiveness Review of Lessons Learned Task Force Reports," dated August 2, 2004. That task force was established, as a result of the Davis-Besse reactor vessel head degradation event, to determine whether recommendations from previous lessons learned had been adequately implemented. However, this program has a very high threshold for entry.

In many cases, there is not a clear or consistent path to resolution among this diverse range of processes. Based on their experiences, Task Force members were aware of concerns and problems regarding the effectiveness of some of these processes and also recognized that, in contrast, the practice by most licensees, particularly the larger organizations, is to have a

sitewide corrective action program that serves as a single point of entry to the problem identification, evaluation, and resolution process.

In conducting the assessment, the Task Force recommends evaluating current problem identification, evaluation, and resolution processes against the following set of goals. These goals were developed based on members' experiences with these types of systems and processes.

- An employee should be able to find information at a single location to assist in identifying the most appropriate process to pursue an issue, concern, or suggestion. For example, this could be through a consolidated Web page, a central contact (such as the position described in Recommendation 5), a physical location, or a new consolidated process for receiving and resolving issues, concerns, or suggestions.
- Issues, concerns, or suggestions should be effectively screened and prioritized, based on safety and security significance, as appropriate.
- The resolution of issues, concerns, or suggestions should be communicated and transparent to the originator and made available to those who have an interest in the areas being addressed, in a manner that is appropriate, based on the topic and situation. This will help support being a learning organization and maintaining an environment conducive to raising issues.
- Employees should be able to share information from these processes and systems, as appropriate, throughout the agency. This would facilitate the early identification of negative trends; promote consistent solutions to common issues, concerns, or suggestions; and provide the basis for evaluating the effectiveness of past corrective or improvement measures.

In addition, the Task Force believes the NRC should focus specific attention on improving the current Employee Suggestion Program, to encourage employees to share their ideas and suggestions on how to improve agency functions in a variety of areas. This is particularly important, given the large number of new employees, who may have insights based on their experiences outside the agency.

Recommendation Basis

Problem identification and evaluation and problem resolution are two of the characteristics in the Task Force's proposed framework for internal safety culture. Also, the ROP assumes that licensees have a healthy problem identification and resolution program, which allows for the identification of problems at a low threshold. A number of Task Force members have extensive experience in reviewing both the effectiveness of licensee programs to fully identify and resolve problems and the internal agency processes. Based on their experiences, Task Force members had a general concern about how well the various existing processes are meeting the goals listed above to support the identification, evaluation, and resolution of a wide range of issues that may affect agency functions and work products. In addition, during the Task Force public meeting, one of the panelists representing a public external organization recommended that each program office in the agency implement its own corrective action process and that an overall sponsor, at the senior management level, monitor the implementation of these processes.

Recommendation 4:

The agency should establish clear expectations and improved accountability for keeping its policies and procedures current and aligned and for maintaining their quality. These expectations would apply to procedures at the office or lower levels and supplement ongoing initiatives to update and maintain agency management directives.

The maintenance of high-quality internal procedures reflects a commitment to safety principles and is an important contributor to sustaining high standards in work activities. Although the agency has established expectations and performance measures for updating and maintaining agency management directives (as a result of the recommendations of the Management Directive Working Group), similar expectations and standards do not exist at lower levels, such as for office procedures. This recommendation supports the framework for an internal safety culture; specifically, the characteristics of work practices (e.g., performing work to high standards) and resources (e.g., ensuring available and adequate procedures), and facilitates the achievement of high-quality work, especially for those procedures and processes having the greatest impact on the agency's mission. Specific resources should be considered in the agency's budget decisionmaking process to accomplish the goals of this recommendation.

Recommendation Basis

Concern about outdated procedures and policies was a strong theme identified from the focus group results and other employee inputs. This aligns with information from other agency assessments (such as previous OIG surveys and information-gathering efforts under the agency's Knowledge Management efforts). The arrival of a large number of new employees has increased the importance of having accurate, up-to-date, and usable procedures that are aligned throughout the agency. Improving the accuracy and quality of procedures and policies at all agency levels would facilitate high-quality performance and work products.

Recommendation 5:

The agency should establish a dedicated advisor (or organization) to lead and coordinate efforts to implement and maintain a framework for ensuring a strong internal safety culture. Regarding implementation of this recommendation in terms of the specific grade level and reporting relationship, the Task Force identified two approaches but did not reach agreement on which the Task Force, as a whole, would recommend.

Establishment of this position or organization is intended to ensure that, ultimately, a culture of safety is well integrated into the daily activities of the agency. This position or organization would function as an advocate for safety culture activities in the agency by conducting and coordinating significant activities to monitor and strengthen the internal safety culture, including working with related initiatives by others (e.g., offices, groups, management) as appropriate. These include the following:

- promoting awareness,
- identifying training needs,
- evaluating program effectiveness,
- providing guidance to offices,

- recommending improvements, and
- acting as a liaison to external organizations and among NRC offices.

In addition, in the area of SCWE/OCWE, this advisor should do the following:

- assess the overall organizational climate on a regular basis;
- identify and mitigate barriers to maintaining an OCWE;
- evaluate existing agency-level efforts and identify additional ones needed to address concerns that raising differing views could have a negative impact on an employee's career or work environment (as discussed in Theme 4); and
- assess, identify, and develop improvements to the current processes for raising differing views, including the possible need for additional processes.

Another important function of this position would be to serve as a resource to assist employees in selecting and effectively using the most appropriate avenue for registering differing views, making suggestions, or addressing mission/work-related concerns⁷. The advisor would provide guidance on the most effective avenue for the employee to pursue, depending on the nature of the issue. Recommendation 3 includes examples of some of the available processes for which this advisor may provide guidance. Issues within the scope of responsibility for this position could include submitting a safety or security concern or suggesting an improvement to an internal procedure. The advisor would also focus on improving communication about the various avenues available, such as developing a comprehensive Web page or navigation tools for employees. It is important to clarify that the advisor should not be responsible for taking any actions to investigate or resolve concerns or differing views, and thus no further action would be required after meeting with the employee. In developing the roles and responsibilities for this position, agency management should work with the NTEU to ensure that the union retains its rights under law. In addition, the agency should consider how to handle the issue of confidentiality (i.e., to what extent provisions for confidentiality can and should be provided).

This advisor should work closely with the individuals or organizations responsible for activities related to the safety culture of licensees to ensure the alignment and consistency, where appropriate, of agency safety culture activities. This is important because both internal and external approaches in this area may evolve over time. In addition, this advisor could continue to engage with public stakeholders to gain their views on the agency's internal safety culture, and factor such input into ongoing assessment activities to improve public confidence. Finally, the advisor should provide a periodic public report addressing all the functions described above.

There are two distinct sets of knowledge, skills, and abilities (KSAs) needed to facilitate success in this position. The first is having the appropriate KSAs in the areas of safety culture and organizational effectiveness. The topic of safety culture is complex because the factors that influence organizational behavior and culture can be numerous and varied, and there is no single model of organizational behavior or culture. Maintaining the necessary understanding and oversight of an organization's culture requires knowledge and experience in integrating perspectives and processes throughout an organization. Therefore, such KSAs are necessary

⁷ This position would not deal with matters relating to the employment of any employee (grievance), any personnel practice, or other general condition of employment because these matters, by law, need to be directly addressed to NTEU as the exclusive representative of bargaining unit employees.

to effectively monitor the health of the internal safety culture and to create lasting improvements. In addition, for assisting employees in selecting the most effective avenue for addressing issues, the individual(s) must have the necessary interpersonal skills needed for interacting with staff effectively in such situations. Individual(s) who possess both skill sets may serve in both capacities. If an individual has the necessary skills to serve in one function but not in the other, the functions may need to be performed by more than one individual to collectively meet the skill sets.

Recommendation Basis

In conducting its activities, the Task Force quickly reached two conclusions that led to the development of this recommendation. First, it was clear to the Task Force that safety culture is a complex area, with many interrelated factors to be considered. Second, there is currently no person or organization assigned responsibility for maintaining an integrated vision and strategy for the various activities that are intended to support a strong internal safety culture. Given the complex nature of the subject area, the wide variety of improvement initiatives and activities that could be undertaken (e.g., implementation of activities to support Recommendations 1-4), and the need for ownership and coordination of improvement efforts to ensure effectiveness, the Task Force strongly recommends a dedicated position or organization to serve in this capacity.

The establishment of this position would reinforce the agency's intent to maintain an OCWE, in part by actively emphasizing and facilitating the effective and efficient use of the various avenues available for pursuing differing views or other concerns. Because establishing and maintaining an environment conducive to addressing issues and raising concerns is vital to a strong safety culture, this position would have responsibility for significantly contributing to the development and support for such an environment.

The functions described above for this position would address the concerns identified in all the themes, and therefore the establishment and proper staffing of this position or organization is extremely important to the improvement and maintenance of the agency's internal safety culture.

Approaches for Implementation

After achieving strong consensus on the need for this position or organization and its functions, the Task Force had extended dialogue regarding the specific grade level and reporting relationship. Task Force members were divided on this question, with 11 members supporting that a SLS employee or SLS-led team, reporting directly to the EDO, should be appointed, and 12 members supporting a more general approach, i.e., not providing a specific position level and reporting relationship. The bases for each of these approaches are articulated below.

Approach 1 (SLS Reporting Directly to the EDO)

The Task Force is generating a high-level report, by design. However, given the importance of this recommendation to the overall success of safety culture improvements at the agency, it is necessary to include additional specificity to address the issues of position level and organizational reporting.

As with other NRC SLS advisors who have specialized professional knowledge in a complex area, it is essential that these initiatives be led by an individual or group of individuals who have distinct expertise in the safety culture area. In addition, given the major duties and functions,

knowledge and skills, contacts and commitments, discretion, and responsibility envisioned for this position, the expectations for this individual or group are high. Therefore, many of the Task Force members believe that the appointment of an SLS or SLS-led team is appropriate and necessary. For example, in Management Directive 10.145, "Senior Level System," dated June 12, 1996, the benchmark description for an SL-2 professional and administrative position reads as follows:

Provides authoritative assistance, advice, and guidance to senior agency management in a specialized professional or administrative field or discipline in assignments of exceptionally high priority or criticality to the support and facilitation of major NRC functions and mission activities. Serves as a Commission-wide resource for significant policy, program, or operational initiatives associated with a complex area of specialization having broad impact on a variety of organizational elements and acts as the agency's principal liaison with external groups and organizations for all related matters. Provides authoritative consultation, guidance, assistance, and recommendations in the area of expertise or responsibility to office management and staff, other NRC offices and personnel, and Commission members and their staffs.

Appropriate placement in the organization is also critical to the success of this recommendation, as it can affect visibility, accessibility, and credibility. Given the agencywide scope of the safety culture function and the sensitive nature of the position (i.e., dealing with attitudes and behaviors of employees at all levels, including high-level managers), it should be independent of line management and report to the EDO (although this does not imply that it needs to be located in the Office of the EDO). Placing this function within the reporting authority of a program office could present a possible conflict of interest and affect the visibility, accessibility, and credibility necessary for this initiative to succeed. For example, employees might not feel comfortable approaching an advisor or team who is within an employee's management chain. In addition, placing the advisor or team in a program office could compromise an independent assessment of the organizational climate of that organization. Furthermore, appropriate placement in the agency can send a strong message that management recognizes the importance of safety culture and is committed to its success.

Establishing a position reporting to the EDO would be in alignment with several external organizations benchmarked by the Task Force that had clear organizational contacts for overseeing safety culture activities which had close reporting relationships to the leadership of the organization, as discussed in the results section.

Finally, this advisory position includes direct responsibility for leading, guiding, and assessing the implementation of the other recommendations in this report, and therefore, their success depends on this position being filled by a person(s) with the appropriate qualifications and authority as defined by at the SLS level, reporting to the EDO.

Approach 2 (General Approach)

A segment of the Task Force members recommends that, in addition to the specific expertise required for the advisor position or organization, the following factors be evaluated in the implementation of this recommendation:

- level of authority
- degree of independence

- accessibility to all employees
- level of credibility within the agency (as well as externally)
- visibility throughout the agency

The Task Force members who aligned with this approach shared agreement with many of the points discussed under approach 1. These members recognized the wide scope, important functions, and potential challenges this position or organization would encompass. These members believed that, for the advisor or organization to effectively create significant and lasting improvements to the agency's internal safety culture, the agency should fully consider these other factors, in addition to expertise. These factors would also help demonstrate management commitment to a strong internal safety culture. Considering these and other relevant factors, the agency should use its standard processes for identifying grade levels and reporting relationships to determine the most effective placement of the position or organization, as there might be multiple options (with approach 1 being one example).

The Task Force members who favored this approach chose not to recommend a specific grade level and reporting relationship for the following reasons:

- (1) These members did not have the knowledge or experience needed to appropriately determine the level and reporting relationship of the position, which is a function that should be determined by standard agency processes based on the position description and duties.
- (2) The agency would need to consider a range of other factors, such as resources, organizational structure, and management approach, in addition to those listed above, in establishing this position or organization. Without full knowledge of all the relevant factors, these members did not believe it would be appropriate to identify a specific grade level or reporting function.
- (3) If the Task Force made a more specific recommendation, and, after all relevant factors were considered, the agency decided on a different level or reporting relationship, it could create the perception of a lack of management support and acceptance for the Task Force recommendation. This could overshadow the viewpoint that creating such a position would be progress in terms of meeting the overall objectives of the recommendation. Under this more general approach, the establishment of this position, after full consideration of the factors described above, would demonstrate support for the overall recommendation.
- (4) Including specific requirements regarding the level and reporting function of the recommended position could distract from the overall goals and value of this recommendation. This more general approach places the focus of the recommendation on the objectives and functions of the position.

Because this would be a new position or organization, the agency should monitor and evaluate it to identify potential changes or improvements to enhance its effectiveness in the future.

Other Considerations

The Task Force suggests all offices review and consider applying to their offices the internal good practices (described in Appendix H) and insights developed from the

external benchmarking efforts (described in the “Results and Insights” section) for supporting a strong safety culture.

The list of practices that support an internal safety culture collected by the Task Force in its internal benchmarking contains many items that potentially have value in being expanded or adopted by other groups. The Task Force does acknowledge that, with the diverse range of office sizes, complexity, and functions, some practices may not be as effective for some offices as they are for the originating offices and that modifications or adjustments may be needed to achieve the intended effects. In addition, the insights drawn from the external benchmarking efforts can also be evaluated for applicability. Conducting a review of these practices would support the characteristic of a continuous learning environment (i.e., identifying innovative practices and improvements).

Acknowledgement of Existing Agency Activities

The Task Force would like to acknowledge that there are a number of existing initiatives and activities undertaken by the agency that support elements of a strong safety culture (e.g., the wide variety of good practices the Task Force collected from its internal benchmarking activity). Based on the collected data, the Task Force would like to recognize and recommend continued emphasis in three specific areas.

The first is the agency’s activities related to Knowledge Management. This area continues to be a concern to staff, as indicated by the focus group results, particularly with regard to capturing knowledge from staff leaving their positions. The Task Force recommends continuing focus in this area, including monitoring the effectiveness of current activities and identifying opportunities for further improvement.

The second is related the concept of NRC Team Players. NRC Team Players are identified as supporting an OCWE by having a high standard of involvement and responsibility for regulatory decisions and by exhibiting appropriate behaviors in promptly raising, fairly considering, and respecting differing views. (Appendix K contains the NRC Team Player poster that lists these performance expectations.) The NRC Team Player award was created in 2008 to show appreciation for individuals who have supported an OCWE and to reinforce the value of differing views. The Task Force recommends continuing the agency’s focus in this area.

The last area is related to personnel health and safety. Although not directly included in the scope of Task Force activities, which interprets safety as it relates to the NRC mission, attention to personnel safety is critical to the effective functioning of the agency and directly supports creating an overall environment and culture of focus on safety in a holistic manner. Some of the comments received by the Task Force were related to personnel safety and the importance of safe working conditions for all NRC individuals. The Task Force acknowledges the existence of many agency activities in this area and encourages a continued focus on these initiatives.

Lessons Learned Evaluation

The Task Force evaluated the guidance in Management Directive 6.8 to determine if any of its recommendations met the criteria for designation as a lessons-learned item. The Task Force concluded that its recommendations do not meet any of these criteria listed in Management Directive 6.8.

Additional Comments

The following additional comments provide the views of only the individuals noted. These views were not adopted by the Task Force as a whole.

1. Comments provided by Task Force members Isabelle Schoenfeld, Lisamarie Jarriel, and Renée Pedersen, and NTEU Representative to the Task Force, Alex Murray:

For the past several years, attention to the area of safety culture related to the NRC's oversight of licensees has increased. This is evidenced by the Commission having issued Staff Requirements Memoranda on enhancing the ROP to more fully address safety culture and updating the Commission's policy on safety culture. In addition, the Office of Nuclear Reactor Regulation and the Regions have implemented changes to the ROP to more fully address safety culture. The Office of New Reactors established a safety culture task group to consider how to implement areas important to safety culture in the reactor construction oversight program. The Office of Nuclear Materials, Safety, and Safeguards established a safety culture pilot team to review the ROP's safety culture components for applicability to the fuel cycle oversight program.

Given this significant additional attention being paid to safety culture, both externally and internally, and the fact that the KSAs (as described in Recommendation 5) needed for both internal and external safety culture overlap, an excellent opportunity exists to consider possible options for addressing agency internal and external safety culture roles and responsibilities. One of the options we would like to suggest for consideration is the establishment of an SLS-led organization (what some have referred to as a "Center for Excellence in Safety Culture") comprised of staff with the appropriate expertise to support both internal and external safety culture related activities.

2. Comments provided by the NTEU representative to the Task Force, Alex Murray

I am the NTEU representative to the Internal Safety Culture Task Force. I am providing my own personal comments (below) on the report and the agency's safety culture.

I generally agree with the findings of the Task Force and their recommendations in the Task Force report. Staff concerns expressed to myself and other NTEU members generally follow the themes in the Task Force report; in particular, reluctance to raise concerns due to fear of a negative work environment, and concerns about negative consequences and retaliation for raising safety issues, including staff use of the Non-Concurrence and DPO Programs (e.g., report Theme 4). Staff has also noted to me and other NTEU representatives the agency emphasis on programmatic issues (e.g., schedule) at the expense of safety issues (e.g., report Theme 5). These realities can cast a chilling effect upon the agency and can adversely affect the agency's core mission of regulating nuclear safety. We need to refocus on safety first.

I recognize the agency will be receiving additional input related to the safety culture as part of the OIG's Safety Culture and Climate Survey, due to be conducted and compiled over the next few months. I note that previous surveys

have also focused on internal communications and work practices, and have found staff safety culture concerns with raising specific safety issues, such as via the DPO process.

The Task Force report is a necessary first step in addressing the safety culture concerns. However, I conclude that the second step – implementation - and its details - are keys to successfully resolving these concerns. The agency's staff does the majority of the work in an environment with a generally top-down, naval-like, autocratic management style. Often, the management systems directly and indirectly impact staff findings and conclusions, by establishing expectations or other goals that define, imply, or influence a predetermined outcome, and rewarding those who align themselves with this outcome. The details of implementation the report's recommendations need to correct this management style. Otherwise, the agency's safety culture will not be improved, and the Task Force report will become another report gathering dust.

Consequently, I encourage the agency to be aggressive in improving its internal safety culture as part of the implementation of the Task Force report.

I offer the following specific items (developed from themes, findings, and recommendations in the Task Force report) for consideration as we move forward on improving the safety culture:

1. Currently, many members of the staff observe there is a misalignment between agency statements regarding safety culture and issues, and our actual practices. While we state our mission is to ensure safety, we largely evaluate and reward based upon meeting programmatic schedules and licensing activities, often in a manner favorable towards licensees. Frequently, staff is directed to meeting a schedule to accept or approve an action as successfully meeting a metric. This underlies all five themes and five recommendations in the Task Force report. As a start, metrics in operating and performance plans should be refocused towards safety, even if it means schedule delays. Staff should be acknowledged with more citations and awards for safety-related activities.
2. As a corollary, members of the staff have frequently expressed to the NTEU concerns about the increasing demands on staff time for non-mission critical tasks, such as more stringent administrative activities (e.g., time, leave, travel, tickets, multiple budget exercises). Completing these activities is often part of the performance measures of NRC organizations and individual staff. This emphasis negatively impacts safety culture. It is suggested that means to reduce the administrative burden upon the staff are found.
3. The concurrence process is an important part of the safety culture (e.g., in Theme 4 and Recommendation 3 of the Task Force report). I note that current practices often reduce the number of staff concurring on reports and activities, as a means to facilitate meeting schedule. Often, significant staff contributors or staff with interest in a report or action are excluded or not even informed. Changes can be made during management concurrence that the staff might not agree with. I recommend concurrences include all significant contributors and that interested staff are given the opportunity to concur/non-concur. Documents should not be allowed to proceed further until management has provided written

acknowledgement of any non-concurrences, attempts at resolution, and their rationale for proceeding without resolving the non-concurrence(s). Significant changes should include re-concurrence by the originating staff. All documents involved, including any non-concurrences and management responses, should be incorporated in the approval packages going forward to higher management and be made publicly available as soon as possible, as part of the same Agencywide Documents Access and Management System (ADAMS) package.

4. Consensus is part of the concurrence process and should be defined and encouraged – it is not simply a voting process with a simple majority needed. Consensus building should include staff interested and knowledgeable in the subject matter under discussion.

5. I note the quality, capabilities, and “local institutional memory” of first and second level managers have declined in recent years, in contrast to a decade or more ago when managers were frequently experts or otherwise well regarded in the technical, safety, and/or regulatory areas they managed. Consequently, these managers are significantly less interested and less engaged in the technical, safety, and regulatory issues of activities and licensing actions, and more focused on programmatic metrics (e.g., schedules, meetings) and administrative duties. No manager admits and corrects mistakes. The “fungible manager” approach (e.g., frequently moving managers) has exacerbated the situation. This is an underlying factor to all of the themes and findings in the Task Force report and undermines safety culture. It is recommended that management selection places a far greater emphasis on the technical, safety, and regulatory expertise (etc.) matching the position, and that the selected manager stays in the position or area for a longer timeframe (the current average is often three years or less).

6. I find the need for an individual/advisor (or organization) dedicated to safety culture compelling for addressing safety culture concerns (Task Force report, Recommendation 5). This individual/organization would provide key input on safety culture to the NRC’s Strategic Plan and performance management tools, training, problem identification/evaluation/resolution processes, and expectations (Task Force report, Recommendations 1-4). This advisor/organization must be independent, and, therefore, it is recommended that they are part of or report via the advisory committee route (e.g., the Advisory Committee on Reactor Safeguards (ACRS) organization). Such an arrangement would also provide the advisor/organization with access to technical support for resolution of significant safety issues that might arise from the Non-Concurrence Process and DPO process. This individual/organization should also have an advocacy role for significant safety issues, such as those raised by the Non-Concurrence Process and DPO process, and a tracking function (again, for significant safety issues and Non-Concurrence/DPO issues and recommendations).

7. The advisor or head of the safety culture organization should be a senior level position, as noted in the report. This level is needed to demonstrate the agency’s commitment to safety culture and to ensure the appropriate level of experience and expertise is applied.

8. Theme 4 and Recommendation 3 of the Task Force report concern the Non-Concurrence, Differing View Advice/Advisor, and DPO processes. Staff has routinely and consistently expressed concerns about these processes for many years. A stronger recommendation is in order. It is suggested that these are definitively improved. For example, key improvements should include making these processes fully transparent and public, moving them to the ACRS organization, greater panel independence, independent tracking of management responses and corrective actions, management accountability, independent decision makers, reduced conflicts of interest, and mechanisms for potential National Academy of Sciences/National Academy of Engineering involvement for significant issues/DPOs.

9. The NRC is also pursuing (external) safety culture activities with its licensees. Consequently, there should be alignment between the internal safety culture advisor/organization and the external safety culture activities due to the similarities of issues and approaches involved.

It is important to track the progress of the agency as safety culture improvements are implemented. Consequently, the Task Force, or a subset thereof, should be tasked in 12-24 months to revisit the situation.

Again, these are my personal views. However, they are in general alignment with observations by NTEU representatives on agency safety culture over the past few years.

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Appendices

- A. Task Force Guidance Documents
- B. Historical References to NRC Internal Safety Culture
- C. Proposed Internal Safety Culture Characteristics and Aspects
- D. Focus Group Report
- E. External Benchmarking Information
- F. Management Interview Summary
- G. Employee Input Summary
- H. Internal Benchmarking Results
- I. Public Meeting Presentations
- J. Example Uses of Proposed Internal Safety Culture Framework
- K. Be an NRC Team Player Poster
- L. List of Abbreviations and Acronyms