

March 19, 2012

MEMORANDUM TO: Joseph Giitter, Director
Division of Risk Assessment
Office of Nuclear Reactor Regulation

FROM: Undine S. Shoop, Chief /RA/
Health Physics and Human Performance Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

SUBJECT: Safety Culture Common Language Path Forward

DATE AND TIME: Friday, March 30, 2012
10:30 AM-11:30 AM

LOCATION: Conference call

PURPOSE: To discuss path forward for the Safety Culture Common Language Initiative

CATEGORY: This is a Category 2 Meeting. The public is invited to participate in this meeting by discussing regulatory issues with the NRC at designated points identified on the agenda.

AUDIO-TELE-
CONFERENCING: Interested members of the public can participate in this meeting via a toll-free audio teleconference. Call the toll-free number 888-790-1014 and enter pass code 62953 # when prompted.

*Meetings between NRC technical staff and applicants or licensees are open for interested members of the public, petitioners, interveners, or other parties to attend pursuant to the Commission's Policy Statement on "Enhancing Public Participation in NRC Meetings," (67 FR 36920), May 28, 2002.

REFERENCE: Documents outlining the Safety Culture Policy Statement are available in the NRC's Agencywide Documents and Management System (ADAMS) under accession numbers ML103200087 and ML103200282.

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PARTICIPANTS:

NRC

M. Keefe, NRR
U. Shoop, NRR
K. Martin, NRR

INDUSTRY

K. Koves, INPO
J. Lynch, INPO
R. Gaston, Exelon

ENCLOSURES:

Meeting Agenda

Results of the Safety Culture Common Language

PARTICIPANTS:	<u>NRC</u>	<u>INDUSTRY</u>
	M. Keefe, NRR	K. Koves, INPO
	U. Shoop, NRR	J. Lynch, INPO
	K. Martin, NRR	R. Gaston, Exelon

ENCLOSURES:
Preliminary Meeting Agenda
Results of the Safety Culture Common Language

Distribution:

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AGENDA FOR THE CATEGORY 2 PUBLIC MEETING TO DISCUSS PATH FORWARD FOR
SAFETY CULTURE COMMON LANGUAGE

- Discuss proposed April workshop agenda, and common language document
- Stakeholder feedback and suggestions

ENCLOSURE 1

ENCLOSURE 2

Results of the Safety Culture Common Language Initiative Workshop

Results of the Safety Culture Common Language Initiative Workshop

Purpose

The purpose of the meeting was to develop a description of the important elements of nuclear safety culture, as applied to power reactors, at a more detailed level than the 2011 safety culture policy statement.

Method

In brief, the panelists first categorized approximately 200 descriptors of positive safety culture behaviors into the nine policy statement traits. They then grouped the behaviors that were within each trait. After grouping, they titled each group and developed a short description to accompany the title. The behaviors were the NRC aspects from IMC 0310, the attributes from the Principles for a Strong Nuclear Safety Culture, the attributes from the IAEA GS-R-3.1, the items from the safety culture survey that was administered in the summer of 2010, and behaviors generated by the panel and audience at the beginning of the session.

Panelists

The panelists from the industry were Jim Lynch (INPO), Dave Garchow (INPO), Tom Houghton, (NEI), Andrew Vomastek (Dominion), Ron Gaston (Exelon), Lori Hayes (Progress), Ed Eilola (PSEG), and Ron Barnes (APS).

The panelists for the NRC – Undine Shoop (NRR), Molly Keefe (NRR), Kamishan Martin (NRR), Stephanie Morrow (RES), Diane Sieracki (OE), Jack Rutkowski (RIII), Eric Ruesch (RIV), and Ray Powell (RI).

The panelist from the public was Billie Garde (Clifford and Garde, LLP).

Location

Vis Arts Center, Rockville, MD

Date

2011.12.13-14

Personal Accountability

Standards – All personnel understand the importance of adherence to nuclear standards. All levels of the organization exercise healthy accountability for shortfalls in meeting standards.

ID #	Text	Source	ID
109	The workforce demonstrates a proper safety focus and reinforces safety principles among their peers.	NRC	O1c
006a	All personnel understand the importance of adherence to nuclear safety standards.	INPO	1Fa
006b	All levels of the organization exercise healthy accountability for shortfalls in meeting standards.	INPO	1Fb
029	Complete, accurate, and forthright information is provided to oversight, audit, and regulatory organizations.	INPO	3H
198	There is a high level of compliance with regulations and procedures.	IAEA	C3
209	Housekeeping and material conditions reflect commitment to excellence.	IAEA	D9
159	Workers at the station follow procedures.	Survey	40
162	Peers coach each other on behaviors that promote nuclear safety.	Survey	43
170	Co-workers at this station hold one another to high standards. Doing the right thing even if it costs money/time.	Survey	51
	Mindful or thinking adherence to procedures.	Public	
		Public	

Worker Ownership for Job

ID #	Text	Source	ID
002	Support groups, such as human resources, labor relations, and business and financial planning, also understand their roles in contributing to nuclear safety.	INPO	1B
200	“Ownership” for safety is evident at all organizational levels and for all individuals.	IAEA	C5
141	It is my responsibility to raise nuclear safety concerns.	Survey	22
172	I always use human error prevention techniques when my work could affect nuclear safety.	Survey	53

179	In general, employees have a basic knowledge of plant fundamentals.	Survey	60
150	Worker Ownership for Job – Workers understand and demonstrate that they are personally responsible for the behaviors and work practices that support nuclear safety.	Survey	31
	Techs use “Star” on the job (Human Performance Tools)	Public	
	A worker finds that he/she is having difficulty concentrating while on duty and declares he/she is unfit for duty.	Public	

Teamwork – Workers and workgroups communicate and coordinate their activities to ensure that nuclear safety is maintained.

ID #	Text	Source	ID
	No items were identified for this attribute but the panel thought it should be included as an attribute.		

NRC Examples:

- **Standards:** All personnel understand the importance of adherence to nuclear standards. All levels of the organization exercise healthy accountability for shortfalls in meeting standards.
 - The workforce demonstrates a proper safety focus and reinforces safety principles among their peers.
- **Worker Ownership for Job:** Workers understand and demonstrate that they are personally responsible for the behaviors and work practices that support nuclear safety.
- **Teamwork:** Workers and workgroups communicate and coordinate their activities to ensure that nuclear safety is maintained.

Leadership Safety Values and Actions

Leaders Demonstrate a Strategic Commitment to Safety

ID #	Text	Source	ID
114	Organizational decisions and actions at all levels of the organization are consistent with the policies. Production, cost and schedule goals are developed, communicated, and implemented in a manner that reinforces the importance of nuclear safety.	NRC	O4c
001a	The line of authority and responsibility for nuclear safety is defined from the board of directors to the individual contributor.	INPO	1Aa
004	Board members and corporate officers periodically take steps to reinforce nuclear safety, including visiting sites to assess management effectiveness first-hand.	INPO	1D
005a	The line organization, starting with the chief executive officer, is the primary source of information and the only source of direction.	INPO	1Ea
005b	Non-line groups, such as the oversight organizations and committees, review boards, and outside advisors, who provide management information essential to effective self-evaluation, are not allowed to dilute or undermine line authority and accountability.	INPO	1Eb
007	Relationships among utilities, operating companies, and owners are not allowed to obscure or diminish the line of responsibility for nuclear safety.	INPO	1G
074	Senior executives and board members are periodically briefed on results of oversight group activities to gain insights into station safety performance	INPO	8E
182	The strategic importance of safety is reflected in the business plan.	IAEA	A3
186	Senior management is clearly committed to safety.	IAEA	B1
187	Commitment to safety is evident at all management levels.	IAEA	B2
196	An appropriate relationship with the regulatory body exists that ensures that the accountability for safety remains with the licensee.	IAEA	C1
127	Station management gives us clear directions	Survey	8
140	Our leadership frequently communicates the importance of nuclear safety.	Survey	21
175	Nuclear safety takes priority over production goals.	Survey	56

Leadership Behaviors Creating Consensus Regarding Safety – Safety policies and related training establish and reinforce that nuclear safety is an overriding priority, in that leaders periodically communicate and reinforce nuclear safety such that personnel understand that safety is of the highest priority.

ID #	Text	Source	ID
021	Leaders demonstrate accountability by tracking work through to completion.	INPO	2I
068	Employees have confidence that issues with nuclear safety implications are prioritized, tracked, and resolved in a timely manner.	INPO	4F
183	Individuals are convinced that safety and production go hand in hand.	IAEA	A4
191	Management seeks the active involvement of individuals in improving safety.	IAEA	B6
193	Management shows a continual effort to strive for openness and good communication throughout the organization.	IAEA	B8
206	Factors affecting work motivation and job satisfaction are considered.	IAEA	D6
207	Good working conditions exist with regard to time pressures, workload and stress.	IAEA	D7
136	I have confidence in the nuclear safety decisions made higher in the organization.	Survey	17
146	Management acts decisively when a nuclear safety concern is raised.	Survey	27
152	I am always informed of current safety concerns or issues that affect my job.	Survey	33
161	I understand our improvement focus areas for this year.	Survey	42

Effective Change Management – Management uses a systemic process for planning, coordinating, and evaluating the safety impacts of decisions related to major changes in organizational structure and functions, leadership, policies, programs, procedures, and resources

ID #	Text	Source	ID
Added at workshop	Management uses a systematic process for planning, coordinating, and evaluating the safety impacts of decisions related to major changes in organizational structures and functions, leadership, policies, programs, procedures, and resources. Management effectively communicates such changes to affected personnel.	NRC	O3
192	Safety implications are considered in the change management process.	IAEA	B7
176	Organizational changes rarely result in unintended consequences.	Survey	57

Leaders Present in the Field – Leaders practice visible leadership in the field by placing “eyes on the problem,” coaching, mentoring, and reinforcing standards. Deviations from station expectations are corrected promptly.

ID #	Text	Source	ID
091	The licensee ensures supervisory and management oversight of work activities, including contractors such that nuclear safety is supported.	NRC	H4c
108	Management reinforces safety standards and displays behaviors that reflect safety as an overriding priority.	NRC	O1b
009a	Managers and supervisors practice visible leadership in the field by placing “eyes on the problem,” coaching, mentoring, and reinforcing standards	INPO	2Aa
011	Managers and supervisors provide appropriate oversight during safety-significant tests or evolutions.	INPO	2C
188	There is a visible leadership showing the involvement of management in safety related activities.	IAEA	B3
124	When I need a decision, my management is usually available.	Survey	5
125	Management really knows what goes on around here.	Survey	6
138	My supervisor is usually available when I have a question or problem.	Survey	19
158	My supervisor periodically observes me working.	Survey	39
	Managers are present in the field and accessible to workers. Feedback taken in the field is acted upon.	Public	
	Supervisors emphasize the importance of safety during job briefings.	Public	
	Management regularly engages with workers to reinforce positive decision-making behaviors, and to discuss why these behaviors are essential to a strong nuclear safety culture.	Public	

Resources - The leadership ensures that personnel, equipment, procedures, and other resources are available and adequate to assure nuclear safety. (NRC H2)

ID #	Text	Source	ID
084	Training of personnel and sufficient qualified personnel to maintain work hours within working hour guidelines.	NRC	H2b
086	Adequate and available facilities and equipment, including physical improvements, simulator fidelity and emergency facilities and equipment.	NRC	H2d
003b	Staffing levels are consistent with the demands related to maintaining safety and reliability.	INPO	1Cb
017	Selection and evaluation of managers and supervisors consider their abilities to contribute to a strong nuclear safety culture.	INPO	2H

181	Safety is a primary consideration in the allocation of resources.	IAEA	A2
190	Management ensures that there are sufficient and competent individuals.	IAEA	B5
166	Staffing levels are adequate to meet work demands.	Survey	47
173	I have the tools, equipment, and facilities I need to do my job.	Survey	54

Incentives and Rewards – Accountability is maintained for important safety decisions in that the system of rewards and sanctions is aligned with nuclear safety policies and reinforces behaviors and outcomes which reflect safety as an overriding priority. (NRC 01a)

ID #	Text	Source	ID
106	The potential chilling effects of disciplinary actions and other potentially adverse personnel actions (e.g., reductions, outsourcing, and reorganization) are considered and compensatory actions are taken when appropriate.	NRC	S2c
107	Accountability is maintained for important safety decisions in that the system of rewards and sanctions is aligned with nuclear safety policies and reinforces behaviors and outcomes which reflect safety as an overriding priority.	NRC	O1a
008	The system of rewards and sanctions is aligned with strong nuclear safety policies and reinforces the desired behaviors and outcomes.	INPO	1H
018	Leadership ensures that all levels of the organization exercise strong accountability for correcting any shortfalls in meeting performance standards.	INPO	2I
028	Senior management incentive program reflect a bias toward long-term plant performance and safety.	INPO	3G
167	People are routinely rewarded for identifying and reporting nuclear safety issues.	Survey	48
177	Personnel are recognized for performance that supports nuclear safety and a safety conscious work environment. Incentives (or praise) given for “Good Catches.”	Survey	58
	Leadership clearly communicating to staff good safety practices through rewarding all levels of organization and encouraging those practices via different avenues of communication.	Public	
	Managers (leaders) reinforce and reward reporting of problems.	Public	

Roles and Responsibilities – Roles, responsibilities, and authorities for nuclear safety are well-defined and clearly understood.

ID #	Text	Source	ID
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001b	Nuclear safety related positions have clearly defined roles, responsibilities, and authorities, designated in writing and understood by the incumbent.	INPO	1Ab
026b	Supervisors are recognized as an important part of the management team, crucial to translating safety culture into practical terms.	INPO	3Eb
197	Roles and responsibilities are clearly defined and understood.	IAEA	C2
199	Management delegates responsibility with appropriate authority to enable clear accountabilities to be established.	IAEA	C4

NRC Examples:

Resources: The leadership ensures that personnel, equipment, procedures, and other resources are available and adequate to assure nuclear safety.

- The licensee maintains sufficient qualified personnel to ensure work is performed safely.
- The licensee maintains adequate and available facilities and equipment, including physical improvements, simulator fidelity and emergency facilities and equipment.

Incentives, Sanctions and Rewards: Accountability is maintained for important safety decisions in that the system of rewards and sanctions is aligned with nuclear safety policies and reinforces behaviors and outcomes which reflect safety as an overriding priority.

- The licensee's system of rewards and sanctions is aligned with nuclear safety policies and reinforces safety behaviors.
- The potential chilling effects of disciplinary actions and other potentially adverse personnel actions are considered and compensatory actions are taken when appropriate.

Present in the Field: Leaders practice visible leadership in the field by placing “eyes on the problem”, coaching, mentoring, and reinforcing standards. Deviations from station expectations are corrected promptly.

- Leaders reinforce safety standards and displays behaviors that reflect safety as an overriding priority.
- The licensee ensures supervisory and management oversight of work activities, including contractors such that nuclear safety is supported.

Leaders demonstrate a Strategic Commitment to Safety:

- The licensee develops and implements production, cost, and schedule goals in a manner that reinforces the importance of nuclear safety.

Effective Change Management: Management uses a systemic process for planning, coordinating, and evaluating the safety impacts of decisions related to major changes in organizational structure and functions, leadership, policies, programs, procedures, and resources

- Management uses a systemic process for planning, coordinating, and evaluating the safety impacts and potential chilling effects of decisions related to major changes in organizational structure and functions, leadership, policies, programs, procedures, and resources (e.g., reductions, outsourcing, and reorganization).

Leadership Behaviors Creating Consensus Regarding Safety: Safety policies and related training establish and reinforce that nuclear safety is an overriding priority, in that leaders periodically communicate and reinforce nuclear safety such that personnel understand that safety is of the highest priority.

Roles and Responsibilities: Roles, responsibilities, and authorities for nuclear safety are well-defined and clearly understood.

Respectful Work Environment

Respect is Evident

ID #	Text	Source	ID
003a	People and their professional capabilities, values, and experiences are regarded as the nuclear organization's most valuable asset.	INPO	1Ca
022	People are treated with dignity and respect.	INPO	3A
122	People are treated with dignity and respect by the leadership.	Survey	3
174	My supervisor gives me useful feedback about how to improve my performance.	Survey	55
	People are treated with dignity and respect by all levels of the organization.	Public	
	Bullying/Humiliating behaviors not tolerated or demonstrated by leaders, formal or informal.	Public	

Opinions are valued.

ID #	Text	Source	ID
010	Management considers the employee perspective in understanding and analyzing issues.	INPO	2B
024	Employees are expected and encouraged to offer innovative ideas to help solve problems.	INPO	3C
025a	Differing opinions are welcomed and respected.	INPO	3da
041a	Robust discussion and healthy conflict are recognized as a natural result of diversity of expertise and experience.	INPO	4Eb
073	The insights and fresh perspectives provided by quality assurance, assessment, employee concerns, and independent oversight personnel are valued.	INPO	8D
038	Managers, supervisors, and staff <i>clearly understand and respect</i> each other's roles in decision-making	INPO	4B
134	<i>At this site, differing opinions are welcomed and respected.</i> Differing opinions are encouraged and respected. Staff is listened to when they have concerns, suggestions, and questions.	Survey Public Public	15

High Level of Trust

ID #	Text	Source	ID
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026a	Supervisors are skilled in responding to employee questions in an open, honest manner.	INPO	3Ea
195	Relationships between management and individuals are built on trust.	IAEA	B10
201	Trust permeates the organization. Trust exists throughout the organization.	IAEA Public	D1
	All levels, from manager to individual contributors, should be transparent to maintain trust.	Public	

Effects of Impending Change

ID #	Text	Source	ID
027	The effects of impending changes (such as those caused by sale or acquisition, bargaining unit contract renegotiations, and economic restructuring) are anticipated and managed such that trust in the organization is maintained.	INPO	3F
163	Upcoming changes are clearly and effectively communicated. The effects of impending organizational change are anticipated, managed, and communicated such that trust is maintained.	Survey Public	44

Conflict Resolution

ID #	Text	Source	ID
025b	When needed, fair and objective methods are used to resolve conflict and unsettled differing professional opinions.	INPO	3Db
194	Management has the ability to resolve conflicts as necessary. Conflict is recognized as healthy when it is respectfully and professionally resolved.	IAEA Public	B9

Decision Making

Personnel are systematic and rigorous in making decisions that support safe plant operation. Operations are vested with the authority and understand the expectation, when faced with unexpected or uncertain conditions, to place the plant in a safe condition. Senior leaders support and reinforce conservative decisions.

Conservative Bias – The licensee uses conservative bias in decision-making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. The licensee conducts effectiveness review of safety-significant decisions to verify the validity of the underlying assumptions.

ID #	Text	Source	ID
081	The licensee uses conservative assumptions in decision making and adopts a requirement to demonstrate that the proposed action is safe and in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. The licensee conducts effectiveness reviews of safety-significant decisions to verify the validity of the underlying assumptions, identify possible unintended consequences, and determine how to improve future decisions.	NRC	H1B
039b	Conservative actions are taken when understanding is incomplete.	INPO	4Cb
043	When previous operational decisions are called into question by new facts, the decisions and associated underlying assumptions are reviewed to improve the quality of future decisions	INPO	4G
120	Decision-making at this site reflects a conservative approach to nuclear safety.	Survey	1

Consistent Process – Workers and leaders use a consistent approach to making conservative decisions based on a process we are trained to use

ID #	Text	Source	ID
080	The licensee makes safety-significant or risk-significant decisions using a systematic process, especially when faced with uncertain or unexpected plant conditions, to ensure safety is maintained. This includes formally defining the authority and roles for decisions affecting nuclear safety, communicating these roles to applicable personnel, and implementing these roles and authorities as designed and obtaining interdisciplinary input and reviews on safety-significant or risk-significant decisions.	NRC	H1a
044	My plant uses a consistent approach to making conservative decisions based on a process we are trained to use.	INPO	4H
184	A proactive long term approach to safety issues is shown in decision-making.	IAEA	E1

Clear Responsibility for Decisions – Single-point accountability is maintained and clearly communicated for important safety decisions, allowing for ongoing assessment and feedback as circumstances unfold

ID #	Text	Source	ID
040	Single-point accountability is maintained for important safety decisions, allowing for ongoing assessment and feedback as circumstances unfold.	INPO	4D
042	Decisions involving safety are made at the correct level at my plant.	INPO	4F
133	When an important nuclear safety decision must be made, I know who is responsible to make it.	Survey	14

NRC Examples:

Consistent Process: Workers and leaders use a consistent approach to making conservative decisions based on a process we are trained to use

- The licensee makes safety-significant or risk-significant decisions using a systematic process.

Conservative Bias: The licensee uses conservative bias in decision-making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. The licensee conducts effectiveness review of safety-significant decisions to verify the validity of the underlying assumptions.

- The licensee uses conservative assumptions in decision making, requiring that a proposed action be demonstrated as safe in order to proceed, rather than that

it be demonstrated unsafe in order to stop.

Clear Responsibility for Decisions: Single-point accountability is maintained and clearly communicated for important safety decisions, allowing for ongoing assessment and feedback as circumstances unfold.

- The licensee formally defines the authority and roles for decisions affecting nuclear safety, communicates these roles to applicable personnel, and implements these roles and authorities as designed.

Questioning Attitude

Challenge Assumptions

ID #	Text	Source	ID
061	Group-think is avoided through diversity of thought and intellectual curiosity. Opposing views are encouraged and considered.	INPO	6F
062	Individuals are encouraged to appropriately challenge each other at all levels.	INPO	6G
210	A questioning attitude prevails at all organizational levels.	IAEA	E1
123	Dialogue and debate are encouraged when evaluating nuclear safety issues.	Survey	4
135	People here are comfortable challenging each other, regardless of level, when they feel something is not correct.	Survey	16
	Employees at all levels of the organization are encouraged to challenge assumptions and offer opposing views, when they feel something is not correct.	Public	

Challenge the Unknown

ID #	Text	Source	ID
056	While individuals expect successful outcomes of daily activities, they recognize the possibility of mistakes and worst –case scenarios. Contingencies are developed to deal with these possibilities.	INPO	6A
060	Employees understand that complex technologies can fail in unpredicted ways. They are aware that latent problems can exist, and they make conservative decisions considering this potential.	INPO	6E
068	Personnel do not proceed in the face of uncertainty.	INPO	6C
148	Personnel do not proceed in the face of uncertainty. Employees understand that complex technologies can fail in unpredicted ways. Personnel do not proceed in the face of uncertainty. Conservative decision making when faced with uncertainty. Worker raises a concern and it is given the appropriate consideration and issue is resolved.	Survey Public Public	29

NRC Examples:

Challenge the Unknown: Employees understand that complex technologies can fail in unpredicted ways. Personnel do not proceed in the face of uncertainty.

- Personnel do not proceed in the face of uncertainty.

Challenge Assumptions: Employees at all levels of the organization are encouraged to challenge assumptions and offer opposing views, when they feel something is not correct.

Continuous Learning

ID #	Text	Source	ID
143	Continuous learning is expected of everyone	Survey	24

Training to Improve Performance

ID #	Text	Source	ID
110	The licensee provides adequate training and knowledge transfer to all personnel on site to ensure technical competency.	NRC	O2a
113	Personnel are efficiently trained on these safety policies.	NRC	O4b
012	Managers and supervisors are personally involved in high-quality training that consistently reinforces expected worker behaviors.	INPO	2D
037	The organization maintains a knowledgeable workforce to support a broad spectrum of operational and technical decisions; while outside expertise is employed when necessary.	INPO	4A
051	Employee mastery of reactor and power plant fundamentals, as appropriate to the job position, establishes a solid foundation for sound decisions and behaviors.	INPO	5G
064	Training uploads management standards and expectations. Beyond teaching knowledge and skills, trainers are adept at instilling nuclear safety values and beliefs.	INPO	7B
189	Leadership skills are systematically developed.	IAEA	B4
205	Individuals have the necessary knowledge and understanding of the work processes.	IAEA	D5
216	There is a systematic development of individual competences.	IAEA	E7
129	Training provides me with the knowledge I need to perform my job.	Survey	10
153	Training reinforces safe worker behaviors and establishes high expectations for maintaining nuclear safety.	Survey	34
	High quality training maintains a knowledgeable workforce and reinforces high expectations for maintaining nuclear safety.	Public	

Effective use of Operating Experience – Systematic collection, evaluation and implementation of relevant internal and external OE in a timely manner

ID #	Text	Source	ID
097	The licensee systematically collects, evaluates, and communicates to affected internal stakeholders in a timely manner relevant internal and external OE.	NRC	P2a
098	The licensee implements and institutionalizes OE through changes to station processes, procedures, equipment, and training programs.	NRC	P2b
063	The organization avoids complacency and cultivates a continuous leaning environment. The attitude that “it can happen here” is encouraged.	INPO	7A
065	Individuals are well informed of the underlying lessons learned from significant industry and station events (OE), and they are committed to not repeating those mistakes.	INPO	7C
069	Internal and external Operating Experience (OE) is used to support daily work functions.	INPO	7G
213	Organizational and operating experience (both internal and external to the facility) is used.	IAEA	E4
126	Employees are well informed of lessons learned from significant industry and plant events.	Survey	7
149	We stay current with what's going on in the industry and adopt new ideas when they will improve our performance.	Survey	30
178	This station learns from its mistakes.	Survey	59

Performance Improvement Through Benchmarking – Strive for continuous improvement of knowledge skills and safety performance through the use of benchmarking. “Raising the Bar.”

ID #	Text	Source	ID
111	Personnel continuously strive to improve their knowledge, skills, and safety performance through activities such as benchmarking, being receptive to feedback, and setting performance goals. The licensee effectively communicates information learned from internal and external sources about industry and plant issues.	NRC	O2b
131	We adopt innovative ideas to improve nuclear safety. Researching better maintenance practices by using benchmarking and how others do it.	Survey Public	12

NRC Examples:

Effective Use of Operating Experience: Systematic collection, evaluation and implementation of relevant internal and external OE in a timely manner.

- The licensee systematically collects, evaluates, and communicates to affected internal stakeholders in a timely manner relevant internal and external OE.
- The licensee implements and institutionalizes OE through changes to station processes, procedures, equipment, and training programs.

Performance Improvement through Benchmarking: Strive for continuous improvement of knowledge skills and safety performance through the use of benchmarking. "Raising the Bar."

- Personnel continuously strive to improve their knowledge, skills, and safety performance through activities such as benchmarking, being receptive to feedback, and setting performance goals.

Training to Improve Performance

- The licensee provides adequate training and knowledge transfer to all personnel on site to ensure technical competency and safe operation.

Problem Identification

CAP Effectiveness – The licensee ensures that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner, commensurate with their significance. The licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

ID #	Text	Source	ID
093	The licensee periodically trends and assesses information from the CAP and other assessments in the aggregate to identify programmatic and common cause problems. The licensee communicates the results of the trending to applicable personnel.	NRC	P1b
094	The licensee thoroughly evaluates problems such that the resolutions address causes and extent of conditions, as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to qualify. This also includes, for significant problems, conducting effectiveness reviews of corrective actions to ensure that the problems are resolved.	NRC	P1c
095	The licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.	NRC	P1d
035	Issues reported through the Corrective Action Program (CAP) are prioritized appropriately and thoroughly investigated.	INPO	3N
036	The CAP is utilized effectively at my plant to resolve conditions adverse to quality in a timely manner.	INPO	3O
067	Processes are established to identify and resolve latent organizational weaknesses that can aggravate relatively minor events if not corrected.	INPO	7E
009	Deviations from station expectations are corrected promptly.	INPO	2Ab
132	Organizational weaknesses are identified and resolved.	Survey	13
121	Personnel promptly identify and report conditions that can affect nuclear safety.	Survey	2
137	Unusual or unexpected conditions that may have an impact on nuclear safety are promptly investigated and resolved.	Survey	18
144	We correct problems the first time they appear.	Survey	25
154	Our corrective action program is efficient.	Survey	35

Evaluation – The licensee thoroughly evaluates problems such that the resolutions address causes and extent of conditions, as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability

conditions adverse to quality. This also includes, for significant problems, conducting effectiveness reviews of corrective actions to ensure that they problems are resolved. (From P1c – also used under CAP Effectiveness.)

ID #	Text	Source	ID
039a	Plant personnel apply a rigorous approach to problem-solving.	INPO	4Ca
057	Anomalies are recognized, thoroughly investigated, promptly mitigated, and periodically analyzed in the aggregate.	INPO	6B
066	Expertise in root cause analysis is applied effectively to identify and correct the fundamental causes of events.	INPO	7D
139	Rigorous approach to problem-solving	Survey	20

Performance Improvement / Trending – The licensee periodically trends and assesses information from the CAP and other assessments in the aggregate to identify programmatic and common cause programs. The licensee communicates the results of the trending to applicable personnel. The licensee tracks and trends safety indicators which provide an accurate representation of performance.

ID #	Text	Source	ID
100	The licensee tracks and trends safety indicators which provide an accurate representation of performance.	NRC	P3b
215	Safety performance indicators are tracked, trended and evaluated and acted upon.	IAEA	E6
160	Our performance indicators and trending programs help us to detect problems early.	Survey	41
“Foresight” not hindsight in PI & R.			Public

Identification – The licensee implements a corrective action program with a low threshold for identifying issues. The licensee identifies such issues completely, accurately, and in a timely manner commensurate with their safety significance.

ID #	Text	Source	ID
092	The licensee implements a corrective action program with a low threshold for identifying issues. The licensee identifies such issues completely, accurately, and in a timely manner commensurate with their safety significance.	NRC	P1a
059	Workers identify conditions or behaviors that have the potential to degrade operating or design margins. Such circumstances are promptly identified and resolved.	INPO	6D
072a	The pitfalls of focusing on a narrow set of performance.	INPO	8Ca

072b	The organization is alert to detect and respond to indicators that may signal declining performance.	INPO	8Cb
211	Open reporting of deviations and errors is encouraged.	IAEA	E2
214	Learning is facilitated through the ability to recognize deviations, to formulate and implement solutions and to monitor the effects of corrective actions.	IAEA	E5
	The threshold for identifying issues is low. The question: "Did you write a condition report on that?" Is it consistently asked?	Public	
	The training instructor who identifies weakness in mechanical fundamentals and takes initiative to communicate and connect.	Public	

Self-Assessments – The licensee conducts self-assessments at an appropriate frequency; such assessments are of sufficient depth, are comprehensive, are appropriately objective, and are self-critical. The licensee periodically assesses the effectiveness of oversight groups and programs such as CAP and policies.

ID #	Text	Source	ID
099	The licensee conducts self-assessments at an appropriate frequency; such assessments are of sufficient depth, are comprehensive, are appropriately objective, and are self-critical. The licensee periodically assesses the effectiveness of oversight groups and programs such as CAP and policies.	NRC	P3a
101	The licensee coordinates and communicates results from assessments to affected personnel, and takes corrective actions to address issues commensurate with their significance.	NRC	P3c
070	A mix of self-assessment and independent oversight reflects an integrated and balanced approach. This balance is periodically reviewed and adjusted as needed.	INPO	8A
071	Periodic safety culture assessments are conducted and used as a basis for improvement.	INPO	8B
212	Internal and external assessments, including self-assessments are used.	IAEA	E3
142	We have a strong quality assurance process and organization.	Survey	23

NRC Examples:

Identification: The licensee implements a corrective action program with a low threshold for identifying issues. The licensee identifies such issues completely, accurately, and in a timely manner commensurate with their safety significance.

- The licensee implements a corrective action program with a low threshold for identifying issues completely, accurately, and in a timely manner

commensurate with their safety significance.

Evaluation: The licensee thoroughly evaluates problems such that the resolutions address causes and extent of conditions, as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality. This also includes, for significant problems, conducting effectiveness reviews of corrective actions to ensure that they problems are resolved.

- The licensee thoroughly evaluates problems such that the resolutions address causes and extent of conditions, as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality. This includes conducting effectiveness reviews of significant corrective actions to ensure that the problems are resolved.

CAP Effectiveness: The licensee ensures that issues potentially impacting nuclear safety are promptly identified, fully evaluated and that actions are taken to address safety issues in a timely manner, commensurate with their significance. The licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

- The licensee periodically trends and assesses information from the CAP and other assessments to identify programmatic and common cause problems such that solutions are identified and carried out.
- The licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Self Assessment: The licensee conducts self-assessments at an appropriate frequency; such assessments are of sufficient depth, are comprehensive, are appropriately objective, and are self-critical. The licensee periodically assesses the effectiveness of oversight groups and programs such as CAP and policies.

- The licensee periodically conducts comprehensive and objective self- and independent assessments of their programs and practices to identify areas for improvement, and takes corrective actions commensurate with their significance.

Performance Improvement/Trending: The licensee periodically trends and assesses information from the CAP and other assessments in the aggregate to identify programmatic and common cause programs. The licensee communicates the results of the trending to applicable personnel. The licensee tracks and trends safety indicators which provide an accurate representation of performance.

- The licensee tracks and trends safety indicators which provide an accurate representation of performance.

Environment for Raising Concerns

An environment exists in which employees feel free to raise concerns both to their management and/or the NRC without fear of retaliation and employees are encouraged to raise concerns.

Alternative Process for Raising Concerns

ID #	Text	Source	ID
096	If an alternative process (i.e., a process for raising concerns that is an alternate to the licensee's corrective action program or line management) for raising safety concerns exists, then it results in appropriate and timely resolutions of identified problems.	NRC	P1e
103	If alternative processes (i.e., a process for raising concerns or resolving differing professional opinions that are alternates to the licensee's corrective action program or line management) for raising safety concerns or resolving differing professional opinions exists, then they are communicated, accessible, have an option to raise issues in confidence, and are independent, in the sense that the program does not report to line management (i.e., those who would in the normal course of activities be responsible for addressing the issue raised.)	NRC	S1b
112	These policies require and reinforce that individuals have the right and responsibility to raise nuclear safety issues through available means, including avenues outside their organizational chain of command and to external agencies, and obtain feedback on the resolution of such issues.	NRC	O4a

Effective SCWE Policy

ID #	Text	Source	ID
104	All personnel are effectively trained that harassment and retaliation for raising safety concerns is a violation of law and policy and will not be tolerated.	NRC	S2a
105	Claims of discrimination are investigated consistent with the content of the regulations regarding employee protection and any necessary corrective actions are taken in a timely manner, including actions to mitigate any potential chilling effect on others due to the personnel action under investigation.	NRC	S2b
023	Personnel can raise nuclear safety concerns without fear of retribution and have confidence their concerns will be addressed.	INPO	3B
032	Anyone can raise nuclear safety or quality concerns without any fear of retaliation.	INPO	3K
145	Everyone can raise safety concerns without fear of retaliation.	Survey	26
168	I feel free to raise a nuclear safety or quality concern to the NRC without fear of retaliation.	Survey	49

Effective Employee Concerns Program

ID #	Text	Source	ID
033	I am aware of the Employee Concerns Program (ECP) and if I wanted to, I could use the program.	INPO	3L
034	Issues reported through the ECP are thoroughly investigated and appropriately resolved.	INPO	3M
155	I would not hesitate to take a concern to our Employee Concerns Program.	Survey	36
157	I have confidence in our Employee Concerns Program.	Survey	38

Open Collaborative Work Environment

ID #	Text	Source	ID
031	My station has a culture that is open to raising nuclear safety or quality concerns.	INPO	3J
041a	Candid dialogue and debate are encouraged when safety issues are being evaluated.	INPO	4Ea
185	Safety conscious behavior is socially accepted and supported. (both formally and informally)	IAEA	A6
147	Supervisors are responsive to employee questions. Having an open door policy	Survey Public	28

NRC Examples:

Effective SCWE Policy

- Supervisors respond to employee safety concerns in an open, honest, and non-defensive manner and personnel are able to raise nuclear safety issues without fear of retaliation.
- Safety policies require and reinforce that individuals have the right and responsibility to raise nuclear safety issues through available means, including avenues outside their organizational chain of command and to external agencies, and obtain feedback on the resolution of such issues. All personnel are effectively trained that harassment and retaliation for raising safety concerns is a violation of law and policy and will not be tolerated.
- Claims of discrimination are investigated, necessary corrective actions are taken in a timely manner, and actions are taken to mitigate any potential chilling effect on others that the actions under investigation may have caused.

Effective Employee Concerns Program

- Issues raised through the Employee Concerns Program result in appropriate and timely resolutions of identified problems and are independent such that the program does not report to line management (i.e., those who would in the normal course of activities be responsible for addressing the issue raised).

Alternative Process for Raising Concerns

- If alternative processes (i.e., a process for raising concerns or resolving differing professional opinions that are alternates to the licensee's corrective action program or line management) for raising safety concerns or resolving differing professional opinions exists, then they are communicated, accessible, have an option to raise issues in confidence, and are independent, in the sense that the program does not report to line management (i.e., those who would in the normal course of activities be responsible for addressing the issue raised.)

Open Collaborative Work Environment

Work Processes

Design Margins Maintained – Safety related equipment is operated and maintained within design margins and margins are carefully guarded and changed only with great thought and care

ID #	Text	Source	ID
083	Maintaining long term plant safety by maintenance of design margins, minimization of long-standing equipment issues, minimizing preventative maintenance deferrals, and ensuring maintenance and engineering backlogs which are low enough support safety.	NRC	H2a
047a	Design and operating margins are carefully guarded and are changed only with great thought and care.	INPO	5Ba
048	Equipment is meticulously maintained well within design requirements.	INPO	5D
049	Insights from probabilistic risk analyses are considered in daily plant activities and plant change processes.	INPO	5E
156	Safety related equipment is operated and maintained within its design requirements.	Survey	37

Nuclear is Recognized as Special and Unique – The special characteristics of nuclear technology are taken into account in all decisions and actions.

ID #	Text	Source	ID
045	Activities that could affect core reactivity are conducted with particular care and caution.	INPO	5A
046	Features designed to maintain critical safety functions, such as core cooling, are recognized as particularly important.	INPO	5D
047b	Special attention is placed on maintaining fission product barriers and defense in depth.	INPO	5Bb

High Quality Documentation – Complete, accurate and up to date design documentation, procedures and work packages and component labeling is created and maintained.

ID #	Text	Source	ID
085	Complete, accurate, and up to date design implementation, procedures, and work packages and correct labeling of components.	NRC	H2c
088	The licensee appropriately coordinates work activities by incorporating actions to address: the impact of changes to the work scope or activity on the plant and human performance, the impact of the work on different job activities, and the need for work groups to maintain interfaces with offsite organizations, and communicate, coordinate and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance, the need to keep personnel apprised of work status, the operational impact of work activities, and plant conditions that may affect work activities, the licensee plans work activities to support long-term equipment reliability by limiting temporary modifications, operator work-around, safety systems unavailability, and reliance on manual actions. Maintenance scheduling is more preventive than reactive.	NRC	H3b
050	Plant activities are governed by comprehensive high-quality processes and procedures.	INPO	5F
203	The quality of documentation and procedures is good.	IAEA	D3
204	The quality of processes, from planning to implementation and review, is good.	IAEA	D4
151	Equipment labeling, job aids, and human machine interfaces help me to avoid errors.	Survey	32
165	Our procedures are generally up to date and easy to use.	Survey	46
171	Work documents and procedures tell me what to do if something unexpected occurs. Procedures are of sufficient quality such that safety is maintained. Clearly communicated processes and procedures coupled with a clear feedback process to continuously evaluate them and determine when changes/improvements are necessary.	Survey Public Public	52

Work Effectively Planned and Executed – The process of planning and controlling work activities is implemented so that safety is maintained.

ID #	Text	Source	ID
087	The licensee appropriately plans work activities by incorporating: risk insights; job site conditions, including environmental conditions which may impact human performance; plant structures, systems and components; human-system interface; or radiological safety; and the need for planned contingencies, compensatory actions and abort criteria.	NRC	H3a
052	Work is planned and performed per established schedules.	INPO	5H
053	The work management practices used at my plant support a strong nuclear safety culture.	INPO	5K
054	Work is planned and performed using strong processes and procedures.	INPO	5I
055	The work management practices used at my plant support a strong nuclear safety culture.	INPO	5K

NRC Examples:

Design Margins Maintained: Safety related equipment is operated and maintained within design margins and margins are carefully guarded and changed only with great thought and care.

- The licensee maintains long term plant safety by maintenance of design margins, minimization of long-standing equipment issues, minimizing preventative maintenance deferrals, and ensuring maintenance and engineering backlogs are low enough support safety.

High Quality Documentation: Complete, accurate and up to date design documentation, procedures and work packages and component labeling is created and maintained.

- Complete, accurate, and up-to-date design documentation, procedures, and work packages are available, and components are correctly labeled.

Work Effectively Planned and Executed: The process of planning and controlling work activities is implemented so that safety is maintained.

- The licensee appropriately plans and coordinates work activities (e.g., By considering and incorporating risk insights, job site conditions, planned contingencies, the impact of changes to the work scope, the need for coordination with different groups or job activities, and the need to keep personnel apprised of work status).

Nuclear is Recognized as Special and Unique: The special characteristics of nuclear technology are taken into account in all decisions and actions.

Effective Safety Communication

Free Flow of Information

ID #	Text	Source	ID
102	Behaviors and interactions encourage free flow of information related to raising nuclear safety issues, differing professional opinions, and identifying issues in the CAP and through self-assessments. Such behaviors include supervisors responding to employee safety concerns in an open, honest, and non-defensive manner and providing complete, accurate, and forthright information to oversight, audit, and regulatory organizations. Past behaviors, actions, or interactions that may reasonably discourage the raising of such issues are actively mitigated. As a result, personnel freely and openly communicate in a clear manner conditions or behaviors, such as fitness for duty issues that may impact safety and personnel raise nuclear safety issues without fear of retaliation.	NRC	S1a
130	Information is freely shared between work groups. Management communication with workers is open and honest; management accepts both positive and negative feedback as constructive. Plant management listening to the concerns of teaching and factoring their concerns into operating decisions. Encourage open and frank communications up down and across organizations, particularly with respect to safety issues.	Survey Public Public Public	11

Leaders Understand the Importance of Communicating Expectations for Safety

ID #	Text	Source	ID
115	Senior managers and corporate personnel periodically communicate and reinforce safety such that personnel understand that safety is of the highest priority.	NRC	O4d
013	Leaders recognize that production goals, if not properly communicated, can send mixed signals on the importance of nuclear safety. They are sensitive to detect and avoid these misunderstandings.	INPO	2E
019	Leaders clearly communicate management's expectations.	INPO	2J
164	There is good communication about nuclear safety issues that affect my job.	Survey	45

Communicating the Basis for Decisions

ID #	Text	Source	ID
082	The licensee communicates decisions and the basis for decisions to personnel who have a need to know that information in order to person work safety, in a timely manner.	NRC	H1c
014	The bases, expected outcomes, potential problems, planned contingencies, and abort criteria for important operational decisions are communicated promptly to workers.	INPO	2F
030	Managers regularly communicate to the workforce important decisions and their bases, as a way of building trust and reinforcing a healthy safety culture; while worker understanding of these communications is periodically checked.	INPO	3I
	The basis for operational decisions is clearly communicated to the workforce.	Public	
	Information is shared with the staff by management concerning problems and resolution with respect to plant operations.	Public	

Safety Communication is Included in the Work Process

ID #	Text	Source	ID
089	The licensee communicates human error prevention techniques, such as holding pre-job briefings, self and peer checking, and proper documentation of activities. These techniques are used commensurate with the risk of the assigned task, such that work activities are performed safely. Personnel are fit for duty. In addition, personnel do not proceed in the face of uncertainty or unexpected circumstances.	NRC	H4a
090	The licensee defines and effectively communicates expectations regarding procedural compliance and personnel following procedures.	NRC	H4b
128	Contractors/vendors understand our expectations for performing work that can affect nuclear safety.	Survey	9
169	My supervisor discusses safety with me before I start work on a job. The operations shift manager conducts task preview and brief before nuclear instrument training. Start every meeting with a safety message. Supervisor requested everyone participate in a pre-job brief. Operating experience is covered at pre-job briefs, with the message that this has happened here or could happen here.	Survey Public Public Public	50

NRC Examples:

Safety Communication is included in the Work Processes

- The licensee communicates expectations regarding procedural compliance and human error prevention techniques (e.g., holding pre-job briefings, self and peer checking, and proper documentation of activities, commensurate with the risk of the assigned task).

Communicating Basis for Decisions

- The licensee communicates decisions and the basis for decisions to personnel who have a need to know that information in order to person work safety, in a timely manner.

Free Flow of Information

- Personnel behaviors and interactions encourage free flow of information related to raising nuclear safety issues, differing professional opinions, and identifying issues in the CAP and through self-assessments (e.g., Supervisors respond to employee safety concerns in an open, honest, and non-defensive manner and personnel provide complete, accurate, and forthright information to oversight, audit, and regulatory organizations).

Communicating Expectations

- Senior managers and corporate personnel periodically communicate and reinforce safety such that personnel understand that safety is of the highest priority.

These were not used by the team.

ID #	Text	Source	ID
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- 180** Consideration for all types of safety, including industrial and environmental safety and security, is evident. IAEA D2
- 180** The high priority given to safety is shown in documentation, communications, and decisions making. IAEA A1
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