Nuclear Safety Culture Definition Developed from the February 2-4, 2010, NRC Workshop

Nuclear safety culture is the core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment.

Nuclear Safety Culture Traits Master List Developed from All Breakout sessions During the February 2-4, 2010, NRC Workshop

All member of the organization understand the vision/mission of the organization - Mission statement of the organization has been identified and internalized
Clear and concise safety and health processes
Plant activities are governed by high quality processes and procedures
Lines of authority are clearly understood – who makes or who is involved with the decisions. Decision making authority.
People are treated with dignity and respect.
Personnel are rigorous in their approach to problem solving
Everyone understands their roles and responsibilities and organizational priorities are established for their work.
Work processes are clearly defined
Safety conscious work environment is fostered
Negative (thou shall not retaliate) vs Positive (encouraging collaboration and zero tolerance for retaliation)
Staff reporting concerns without retribution
Personnel do not proceed in the face of uncertainty
Continuous learning environment is embraced
Employees have confidence that issues are identified, prioritized and resolved in a timely manner.
Opposing views are encouraged at all levels.
Independent critical feedback is sought after and acted upon. Independent assessment, QA organizations, NRC feedback, Independent trade organizations, Joint commission brought in for external assessments
Leaders provide timely and effective responses to employee concerns.
Staff receives feedback on their reported concern
Leaders are trusted by members of their organization.
Leaders must demonstrate their commitment to safety by setting and reinforcing high standards.
Management communicates important decisions and their bases
Lines of communication should be open, and management is visible in the field.
Mutual trust between management and employees
Actions must match words
Leadership and management creates the culture in the organization through their behavior
Desired leadership behaviors are factored into succession planning and development
Upper management does not interfere with the findings of oversight organizations and the organizational structure enhances the independence of the oversight organizations
Leaders who talk the talk and walk the walk
There is a commitment to maintaining equipment so that everything is in working order.
Individuals are skilled and knowledgeable in their areas of expertise. Encourage people to improve their skill base.
The organization avoids complacency
Positive behavior is rewarded and celebrated.
Organization demonstrates a bias toward problem resolution.
Collective ~~Continuous~~ preoccupation with (the possibility of) failure
Non punitive response to error (i.e. “Just Culture”)
Lines of communication are open and clear between management and the workforce.
Transparency.
Decision making distinguishes between allowable and prudent choices.
Rewards and sanctions are used to reinforce the desired positive nuclear safety behaviors.
(Internal) self assessment is encouraged
Use of human error prevention techniques - human performance aspects, schedules have realistic duration.
Early problem identification is encouraged
Constructive use of operational experience and lessons learned
“It can’t happen here” attitude is avoided.

Questioning attitude
Fair and consistent discipline in all personnel matters
System exists to track, trend, evaluate, disposition issues and is open to all employees.
Complete and accurate data is documented and reported to all regulatory and oversight authorities.
Listening is reinforced by actions taken
Quality assurance and employee assurance are independent of the areas they are overseeing.
All employees are held accountable for integrity
Active questioning attitude
Professional [bravery] integrity and a willingness to bring up problems and issues
Pursuing the answer vs. posing the question . …Pursuing the answer should be encouraged.
Alternative avenues for raising concerns (DPO or ADR) are valued and used
Peer on peer avenue for dealing with Harassment Intimidation Retaliation Discrimination
Continuous learning and continuous feedback
Schedules are realistic and do not challenge safety standards
Critical safety functions are understood and maintained
Tools used to maintain the nuclear safety culture are embraced by the organization and used to improve ALL aspects of performance
I will always strive to do better. I will be aware of all conditions in my work area that could produce an incident/injury. I will be aware of my own security and report suspicious activities and take responsibility for myself and fellow workers.
My individual goals and my company goals are tied positively to safety.
In handling/using RAM, the benefits are always commensurate with the risks. I cannot be a “wild cowboy.”
I understand the things I do in my job is an integral part of what happens to the patient, the public, myself, my coworkers, and the environment.
I will get enough sleep before working and leave my work area in a tidy condition.
Commitments by medical professionals to ensure medical procedures that involve nuclear material are conducted safely.
Willingness of leadership to receive/investigate/resolve problems.
Ensure patients are informed of risk/benefit of medical procedures (informed consent)
Behavior attention to details and reporting of problems/unusual occurrences (do the thing right rather than do the right thing)

Staff educated on radiation safety
I will use the right tool for the job and use it properly. I will not take shortcuts or jerry-rig equipment.
I know how to communicate anything that is out of specification or out of the norm and have the responsibility to do so.
Willingness to continue to learn on the part of the individual and willingness on the part of the management to encourage and reward the learning.
I know when to ask for help. (No one knows everything).
Synergism with collaboration
Ownership
Precision
Education focused
Checking yourself (right dose, right drug, “measure twice, cut once”)
Commitment to safety
Perception of risk
Positive attitude of individual
Awareness, education, training
Motivation (of individual)
Keeping up with technology
Self-reporting of shortcomings
Maintaining of SOPs
Frequent communication
Synergistic collaboration
Report Incidents/Unexpected Occurrences

Self reporting (individual)
Weighs Risks before Jumping In
Challenge Status Quo
The individual recognizes their responsibility in protecting themselves, their coworkers, and their environment
Mentor new workers
Show respect to others
Fixing things right
Take action to correct
Identify unmarked hazards
(Working safely by proper) use of personal protective equipment
Taking ownership
Procedure compliance/follow approved procedures
Verify safety requirements in place
Effective metrics and goals
Participate in training
Receptive to training
Voice Concerns
Trending events and near misses/hits
Good materials/equipment condition
Communicates
Three way communication
Being prepared
Open to outside experience and information
Organizational alignment
Rewarding safe behaviors
Excellence in causal analysis
(Behavioral) Observation program
Situation awareness
Broad, active participation
Accountability
Risk awareness
Take the right action
Measure twice, cut once
Trust but verify
Visibility of management
First hand knowledge of what operators do
Safety first
Complete transparency
Discuss decisions
Inform team members
Broadcast status regularly
Root cause analysis of issues/defects
Failure mode analysis
Validate assumptions and data
Application of lessons learned
Impact of priority
Clear roles and responsibilities
Process ownership
Traceability
Prioritize and eliminate risks early
Self and independent audits

Self-assessment
Healthy corrective action program
A used and useful employee concerns program
Good pre-job briefs
No shooting of the messenger
Honoring input
Ability and confidence to take control
Lines of communication run both ways
Willingness to stop work
Competence commensurate with responsibilities
Adaptability to procedural or priority changes
An obvious safety chain of command
Industry participation and use of industry operating experience
Disaster preparedness
Good shift turnover
Management solicits feedback from workers
Workers involved in identifying and correcting deficiencies

Nuclear Safety Culture Trait #1 Developed from the February 2-4, 2010, NRC Workshop

Problem Resolution and Metrics
The organization ensures that issues potentially impacting safety or security are promptly identified, fully evaluated, and promptly addressed and corrected commensurate with their significance.

Draft Traits Categorized

System exists to track, trend, evaluate, disposition issues and is open to all employees.
Risk evaluation program
Failure mode analysis
Trending events and near misses/hits
Validate assumptions and data
Identify unmarked hazards
Excellence in causal analysis
Self and independent audits
Self-assessment
Employees have confidence that issues are identified, prioritized and resolved in a timely manner.
Root cause analysis of issues/defects
Healthy corrective action program
A used and useful employee concerns program
Effective metrics and goals
Tools used to maintain the nuclear safety culture are embraced by the organization and used to improve ALL aspects of performance

Nuclear Safety Culture Trait #2 Developed from the February 2-4, 2010, NRC Workshop

	Personal Responsibilities and Attitudes
Trait #2	Everyone is personally responsible for nuclear safety.

Draft Traits Categorized

** medical materials specific

Self checking
Being prepared, anticipate
The individual recognizes their responsibility in protecting themselves, their coworkers, and their environment
People are treated with dignity and respect.
Show respect to others
Take the right action
Teamwork
Broad, active participation
Individual self reports
Think before acting
Verify safety requirements in place
Working safely (commited)
Weighs Risks before Jumping In
Positive attitude of individual
I will get enough sleep before working and leave my work area in a tidy condition.
Take action to correct
Lookout for coworkers
Perception of risk
Situation awareness
Collective ~~Continuous~~ preoccupation with (the possibility of) failure
Risk awareness
Process ownership
I will always strive to do better. I will be aware of all conditions in my work area that could produce an incident/injury. I will be aware of my own security and report suspicious activities and take responsibility for myself and fellow workers.
Safety first
Accountability
Is Accountable
All employees are held accountable for integrity
Ability and confidence to take control
Commitment to safety
Motivation (of individual)

In handling/using RAM, the benefits
are always commensurate with the
risks. I cannot be a “wild cowboy.”

(Working safely by proper) use of personal protective equipment
Listens and follows directions
I understand the things I do in my job is an integral part of what happens to the patient, the public, myself, my coworkers, and the environment.
Behavior attention to details and reporting of problems/unusual occurrences (do the thing right rather than do the right thing)
My individual goals and my company goals are tied positively to safety.
Taking ownership
Personnel do not proceed in the face of uncertainty
Use of human error prevention techniques - human performance aspects, schedules have realistic duration.
Staff knowing who to report to and how
I will use the right tool for the job and use it properly. I will not take shortcuts or jerry-rig equipment.
**Commitments by medical professionals to ensure medical procedures that involve nuclear material are conducted safely.
I know when to ask for help. (No one knows everything).
Ownership
Pursuing the answer vs. posing the question . …Pursuing the answer should be encouraged.

Nuclear Safety Culture Trait #3 Developed from the February 2-4, 2010, NRC Workshop

	Processes and procedures
Trait #3	Processes for planning and controlling work activities are implemented such that safety is maintained.

Draft Traits Categorized

* is Power reactor specific

Impact of priority
Measure twice, cut once
Familiarity of SOPs
Clear and concise safety and health processes
Traceability
*Good pre-job briefs
Good materials/equipment condition
Adaptability to procedural or priority changes
Incorporating safety into process
Work processes are clearly defined
Prioritize and eliminate risks early
Procedure compliance/follow approved procedures
Use PPE correctly (personal protective equipment)
(Plant) activities are governed by high quality processes and procedures
Good shift turnover
Quality assurance and employee assurance are independent of the areas they are overseeing.
Precision
Checking yourself (right dose, right drug, “measure twice, cut once”)
Maintaining of SOPs

Nuclear Safety Culture Trait #4 Developed from the February 2-4, 2010, NRC Workshop

	Continuous Learning
Trait #4	Organizational learning is embraced.

Draft Traits Categorized

Continuous learning environment is embraced
Industry participation
Uuse of industry operating experience
Open to outside experience and information
Awareness, education, training
continuous improvement
I will understand the tasks at hand and follow the procedures implicitly. My quest for knowledge/safety is ongoing

Individuals are skilled and knowledgeable in their areas of expertise.
Encourage people to improve their skill base.
Everyone understands their roles and responsibilities and organizational priorities are established for their work.
suggests improvements
Mentor new workers
Fixing things right
Constructive use of operational experience and lessons learned
Disaster preparedness
(Behavioral) Observation program
Competence commensurate with responsibilities
Application of lessons learned
Staff educated on radiation safety
Participate in training
Receptive to training
Continuous learning and continuous feedback
Willingness to continue to learn on the part of the individual and willingness on the part of the management to encourage and reward the learning.
Education focused
Keeping up with technology

Nuclear Safety Culture Trait #5 Developed from the February 2-4, 2010, NRC Workshop

	Leadership Safety Behaviors
Trait #5	Leaders demonstrate commitment to safety.

Draft Traits Categorized

Listening is reinforced by actions taken
Decision making distinguishes between allowable and prudent choices.
Organization demonstrates a bias toward problem resolution.
Discuss decisions
Willingness of leadership to receive/investigate/resolve problems.
Management communicates important decisions and their bases
Management in the field enforce standards
Management respects differing opinions
Leaders provide timely and effective responses to employee concerns.
Leaders who talk the talk and walk the walk
Lines of authority are clearly understood – who makes or who is involved with the decisions. Decision making authority.
Desired leadership behaviors are factored into succession planning and development
Leaders must demonstrate their commitment to safety by setting and reinforcing high standards.
Leadership and Leadership development
Leaders are trusted by members of their organization.
Organizational alignment
Everyone understands their roles and responsibilities and organizational priorities are established for their work.
All member of the organization understand the vision/mission of the organization - Mission statement of the organization has been identified and internalized
Management solicits feedback from workers
Clear roles and responsibilities
First hand knowledge of what operators do
Critical safety functions are understood and maintained
An obvious safety chain of command
Personnel are rigorous in their approach to problem solving
There is a commitment to maintaining equipment so that everything is in working order.
Visibility of management
Rewarding safe behaviors
Rewards and sanctions are used to reinforce the desired positive nuclear safety behaviors.
Positive behavior is rewarded and celebrated.
Actions must match words
Conflict resolution
Schedules are realistic and do not challenge safety standards
Independent critical feedback is sought after and acted upon. Independent assessment, QA organizations, NRC feedback, Independent trade organizations, Joint commission brought in for external assessments
Lines of communication should be open, and management is visible in the field.
Mutual trust between management and employees

Leadership and management creates the culture in the organization through their behavior
Upper management does not interfere with the findings of oversight organizations and the organizational structure enhances the independence of the oversight organizations
Honoring input

Nuclear Safety Culture Trait #6 Developed from the February 2-4, 2010, NRC Workshop

	Effective Safety Communication
Trait #6	Effective Communication is essential to maintain focus on Safety

Draft Traits Categorized

** medical specific

Inform team members
Complete and accurate data is documented and reported to all regulatory and oversight authorities.
**Ensure patients are informed of risk/benefit of medical procedures (informed consent)
Trusts
Lines of communication are open and clear between management and the workforce.
Lines of communication run both ways
Synergistic collaboration
Communicates
Three way communication
I know how to communicate anything that is out of specification or out of the norm and have the responsibility to do so.
I will have a clear and open line of communication up and down the chain and no work in a silo
Broadcast status regularly
Communication - frequent, free association, feedback
Synergism with collaboration
Frequent communication

Nuclear Safety Culture Trait #7 Developed from the February 2-4, 2010, NRC Workshop

	Encouraging Report of Problems
Trait #7	The organization maintains a safety conscious work environment in which personnel feel free to raise concerns without fear of retaliation.

Draft Traits Categorized

Self-reporting of shortcomings
Opposing views are encouraged at all levels.
(Internal) self assessment is encouraged
Trust but verify
Questioning attitude
Staff receives feedback on their reported concern
Peer on peer avenue for dealing with Harassment Intimidation Retaliation Discrimination
The organization avoids complacency
Alternative avenues for raising concerns (DPO or ADR) are valued and used
Voice Concerns
Report Incidents/Unexpected Occurrences
Employee concern program
Workers involved in identifying and correcting deficiencies
Willingness to stop work
Staff reporting on hazardous/risky situations
Safety conscious work environment is fostered
Complete transparency
Employees receive feedback on problems
"It can't happen here" attitude is avoided
Early problem identification is encouraged
Suggest safety improvements
Challenge Status Quo
Staff reporting concerns without retribution
Transparency
Active questioning attitude
Professional [bravery] integrity and a willingness to bring up problems and issues
No shooting of the messenger
Awareness, education, training

Nuclear Safety Culture Trait #8 Developed from the February 2-4, 2010, NRC Workshop

	Respectful Work Environment
Trait #8	Trust and respect permeate the organization

Draft Traits Categorized

Non punitive response to error (i.e. “Just Culture”)
Zero tolerance for retaliation
My qeustions regarding safety are handled in a manner where I am not ridiculed by management and/or my peers
Fair and consistent discipline in all personnel matters