

EFFECTIVE SAFETY COMMUNICATION

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Why Is This Trait Important?

Effective safety communication is vital to maintaining a safety culture. When employees regularly communicate with each other in an open, respectful manner, they are also more willing to give and receive feedback. Effective communication also supports teamwork and coordination between groups. Employees learn about, and become part of, an organization's safety culture through communication. Lack of clear communication from management can result in situations where managers say one thing but do another. Employees then spend time and energy trying to interpret the conflicting messages. In such situations, employees will generally interpret a manager's behavior as the more valid indicator of the organization's values and priorities. Persistent mismatches between formal and informal communications can lead employees to disregard or develop a cynical view of formal communications. This can lead to ineffective formal communications from management and a weakened safety culture. Top-down communication is most effective when senior managers communicate directly with immediate supervisors and immediate supervisors communicate with their staff. Ensuring that supervisors are informed about organizational issues, and then allowing them to communicate these issues to their staff, helps create and reinforce the supervisor's power. Research shows that when employees perceive their supervisor as having power, employees have greater trust in their supervisor, greater desire to communicate with their supervisor, and are more likely to believe the information coming from their supervisor. Upward communication from workers to managers, and information exchange among workers, is essential for organizational learning and safe operations. An employee's perceptions about support for safety can strongly influence his or her willingness to speak up.

Some common barriers to upward communication include fear of retaliation, concerns that the communication will be filtered as it goes up the chain of command, perceptions that management is resistant to critical feedback, and fear of creating interpersonal conflict. These communication barriers, if unaddressed, can have a negative impact on information exchange, organizational learning, and ultimately safe performance. To facilitate effective upward communication, it is important for managers to create an environment that is supportive, encouraging, and accepting of both positive and negative feedback, so employees always feel free to speak up.

Safety Culture Trait Talk

What Does This Trait Look Like?

Work Process Communications: Individuals incorporate safety communications in work activities.

Communications within work groups are timely, frequent, and accurate. Work groups and supervisors communicate with other work groups and supervisors during the performance of their work activities. Individuals communicate with each other such that everyone has the information necessary to accomplish work activities safely and effectively. Communications during shift turnovers and pre-job briefings provide information necessary to support nuclear safety. Work groups integrate nuclear safety messages into daily activities and meetings.

(Continued, Page 2)

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Bases for Decisions: Leaders ensure that the bases for operational and organizational decisions are communicated in a timely manner.

Leaders promptly communicate expected outcomes, potential problems, planned contingencies, and abort criteria for important decisions. Leaders share information on a wide range of issues with individuals and periodically verify their understanding of the information. Leaders take steps to avoid unintended or conflicting messages that may be conveyed by decisions. Leaders encourage individuals to ask questions if they do not understand the basis of a management decision. Executives and senior managers communicate the reasons for resource allocation decisions, organizational changes, and other decisions affecting the organization as a whole, including the safety implications of those decisions.

Free Flow of Information: Individuals communicate openly and candidly, both up, down, and across the organization and with oversight, audit, and regulatory organizations.

Leaders encourage the free flow of information. Individuals share information openly and candidly. Leaders respond to individuals in an open, honest, and non-defensive manner. Individuals provide complete, accurate, and forthright information to oversight, audit, and regulatory organizations. Leaders actively solicit feedback, listen to concerns, and communicate openly with all individuals. Leaders candidly communicate the results of monitoring and assessments throughout the organization and with independent oversight organizations.

WHAT IS A SCENARIO IN WHICH THIS TRAIT COULD PLAY A ROLE?

Fuel fabrication facilities monitor many of the processes of plant operations that use special nuclear material from the control room. This monitoring allows qualified operators to identify process deviations or system problems when processes are not working as intended or there are equipment malfunctions.



During one shift, an operator noticed a slight decrease in the solution level inside the extraction column of the uranium recovery process. The operator was not properly trained for recognizing the possible scenarios and the required actions for seeing such level fluctuation in the panel. The operator sent an employee for a visual check of the extraction system equipment. That employee found a small amount of liquid on the floor near the extraction column level control valve and assumed it was a leaking valve stem near the control valve. The employee communicated to the control room that everything was okay. During the next shift, a second operator continued to see a level deviation in the monitor of the extraction column process area and notified his supervisor. The supervisor immediately inspected the system components and identified a leak in the extraction column piping which resulted in a spill of high-enriched uranium solution with the potential of causing an inadvertent criticality accident. A criticality accident is an uncontrolled, sustained, nuclear chain reaction that occurs in an unsafe geometry containing fissile material. The sudden release of heat, neutrons, and gamma radiation associated with an inadvertent criticality accident may be lethal to nearby personnel. Criticality safety and the prevention of accidental criticality depend on a number of factors which are not production parameters: material enrichment, geometry, reflection, moderation, and other conditions. After communicating with the responsible individuals, the spill was handled in accordance with plant procedures and no inadvertent criticality occurred. The lack of communications in this scenario resulted in an increased potential for a criticality accident. The risk of an inadvertent criticality accident could have been significantly lower had the operator in the first shift communicated the need for additional training and communicated the level fluctuation he identified to the supervisor. The risk of a potential occupational exposure could also have been significantly lower had the employee who first inspected the system notified the operator and supervisors about the small spill so it could have been immediately addressed. Communications that maintain a focus on safety are essential for the safe handling of special nuclear material and for the protection of the workers, the public and the environment. Published by: UNITED STATES NUCLEAR

REGULATORY COMMISSION, www.nrc.gov

EVENT CALENDAR

April 5-9, 2021

IMEA 612 Intermediate Construction and Maintenance Workshop

Events

Class # 031819

Mid-America Science Park (Scottsburg, IN.)

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April 19-30, 2021

IMEA 610 Wood Pole Climbing Workshop

Class # 041921

Lebanon Utilities

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June 9-11, 2021

IMEA Top Out Exam

Class # 032717 / 092517

Mid-America Science Park (Scottsburg, IN.)

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August 30 – September 3, 2021

IMEA 613 Advanced Construction and Maintenance Workshop

Class # 100118

Mid-America Science Park (Scottsburg, IN.

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September 20 - 24, 2021

IMEA 612 Intermediate Construction and Maintenance Workshop

Class # 093019

Mid-America Science Park (Scottsburg, IN.)

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