

## A Revised Model for Nuclear Security Culture

The IAEA published the first model describing nuclear security culture in 2008. Based on that model, we developed quantitative and qualitative methods and collected data from eight nuclear sites in the U.S. The results from surveys, focus groups, and in-depth interviews were compiled and analyzed, shedding new light on the perceptions of nuclear security culture in these organizations. We compared the empirical data to the IAEA model to learn where there was convergence and divergence from the model. We identified some gaps in the model and characterized relationships between dimensions that were previously not well understood. Using this new knowledge, we created a revised model for nuclear security culture. The new theoretical model recognizes that security culture is developed within a larger environment that impacts overall organizational culture. Our data also suggest that management systems and leadership behaviors have the greatest impact on employee perceptions and security vigilance. It is the collective vigilance of employees within the organization that is the key determinant of security outcomes. We used the revised model to inform the development of a new nuclear security culture survey instrument. The validity and reliability of the instrument have been established. The instrument is being used to evaluate security culture at multiple nuclear sites in the U.S. The practical application of this research is that more meaningful measures of security culture are now possible. This tool can help organizational leaders understand how their workforce perceives security and provides insight into what perceptions can be influenced to have a positive impact on security outcomes.

### State

United States

### Gender

Male

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