

Leveraging Safety Programs to Improve and Support Security Programs

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There has been a long history of considering Safety, Security, and Safeguards (3S) as three functions that need to be integrated along with operations into an effective physical protection system. Here, we look instead at how safety programs can be extended to directly benefit security. Our focus will be on nuclear facilities but similar ideas could be used to support security programs at other types of high-consequence facilities.

There are several inherent advantages of safety programs over security programs, such as:

- Safety, as a field, is very mature and has very detailed processes;
- Safety processes and techniques can be shared nationally and internationally without security concerns;
- Nuclear facilities, in particular, tend to have fairly extensive safety programs.

By having a mature and robust safety program, there are also intangible benefits to security performance relative to organizational trust, identification of suspect behaviors and/or threats, and mature organizational communication for appropriate response to security related events.

It is our contention that it would be better to build on a site's nuclear safety program to leverage these strengths over into the security area than to build similar capabilities from scratch within security organizations. We believe that the strengths of the safety program can be carried over to security in a relative straightforward and cost-effective manner. The resulting capabilities could then be demonstrated very quickly to the international community at Sandia National Laboratories' Integrated Training Facility.

This paper reflects discussions at Sandia involving reactor safety, operations, and engineering organizations as well as security experts. Note that Sandia operations and engineering staff have experience with both commercial nuclear power plants and research reactors and have existing work with the International Atomic Energy Agency (IAEA).

The paper discusses several potential areas where safety programs and capabilities could benefit security:

- Security Operations: to improve processes for developing and managing security and contingency plans, to include configuration management, for example, and to achieve better processes;
- Quality Management programs: to include identifying measurable performance goals, determine performance requirements and to apply rigor to performance testing in such areas as test plan development, analysis, metrics, and reporting;
- Security culture: to exploit the significant similarities between safety and security culture, for example ensuring that management takes a proactive role in assuring nuclear safety and security throughout an integrated organization by effective leadership, displaying accountability, proper resource management, and appropriate risk identification and mitigation.
- Exercises where operations groups at nuclear facilities play a role during a security response: to illustrate the role that these groups can play during a security response. Reactor operations and emergency response groups could take part as role players as operators of simulated, notional nuclear facilities as part of simulated security exercises in order to demonstrate how safety, security, and emergency response organizations can work together effectively (and to reflect this knowledge in site plans).

In particular there are two general safety- related programs (all intimately tied with security culture) that could be extended to benefit security:

- Management systems:¹ "The term management system reflects and includes the initial concept of 'quality control' (controlling the quality of products) and its evolution through quality assurance (the system to ensure the quality of products) and 'quality management' (the system to manage quality). The management system is a set of interrelated or interacting elements that establishes policies and objectives and which enables those objectives to be achieved in a safe, efficient and effective manner. "
- Formality of operations:² This covers policies and practices to be followed by employees to ensure safety in the workplace, especially in hazardous industries. Formality of operations includes conduct of operations (including following well-defined procedures), configuration management, maintenance and surveillance, and training and qualification. Note, also, that the management system should support the enhancement and improvement of safety culture³. Other relevant IAEA documents also exist⁴.

These IAEA documents can be found at: <http://www.iaea.org/NuclearPower/ManagementSystems/>

Finally, the paper discusses how Sandia's Integrated Training Facility could be used to demonstrate how this safety/security integration could be accomplished.

Organization

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Country

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