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NUCLEAR SECURITY PROJECT FOR A BRAZILIAN FACILITY

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This paper describes the application of a risk management performance-based approach, and compares a security project using three areas of nuclear security: physical protection, information security and accounting and control of nuclear material. This approach uses probabilistic threat parameters, equipment, systems and response forces used to prevent, dissuade and deter malicious acts against the integrity of nuclear facilities and its materials contained therein. Today, in Brazil, nuclear risk management uses a traditional prescriptive-based approach. This methodology does not take into account the current capabilities of the different internal or external threats to facilities. In addition, it does not provide system performance metrics in the face of such threats. Once the plans and systems that currently exist in real facilities must remain confidential, a hypothetical facility was developed, contemplating a small modular reactor. The use of the methodology made it possible to identify vulnerabilities of the model itself, given the needs of each of the areas of Nuclear Security. The results obtained shown us that the adoption of a performance-based methodology represents a significant evolution in the evaluation of physical protection systems, but it is not enough without being integrated with the areas of cyber-security and nuclear material accounting and control.

State

Brazil

Gender

Male

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