

Effective Implementation of Tabletop Exercises for Nuclear Security

Ensuring a timely and effective response to a security event involving nuclear or radioactive material is a challenge. This is due to the need for accurate and reliable contingency plans and procedures, adequate coordination between stakeholders involved in response, and the costs of systematic exercises to validate, test, evaluate, and prepare personnel to respond to nuclear security events. Security tabletop exercises (TTX) offer a flexible and economic way to validate security response plans, strengthen staff competencies through training, and test well-established response procedures while assessing security personnel awareness and readiness.

The use of TTXs for the validation of contingency and response plans identifies procedural, resource, operational and strategic gaps. Embedding TTXs into the validation process can serve to ensure that plans, procedures and arrangements are up-to-date and aligned with the current operational environment. In this context, using TTXs for validation provides all stakeholders, including off-site response, with the opportunity to clarify roles and responsibilities in the response to a nuclear security event.

Implementing regular TTXs into established drill and exercise programs contributes to the sustainability and enhancement of security training programs. These TTXs provide security personnel with the opportunity to train utilizing validated plans, and to practice procedures, decision-making processes, and response arrangements. As such, security TTXs can enhance knowledge of plans, procedures and protocols, and identify areas of improvement for procedures, personnel, resources and equipment.

TTXs serve as an effective method to test specific scenarios within the design basis threat and can complement the force-on-force exercise program. A well-designed TTX can provide security metric data on the effectiveness of an organization's response to a nuclear security event, while employing far less resources, financial cost and commitment than drills and full-scale force-on-force exercises. TTXs provide a safe environment to test and familiarize security, emergency and off-site response personnel with site plans, roles and responsibilities, incident command, and tactics to ensure a coordinated response. Implementing TTXs in the force-on-force exercise program can provide an objective assessment of security capabilities and will enable the early identification of vulnerabilities and operational and procedural gaps.

Through comparative analysis and benchmarking, this paper illustrates the effective implementation of regulatory requirements and guidance for security exercises, exercise models and approaches used by various IAEA Member States. This paper identifies good practices among domestic and international organizations in exercise development and execution. In addition, this paper provides suggestions and proposes options for the inclusion of additional requirements in a State's regulatory regime.

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Track Classification: CC: Innovative technologies to reduce nuclear security risks and improve cost effectiveness, where feasible