

C.A. GRAVETT and C. LOPEZ

JOINT TRAINING EXERCISES AMONG RADIOLOGICAL SECURITY STAKEHOLDERS

C.G. GRAVETT

Sandia National Laboratories
Albuquerque, New Mexico United States
Email: cagravet@sandia.gov

C. LOPEZ

Sandia National Laboratories
Albuquerque, New Mexico United States

Abstract

Several entities play vital roles in the safety and security of radioactive sources. These include the regulatory authority, operating sites, and first responders. Each of these groups has separate roles and responsibilities in the protection of material; however, their actions must be integrated to successfully defeat an adversary if an attempted theft of material were to occur. These stakeholders sometimes receive joint training in protecting radioactive sources but seldom work together outside the confines of the classroom environment. While individual stakeholders may know and understand their independent roles, the integrated response and coordinated effort to protect radioactive sources are seldom, if ever, coordinated or rehearsed jointly. A solution is to implement the concept of Joint Training Exercises (JTX). The JTX has applied exercises for acquiring and retaining the knowledge, skills, and abilities needed for the integrated response to prevent the theft of radioactive materials focusing on performance-based objectives. JTX should be developed on realistic conditions and standards that exist in a country's protection of radioactive sources. Developing a JTX uses a systematic approach to training and follows a prescriptive method to develop a meaningful and effective exercise. Implementing a systematic approach will help stakeholders develop, plan, and execute successful Joint Training Exercises. Each JTX should be evaluated for overall effectiveness and identify opportunities for improvement, which could result in future training activities for individual or multiple stakeholders. The more frequent a JTX's occurrence, the higher the likelihood of success against the attempted theft of radioactive material.

1. INTRODUCTION

All radiological stakeholders have a vested interest in the security of radioactive material. These stakeholders include regulators, operators/licensees, shipper/carriers, law enforcement and other state agencies. Because these interests and capabilities to support radiological security overlap different functional areas, there is a need to bring organizations together periodically to ensure continued mutual support through joint training and exercises. Individual stakeholders understand their respective roles. However, the integrated support and response requires coordination and training among all stakeholders to protect radioactive sources. This coordination is rarely exercised outside of a classroom environment.

Military and other organizations have demonstrated the value of joint training exercises between multiple organizations by either performing successfully in integrating multiple organizations into their planning process or operating a successful business. This same level of cooperation in joint training can be applied to radiological security stakeholders through the use of joint training exercises.

2. BENEFITS OF JOINT TRAINING EXERCISES

There are many benefits that come from joint training exercises. The ability for all concerned stakeholders to look at the security of radioactive sources holistically is as critical. Each stakeholder has an understanding of their respective duties and responsibilities with regards to radiological security but may not be familiar with other stakeholders' responsibilities.

Stakeholders must move beyond the classroom and applicable memorandums of understanding and agreement to train and implement an agreed upon action plan. This can be done by engaging in joint training exercises at every stakeholder's level. These joint exercises evaluate the knowledge, skills, and abilities needed for the protection of radioactive materials of all stakeholders. Further benefits can be gained by exercising:

- Communication protocols
- Plans and procedures
- Timely notification
- Timely response
- Denial of access
- Containment of adversaries
- Information needed for fresh pursuit, recapture, and recovery

These are only some of the benefits. Stakeholders will be able to add to this list as they begin to engage in joint exercises. Joint training exercises are very similar to subsystem and whole system performance testing. Subsystem testing evaluates only parts of the system such as the site and local law enforcement. Whereas whole system testing involves all stakeholders up to and including the national level.

A GRADED APPROACH TO JOINT TRAINING EXERCISES

A graded approach to conducting joint training exercises is recommended in order to create a repeatable process involving all stakeholders. The intent of this process is for all stakeholders to understand their respective role in the security of radioactive material and practice their processes, techniques and procedures and how each organization's role is integrated into the overall protection strategy. Also, this repeatable process is key for sustaining joint training exercises. Once the process is in place and effective, any number of scenarios could be created based on world events or upgrades to a physical security system.

The graded approach is a bottom-up process and should have a logical flow. Typically, a graded approach refers only to the complexity of the exercise. However, one could also apply a graded approach to organizations by starting at the site level and then move up to the national level. This subsystem and whole system training will ensure all involved stakeholders understand their respective roles and responsibilities in the security of radioactive material. Typically, these exercises will take the form of tabletop exercises but should also include other performance-based exercises where participants simulate real-world events in a training environment.

PLANS AND PROCEDURES

In a radiological security event, all involved stakeholders should have predetermined security/contingency plans, which can help form the tasks of the exercise. While these plans and procedures could cover many things, the primary purpose should first be the timely notification of law enforcement and then containment of adversaries or recapture/recovery of material.

SITE-LEVEL JOINT TRAINING EXERCISE

Bringing the site and local law enforcement together for a facilitated discussion or a TTX. Response Exercise is a great way to start the joint training exercise process. During this process, plans and procedures of each stakeholder organization can be exercised. All that is really needed is a credible scenario.

The focus of this exercise could be the timely response of the site to local law enforcement. The benefit gained by conducting this joint exercise is that there has been a relationship created between local law enforcement and the site and that each organization has visibility of each other's responsibilities and how one relies on the other. A site-level joint exercise does not have to be limited to response. IT could also include any numbers of various stakeholders such as fire or emergency medical services.

LIMITED SCOPE JOINT EXERCISES

The next phase of joint training exercises is to expand the scope of the initial exercise. These exercises could move beyond the tabletop and participants from multiple organizations could actually perform their actions. A TTX is also appropriate for initial exercises. Here is an opportunity to add additional stakeholders at the local/site level. Perhaps the local fire department, emergency medical services, or anyone else at the local level with a role in the security of radiological security could be added. As described in our initial site-level exercise of timely notification, there could be a follow-on exercise that evaluates what happens after timely notification. This would still involve the site, but the focus of this exercise could be law enforcement's ability to respond and contain the adversaries and material. While this is not a performance test, anything bound by time such as notification and response can be performance tested or trained. Specifically, in this type of exercise, the focus is still timely notification by the site to law enforcement with addition of law enforcement response and containment.

FULLY INTEGRATED JOINT TRAINING EXERCISES

Fully integrated exercises are necessary in the event that any of the site-level and other local-level preventative measures fail. This type of exercise once again expands the scope of the original exercises to include a national-level response. In the event that containment fails, there will be additional stakeholders added to the site and local law enforcement stakeholders. National level organizations have capabilities that do not exist at the site or local law enforcement level. Planning and executing these exercises requires detailed planning and are more heavily resourced than local exercises. The threat of theft of radioactive material remains a low risk. Should it occur, the consequence is extremely high.

CONCLUSION

No organization anticipates failure of their systems. However, all organizations should be prepared to respond attempted or actual thefts of radioactive material if there is a failure. The threat of theft of radioactive material remains low. Should it occur though, the consequence is extremely high and would be unacceptable to any stakeholder. By conducting and participating in joint training exercises, all stakeholders will have a holistic view of the protection of radioactive material.