Engaging Law Enforcement Responders to Ensure Effective Security for Radiological Materials

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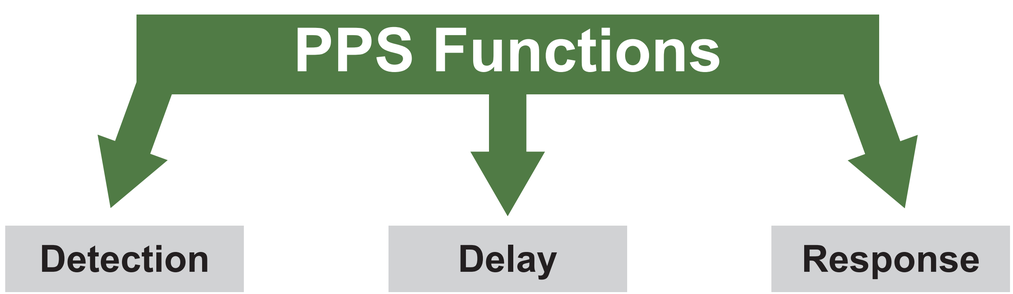
1. Background and Goal of the Present Work

As part of the U.S. Department of Energy's National Nuclear Security Administration, the Office of Radiological Security (ORS) has been working cooperatively for more than a decade to improve radiological source security in countries around the world. Installation of physical security system hardware and development of critical infrastructure and core competencies have underpinned the efforts, and ORS has made demonstrable progress in these areas. This paper focuses on a third key facet of sustainable security: armed response to a malicious act involving radiological material. Key objectives and strategies for engagement and training of armed responders are highlighted.

2. How Response Complements a Broader Radiological Security Strategy

Physical security system design is based on several fundamental principles to ensure the fulfillment of physical security system functions; specifically, ***detection*** of an attempted or actual intrusion, ***delay*** of the adversary to allow for interruption of the malicious act prior to its completion, and ***response*** to actually interrupt and prevent the malicious act. Successful response must be timely – responders must arrive before the adversary completes the task, and adequate – responders must arrive in sufficient number and with adequate firepower to counter the adversary.



In many cases, the first two functions can be performed effectively by operator personnel. In the case of operators with radiological sources (as opposed to nuclear material), most often operators must rely on external stakeholders (i.e., local police or private security personnel) for a response capability that is adequate to defeat an adversary.

While many radiological source security stakeholders gain significant leverage and empowerment from enactment of rad security regulations, response stakeholders frequently fall into a distinct command structure governed by other laws and regulations. This adds to the challenge of effectively engaging armed responders. Response to attempted theft certainly falls within the remit of security and law enforcement entities. When the question of radiological material is added to the equation, however, there are several concepts that require additional emphasis or explanation.

3. Key Learning Objectives for Armed Responders

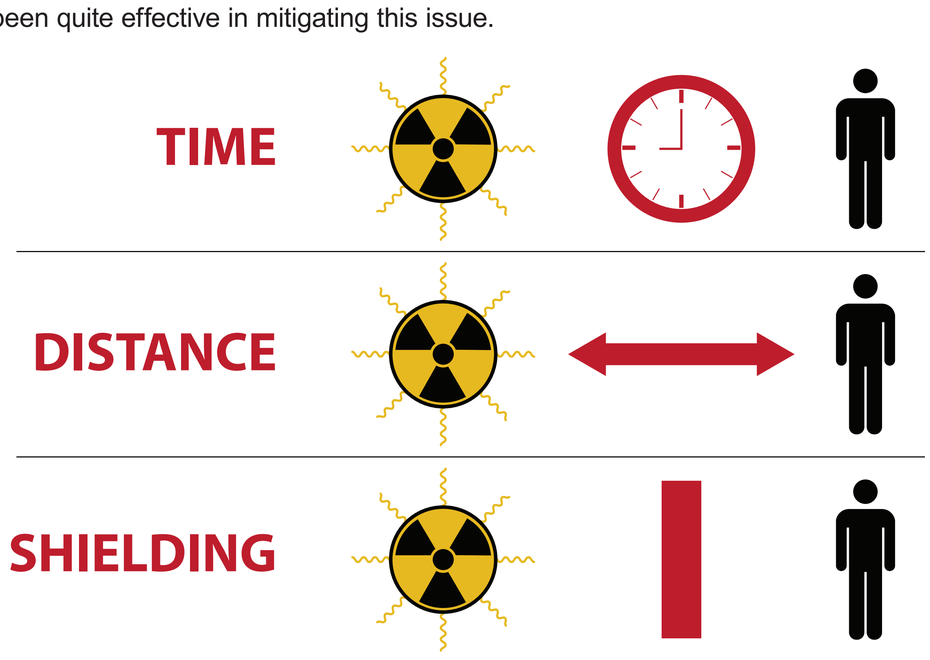
Providing instruction to armed responders can be a challenging task. Some initial assumptions form a baseline for responder training. In particular, there is a basic expectation that armed responders are trained in firearms use and response tactics. Additionally, it is expected that response tactics and protocols are agency and/or country specific, and seeking to influence those would be limited in its utility. As a result, ORS has sought to limit its instruction to responders to three key areas.

3.1. Consequences of Malicious Acts Involving Radiological Material

Armed response stakeholders often have little awareness of the consequences (financial, social, environmental, physical) associated with the malicious use of radiological material. As a result, prioritization of alarms skews away from alarms at hospitals, university research facilities, or industrial locations, and toward other, more traditional theft targets. By discussing the broader consequences beyond simple material loss, responders can better understand how to prioritize alarms tied to radiological source security.

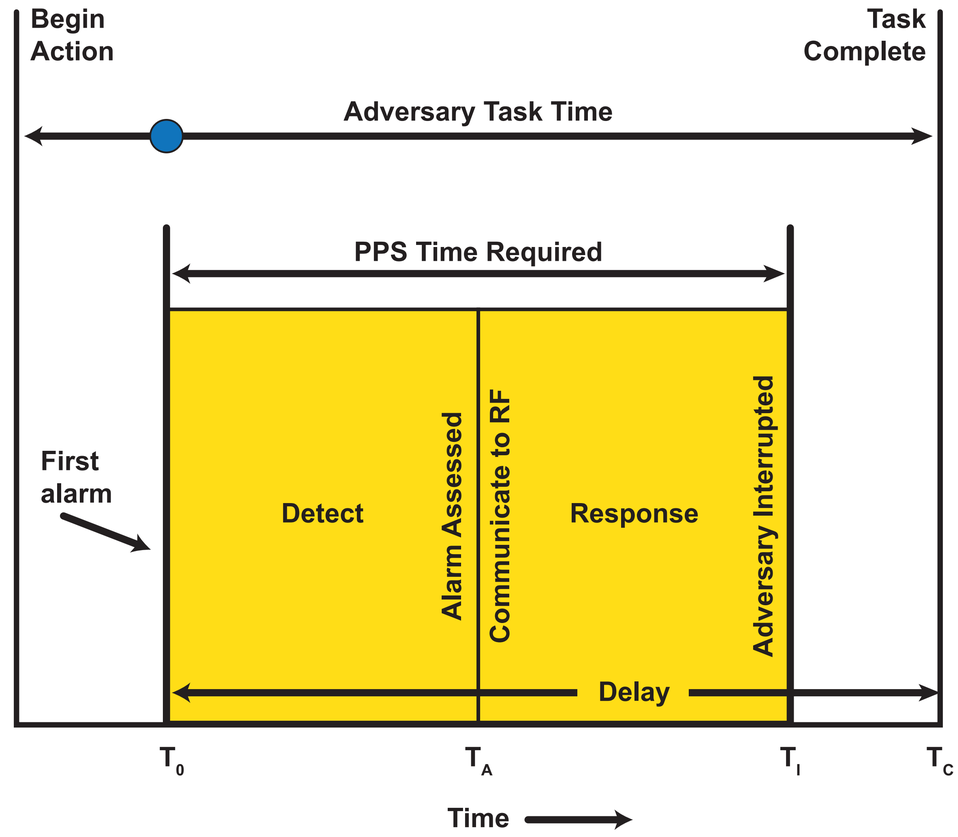
3.2. Responding Safely to Malicious Acts Involving Radiological Material

Many armed responders are reluctant to respond to malicious acts involving radiological material because they understandably fear they do not know how to do so without exposing themselves to radiation while confronting the adversary. Discussion of risks posed by radiation, as well as strategies for minimizing exposure (i.e., time, distance, and shielding), and allowing participants to ask questions in order to allay their concerns has been quite effective in mitigating this issue.



3.3. The Challenges to a Timely Response

Finally, armed response stakeholders assume that the adversary task time will be of sufficient duration to allow for a timely response with little special effort. Unfortunately, that assumption frequently does not stand up to close scrutiny. By examining the factors impacting both adversary task times and response timelines, it quickly becomes evident that responders face a significant disadvantage. Accordingly, response stakeholders can identify a series of mechanisms by which they can streamline the response timeline and improve their probability of success.



4. Sustainable Response Training Resulting from Broad Exposure

ORS strives ultimately to transition responsibility for ongoing capability development, including the response capability, to stakeholders in the countries with which it establishes partnerships. Over the course of the ORS effort, it became clear that optimistic expectations that stakeholders will immediately buy into the premise of responder training and co-opt it into existing training structures are predictably unrealistic. Gaining the attention and winning the support of partner vital, high-level stakeholders for the maintenance of a response training capability has most consistently been achieved through repeated delivery of response training courses by ORS.

Whereas a single course delivery engages ministry-level stakeholders a single time, and convenes a couple dozen responders, delivering several courses in relatively short order requires a more substantial commitment from ministry-level partners, proves to be more impactful in training a more adequate number of responders, and demonstrates the value of the capability development effort for all to see.

5. Success in Poland

While there are a number of examples of limited engagement failing to achieve the objective of sustainable security, the ORS experience in Poland supports the assertion regarding the need for repeated engagement over a concentrated period of time. ORS initiated the response engagement with Poland in 2014. Beginning with high-level meetings with Polish National Police, ORS laid the foundation for training and established the intention to establish a Polish training course for response activities. After a 2014 training course, three additional IRT courses were delivered from October 2017 – April 2018. During each engagement, ORS discussed the course transition process and identified individuals to participate in a future a course transition workshop. These events provided ORS trainers with the opportunity to engage local responders, ministry officials and the National Police Chemical Biological Radiological Nuclear (CBRN) Unit within the Bureau of Antiterrorism, and document a proposed training plan for a response curriculum in Poland.
In July 2018, ORS conducted an IRT Course Transition Workshop. During the workshop, the participants identified five different target audience groups for future trainings, including rookie law enforcement and upper police management, and created a curriculum based on the draft training plan. Moreover, the police elected to invite a representative from their regulatory body to answer questions they had concerning Poland's radiological regulations and to assist in the development of their lesson on Polish regulatory requirements. The curriculum development process in Poland differed slightly from other regions as the European Commission provided funding to support an international CBRN training program which included Poland, Belgium and Cyprus. The CBRN Poland incorporated ORS's IRT training materials into a training course for police and CBRN police units.

In May 2019, Polish first responders and Cypriot and Belgian response instructors conducted a Pilot CBRN Response Pilot training course in Poland. This curriculum met the standards of the Polish National Board of Education and addressed training gaps in CBRN response efforts. Polish instructors confirmed they are working to implement a two-phased training which will include basic training at the police academy and a more advanced training for individuals interested in CBRN work. The course was a huge success and a great step forward for sustainable response training in Poland.

6. Conclusions

Response is a key component to any effective radiological security strategy. Efforts to facilitate a country's efforts to establish a viable and effective response capability benefit greatly from two basic premises:

- Focus on communicating vital knowledge that augments a response force's existing expertise. Specifically, conveying the consequences associated with malicious acts involving radiological material, discussing measures to ensure the safety of responders when confronting an adversary, and identifying challenges responders face in mounting a timely response.
- Commit to repeated engagement in the area of response in order to generate significant engagement by high-level stakeholders and indoctrinate a broader swath of response personnel, which, in its turn, provides clearer evidence of the value of training response personnel and stakeholders.