

Session 18

Panel: Consequence Management of a Radiological Dispersion Device (RDD) Are We Good, or Just Lucky?

Panel Reporter: Ed Day, PELL Resources Company (USA)

The purpose of this panel was to discuss the fact that, to the best of our knowledge, a terrorist caused RDD event has occurred nowhere in the world. The nation has been preparing for an RDD event for many years and increased the funding for such an event since evidence was found in Afghanistan that al-Qaeda was planning such an event.

The following individuals participated in the panel:

- Dr. S. Y. Chen, Argonne National Lab
- Arthur Birch, ECSI International
- Gary Purdy, Nuclear Regulatory Commission
- Dr. Ken Redus, Redus & Associates
- Col. (retired) Eric Rojo, Shaw Environmental

The panel was asked to address the following questions:

- Why has an RDD **not** been used as a terrorist weapon?
- Why has a radioactive source **not** been added to a car bomb?
- Is our “intelligence so good that we can prevent the event before it happens?”
- Do we have such good control of sealed sources that it is too difficult for terrorists to deploy undetected?
- Do terrorists think that we have so many portals and remote sensors scattered around the country that it would be implausible to move undetected?
- Is an RDD not effective or dramatic enough a terrorist tool?
- Is it too hard for terrorist organizations to assemble the resources necessary to successfully deploy a “dirty bomb”?
- Is the force protection at nuclear facilities or facilities that use nuclear materials overwhelming?
- Are we adequately prepared for an RDD event?
- Are we good or just lucky?

Dr. S.Y. Chen defined a “dirty bomb” and the various sources from which a “dirty bomb” could be derived. He address the deposition area a “dirty bomb” and predicted that its impact and lethality is marginal. Dr. Chen discussed the various phases and time line for such an incident and concluded the real impact is the economic impact of the late phase during site decontamination. He discussed other important considerations of such and event such as weather, particle size distribution, psychological factors and long-term recovery. Dr. Chen concluded that since the health consequences from the radiological fraction of the RDD are minor that it no a particularly effective weapon of choice and that it is more a weapon of mass disruption than a weapon of mass destruction. However, Dr. Chen cautions us to

disregard the threat and to expect the unexpected. The poisoning of Alexander Litvinenko with Po-210 is an example of the unexpected.

Gary Purdy discussed the monitoring and controls placed on unwanted and orphan sources, the Trilateral Initiative between the U.S. NRC, Canada and Mexico, DOE's Offsite Source Recovery Program and the CRCP Directors' National Orphan Radioactive Material Disposition Program. The National Source Tracking System enables the tracking of sources from IAEA Code of Conduct from origin through changes of ownership to disposition. Mr. Purdy's position is that one of the reasons that an RDD has not been deployed as a terrorist weapon thus far is that the increased controls on sources and enhanced security at sites with large sources has made it more difficult for the rouge terrorist organization to secure sources for illicit purposes.

Arthur Birch discussed the difficulties terrorists face in penetrating protected nuclear facilities including nuclear power facilities and the weapons complex. The technologies and security measures employed at the major nuclear facilities include perimeter controls, insider background checks, accesses control, intrusion detection, pop-up barriers, force protection and surveillance. The weak link in the physical security controls may be with medical and university research facilities. Mr. Birch believes we are both good and lucky not to have had a terrorist caused uncontrolled release of radiation and that we must keep up our vigilance.

Dr. Larry Regens discussed the nations' intelligence activities and their impact on identifying and preventing radiological dispersion device events prior to the actual event. Whereas, US and international intelligence agencies are putting forth a best effort to track potential terrorists with RDD intent; they are not able to achieve 100% protection. There have not been car bombs or suicide bombers in the US over the past five years. This credit goes not only to intelligence agencies but also law enforcement agencies. We are both good and lucky that we have not had a known RDD event anywhere in the world to date.

Dr. Ken Redus discussed the probability of an RDD event and provided the few from a risk analysis standpoint. Analytically, the probability of an RDD event is low but not improbable. The probability increases with the determination of the terrorist to achieve its goal to achieving psychological terror and media attention to their cause.

Eric Rojo summed up the consensus

- Why has a radioactive source **not** been added to a car bomb? *It certainly is easy to add radioactive sources to a car bomb but if Timothy McVeigh had added a source to the Oklahoma City car bomb, not one additional death would have been added to the list of victims on that tragic day.*
- Is our "intelligence so good that we can prevent the event before it happens? *If we are lucky.*
- Do we have such good control of sealed sources that it is too difficult for terrorists to deploy undetected? *We have good control but we will never have infallible control.*
- Do terrorists think that we have so many portals and remote sensors scattered around the country that it would be implausible to move undetected? *No*

- Is an RDD not effective or dramatic enough a terrorist tool? *An RDD is an effective tool for terrorists.*
- Is it too hard for terrorist organizations to assemble the resources necessary to successfully deploy a “dirty bomb”? *No, terrorist organization could easily assemble a dirty bomb.*
- Is the force protection at nuclear facilities or facilities that use nuclear materials overwhelming? *Yes, for nuclear power and weapons complex facilities but no for medical and university research facilities. All bets are off if an insider is employed at a nuclear facility.*
- Are we adequately prepared for an RDD event? *Major urban areas are well prepared but typically under-equipped.*

Col. Rojo stated that we are being driven by unreasonable fears and are oblivious to the cost of managing those fears, that security spending is being driven by unverified worst case scenarios, and that the terrorists are impacting our national economy by playing to those fears. Planning and preparedness should be consequence and “return on investment” based.