

Japan-US Cooperation for Nuclear Forensics

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Katsuhisa Furukawa
katsu_furukawa@sannet.ne.jp

Research Institute of Science and Technology for Society
(RISTEX)
Japan Science and Technology Agency

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Small Threats?
But Potentially Significant Risk of
Nuclear/Radiological Terrorism

Al Qaeda-linked New Jersey man Sharif Mobley, arrested in Yemen, worked in nuclear power plants

By Brian Kates

DAILY NEWS STAFF WRITER

Friday, March 12th 2010

- Before Mobley moved to Yemen two years ago, ostensibly to learn Arabic and study the Koran, he worked for several contractors at three nuclear power plants in New Jersey from 2002 to 2008, PSE&G Nuclear spokesman [Joe Delmar](#) said.
- Mobley carried supplies and did maintenance work at the plants on Artificial Island in Lower Alloways Creek and worked at other plants in the region as well, Delmar said.
- He satisfied federal background checks as recently as 2008, Delmar said. Mobley was always supervised, caused no problems and was not believed to have breached security at the plants, said [Mike Drewniak](#), a spokesman for New Jersey Gov. Chris Christie.

Bombspotters defy militaries of air force base Kleine Brogel, Belgium

- On January 31, 2010, a group of anti-nuclear activists entered the air force base of Kleine Brogel in Belgium. They were astonished that for more than an hour they could walk undisturbed on the landing strip, through an open gate and up to the aircraft hangars where the nuclear weapons are stored. Only after one and a half hours all of the activists were detained on the base and their cameras and mobile phones confiscated.

A German-Born Terrorism Supporter, Aleem N. Former Employee at the Institute for Transuranium Elements (超ウラン研究所)

- A German national with Pakistani descent.
- In November 2010, he was charged with 8-year imprisonment in Germany, on the ground of supporting terrorism, including providing logistic support and recruitment for Al Qaeda.
- He was former employee at the Institute for Transuranium Elements (ITE) near Karlsruhe, Germany.
- On Sept. 14, 2001, three days after the terrorist attacks in the United States, N. allegedly uttered a sinister threat in ITE: "Such attacks will now occur everywhere, including in Germany."

Suicide Bomber Targets Pakistan Military Complex (10/23/2009)

- A suicide bomber blew himself up near the Pakistani military base in Kamra, on Friday, killing 7 people and wounding 13 more. Kamra is located in the north-western region of Pakistan, 30 miles away from the capital city of Islamabad, and is alleged to house Pakistan's nuclear weapons program. According to reports coming in, there has been another bomb blast outside a restaurant in the city of Peshawar. At least 15 people are reported to be injured.
- The military base in Kamra also contains an [Air Force Complex](#), which is supposedly, the center of Pakistan's air force activities. This is not the first time that the complex has been the target of a suicide bombing attack. [The facility was also attacked in December 2007](#), when a suicide bomber blew up the car he was traveling in, outside the air force base, injuring 5 people. That was when concerns about the safety of Pakistan's nuclear weapons first surfaced. There has been [speculation on an international level, about the Kamra complex being used as a base, for planes carrying nuclear warheads, and the safety of nuclear weapons, although Pakistan denied any possibility of this.](#)

Need for Scenario-Based Planning: Possible (Although Not Necessarily Plausible) Scenarios of Nuclear Terrorism Attacks

- Illicit trafficking of tactical nuclear weapon(s) from former Soviet Union region?
- Runoff of nuclear weapon (or nuclear warhead) from Pakistan by a combination of insiders and violent extremist group?
- Runoff of nuclear weapon (or nuclear warhead) from North Korea at a time of turmoil?

Deterrence Effect?

- Probably minimal or non-existence for non-state actors.
- Possible to a reasonable extent for state actors.
- **But how do you differentiate between state- and non-state actors?**
 - Was the A.Q. Khan network a state actor, or a non-state actor?
 - It was a multinational network consisting of various stakeholders.
 - The degree of suspected state's involvement in nuclear proliferation differed both in time-scale and geographically.
 - In reality, **a hybrid model of a combination of state- and non-state actors could be most relevant.**
- **Can we deter such hybrid network?? What do we mean by “deterrence”?**

Assessing and Managing
the Risk of
Nuclear/Radiological Terrorism

CBRNE Incidents in Japan

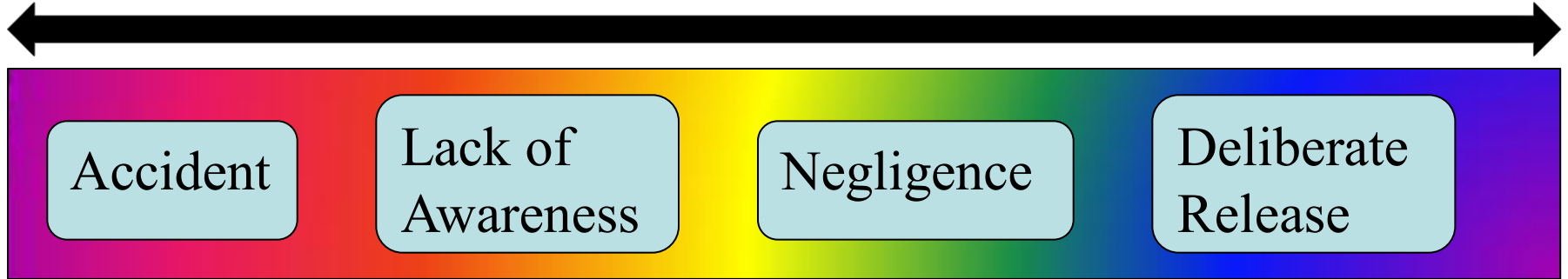
	Chemical	Biological (incl. toxin)	Radiological / Nuclear	Explosive	Total
Terrorism	12	14		80	106
Criminal Activities	75	23	2	154	254
Accident	2		11	17	30
Poor Management / missing materials	1		61		62
Possession of devices or materials	4			21	25
Theft	6		11		17
Others (incl. unknown)	3	2		3	8
Total	103	39	85	275	502

Period: 1930 – 2010, numbers including attempted incidents (either failed or planned only)

Source: RISTEX Non-State Actors' CBRNE Database (as of September 20, 2010)

- This chart was created by Naoko Noro, Associate Fellow of RISTEX, based on this database.
- The date of Radiological/Nuclear incidents were primarily compiled by Shinsuke Tomotsugu, Associate Fellow of RISTEX.

Necessity to Meet with the Full Spectrum Nuclear/Radiological Risks



A concept adopted from a chart developed the International Council of Life Science
(<http://www.iclscharter.org/home.html>)

- Intentional release of radiological/nuclear materials (Terrorism; Radiological/Nuclear warfare)
- Accidental release of radiological/nuclear materials
- Human health
- Animal health, Plant health
- Environmental protection

Difficulty to Prepare for the *Black Swan*

- Nuclear terrorism as a “*Black Swan*”
 - What would be the optimal resource allocation to deal with a highly improbable event relative to other existing events?
- Need for a Multi-Purpose Application of Counter-Nuclear Terrorism Assets
 - Nuclear detection system under the Megaports Initiative could be applied for a health purpose, for example.

“Scrap Metal Radiation Raises Concerns in India”

Jim Yardley, The New York Times, April 23, 2010

“(A) piece, or pieces, of metal blamed for an alarming radiation scare this month that hospitalized seven people and caused the police to temporarily cordon off an area barely 10 miles from India’s Parliament. Some experts declared it one of the most troubling cases of radiation exposure in recent years.”

Difficulty of Communicating Uncertainty...

- “Politicians like history but not histogram (度数分布図).”
- If a country should be attacked by a radiological/nuclear weapon, politicians, media, and the public would become enormously angry.
- And even if the best scientific judgment derived from the best nuclear forensics might contain some level of uncertainty, **how could we communicate the uncertainty to political decision-makers as well as the media and the public in a sound, reasonable manner?**

Need for Multi-Stakeholder Cooperation

Need for Multi-Stakeholder Cooperation

- Nuclear forensic requires close and established cooperation framework among various relevant stakeholders:
 - Law enforcement
 - Nuclear scientific entities
 - Military
 - Public health
 - Media
 - ...And most importantly, politicians, local governments and private sector!!

Case of Poisoning of Mr. Litvinenko

Public Health Investigation Related to Many People...

- The number of people with the risk of exposure to Po-210: Over 750
 - Hospital staff
 - “Itsu” Sushi Bar: staff and customers
 - Millenium Hotel employees, guests, and visitors
 - Friends and family members of Mr. Litovinenko
 - Arsenal Emirates Stadium
 - Passengers and flight crews of AEROFLOAT
 - Passengers on Public Transportation system in London
 - Hotels and offices...
- One of the major challenges on the scene of crime: “**How clean is clean enough?**”

Case of Poisoning of Mr. Litvinenko

Significant Workload Required...

- About 300-400 members of UK Health Protection Agency were mobilized for a few to several months.
- Cooperation was essential among public health, police, other relevant ministries/agencies, and patients
- Various expertise were required, including radiological science, public communication, command and control, documentation of situational management, logistics support, etc.
- Public communication was essential!

Issues for Multi-Stakeholder Cooperation for Nuclear Forensics

- Chain of custody of forensic evidence
 - Does relevant authorities have a mutual agreement over protocol?
- How to secure the safety of investigators on the ground?
 - Need for a coordinated safety standard among relevant authorities.
- How to interview patients and relevant witnesses?
 - Does relevant authorities have a mutually agreed protocol?
- How to communicate the scientific assessment to political authority, media, and public?
 - Nuclear issues are not only scientific but also political by nature!

Additional Issues for Japan-US Cooperation in Asian Region

Capacity-Building Support in Asia with Relevance to Counter-Nuclear Terrorism

- Japan has profound expertise, experiences, and networks in Southeast and South Asia. (eg. Illicit trafficking, Local political situation, etc.)
- Information relevant to illicit trafficking and associated stakeholders are in the hands of
 - Japan Coast Guard
 - Export control authorities
 - Custom
 - Law enforcement authorities
 - Intelligence authorities
 - Development community
 - Private sector, NGO, etc.
- **Multi-stakeholder cooperation is essential to construct an effective regional architecture for nuclear detection!**