



Research Report

Cals Model United Nations 2017

“Creating pathways to new opportunities”



Forum: GA 1: Disarmament and International Security (DISEC)

Issue: Eliminating terrorists access to radioactive sources

Student Officers: Maartje van Lelyveld & Thomas Koning

Introduction

The first subcommittee of the United Nations General Assembly is focussed on Disarmament and International Security. This means that we will be discussing any issue that causes a threat to peace and the international security. The issue of Eliminating terrorists access to radioactive sources is very relevant and concerning. In order to make sure this will not pose an actual danger, we, citizens of the world, need to take responsibility for the possible security risks.

The nuclear energy sources provide benefits to humanity through many means such as; Industry, medicine and research. They are very profitable, if used correctly and safely. If these materials are not secured and regulated by uncommercial organizations, they might end up Radiological Dispersal Devices (RDD), also known as a “dirty bomb”. Until now this way of using radioactive sources has not occurred. After the September 11, 2001 terrorist attacks, al Qaeda’s expressed their interest in acquiring these RDD in order to cause global radiological terror. The recent widespread news reports on this topic sparked the concern about the security of commercial radioactive sources. Radioactive materials other than commercial radioactive sources, such as radioactive waste from nuclear power plants, are a possible component of RDD. Globally millions of radioactive sources are used for commercial purposes. Just a fraction of this, perhaps a few tens of thousands, actually pose a high security risk due to the higher levels of radioactivity, dispensability and portability. These radioactive materials pose a risk and we need to make sure these materials are secured and regulated.

Definition of Key Terms

Dismantlement:

In order to make an (nuclear) weapon harmless, it needs dismantlement. In this process harming materials such as radioactive or nuclear materials are separated and stored in a safe and harmless way.

General Overview

We can classify radiological and nuclear terrorism in four sub categories.

1. A non-state party such as a terroristic organization or a group with criminal intentions could acquire nuclear arms from a nuclear-armed state. This could take place through theft or through a gift. The first option could be possible when the arsenal of the nuclear-armed state is not secured enough. The second option would be possible due to blackmailing to nuclear custodians or the nation and organization are allies and the nation would want the organization to possess such a weapon.

2. The second category we can classify between nuclear threats occurs when a non-state actor acquires a sufficient amount of nuclear material. The two most likely materials would be; Highly Enriched Uranium (HEU) or plutonium. These two materials could be used to build an Improvised Nuclear Device (IND). A bomb similar to the Nuclear bombs used to destroy the cities of Hiroshima and Nagasaki in the year 1945 could be created. The bomb that was dropped on Hiroshima was a “gun-type” of IND, this kind of arm is relatively easy to build but does require the need of highly enriched Uranium. The bomb dropped on Nagasaki on the other hand, was built with the use of plutonium. This is the so called “implosion-type” bomb, this sort of device is technically more challenging to build.

When a terroristic organization gets hold of these kinds of materials and builds one of these kind of bombs, we would have a very big problem. The bombs dropped on Hiroshima and Nagasaki in 1945 killed approximately 178.000 Japanese citizens.

Even though these first two categories have a very low probability due to the high security posed on such radioactive materials and IND's, we really need to take them serious due to the massive destruction that they could cause.

3. If radioactive material is acquired by non-state parties, it is very likely they would build a Radiological Dispersal Device (RDD), also known as a dirty bomb. This kind of device is a bomb in which radioactive material is dispersed by use of conventional explosives or other methods.

4. The last form of radiological terrorism takes place when the non-state party with criminal or terroristic intentions sabotage or damage a nuclear facility. This could be an institute for scientific research but also a nuclear waste storage or nuclear power plant.

The last two categories have a probability that is way higher than the first two categories. This is because the number of commercially used radioactive materials and the number of nuclear facilities are way higher. Although this makes this threat more likely, the damage that would be caused by these actions would be less harming. Because instead of destroying an entire area, these acts will just disperse radioactive materials that emit ionizing radiation.

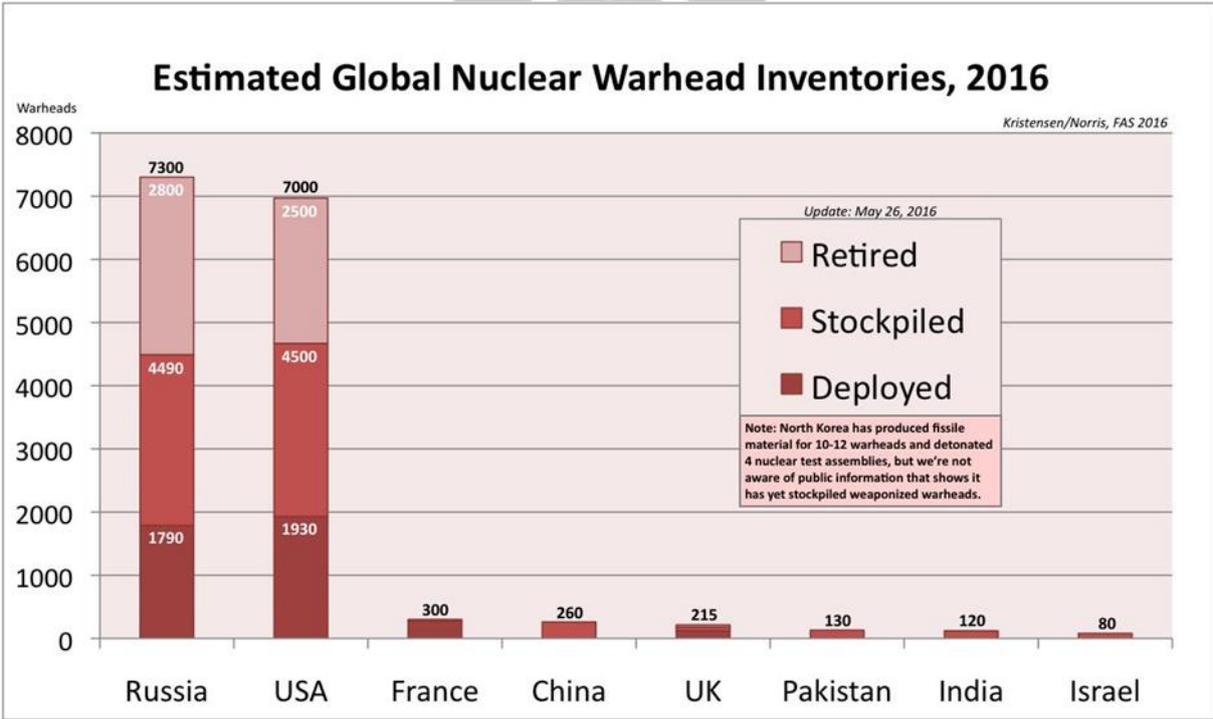
Thus, acts of nuclear terrorism are less likely to take place but could be way more damaging than radioactive terrorism that would be way more likely to take place

It is a very hard task to prevent access to nuclear and radioactive substances due to the widespread availability of radioactive materials for commercial purposes. Also the fact that an IND is relatively easy to build makes this threat very concerning. The Scientific Director of the Manhattan Project, J. Robert Oppenheimer, once testified to a congressional meeting. He stated that the only way to reliably detect nuclear material or nuclear weapons being smuggled into the United States of America, is to open every container with a screwdriver. This report by the Atomic Energy Commission became famously known as the “screwdriver report”.

Sometimes these substances are very hard to detect, especially when they are being smuggled in small amounts. Highly radioactive commercial sources are of courses easier to detect due to their high radiation. Although the detection has quite promising results, this way is not yet an effective prevention technique.

Nuclear weapons started appearing in the early 1950’s, as the 2nd World War just ended. The Soviet Union and the USA were building up their nuclear warhead inventories during the Cold War. Their Stockpiles achieved a peak in 1986 with approximately 70.300 nuclear weapons. The Global community started working on a reduction in the nuclear warhead inventory. The stockpile has dropped to approximately 15.350 in early 2016. From which 10.000 are in military stockpiles, the rest is awaiting dismantlement.

Although the United States of America, the Russian Federation and the United Kingdom are currently reducing their warhead inventories, is the pace slowing down compared to the past 25 years. The stockpiles of the nations of France and Israel are stable. This all sounds promising but China, India, Pakistan and the Democratic People’s republic of Korea are actually increasing their stockpiles.



As we can see in the graph, approximately 93% of the global nuclear warhead stockpile is in the hands of the USA and Russia. We are sure that the DPRK, also known as North Korea, retains quite a large arsenal of nuclear weapons. Although most states such as the USA are trying to achieve transparency by making the quantity of nuclear weapons public information, there are some states that keep that kind of information a governmental secret. This makes it very hard to monitor the radioactive substances.

Major Parties Involved

Terrorist organizations:

The terrorist organizations interested in using nuclear weapons in order to create a mass devastation are most likely to do this by attacking a nuclear power plant or nuclear waste storing facility. This will not cause mass destruction but will release materials that will emit ionizing radiation.

Russia:

The Russian Federation plays a big role in this issue, as they have a large amount of nuclear weapons in their stockpile. Currently the Russian Federation is supporting several terroristic organizations with financial resources. It is of great importance that the Russian Federation will not further extend their support by supplying nuclear weapons to these organizations.

Companies:

This major party involved is currently the most threatening. The commercial cause that drives the companies and this threatens the global safety. Currently companies that work with radiological substances are expected to follow certain rules and regulations in order to secure safety. We need to make sure these guidelines continue being enforced.

United States of America:

Together with the Russian Federation and the United Kingdom, the USA is slowly reducing their warhead inventories. Although the USA has many radioactive sources available, they are very focused on protecting these materials.

Possible Solutions

In order to solve this issue, many smaller solutions should be implied. Here are some examples;

Regulations:

Currently companies, scientists and nations working with radiological or nuclear substances need to follow strict regulations and rules. This prevents the potentially harmful materials

from falling into the wrong hands. In order to solve this issue, the regulations need to continue being enforced.

Tracking:

In order to make sure the nuclear substances are safely stored or utilized a global tracking system needs to be implemented.

Actively seized:

Although other issues might seem more relevant or threatening, we need to stay actively seized on the matter and make sure the necessary actions are taken.

Useful Documents

This is a study done by Dr. Charles D. Ferguson, a Scientist at the Centre for Non-proliferation Studies (CNS). <http://www.nonproliferation.org/wp-content/uploads/2016/09/op11.pdf>

Other useful websites for preparing yourself for the conference are:

<http://www.globalissues.org/>

<https://www.ciafactbook.org/>

<https://en.wikipedia.org>

<https://www.thimun.org/>

