POSITION PAPER

Portfolio: BRAZIL
Committee: United Nations General Assembly First Committee (UNGA)
Agenda: Addressing Nuclear Waste/Fallout.

The risks of transporting deadly nuclear waste, the environmental justice impacts and the long-term health effects of both these projects are untenable. We cannot afford to be silent on these important issues.

Nuclear fallout is the residual radioactive material propelled into the upper atmosphere following a nuclear blast, so called because it "falls out" of the sky after the explosion and the shock wave has passed. It commonly refers to the radioactive dust and ash created when a nuclear weapon explodes

Fallout typically contains hundreds of different radionuclides. Some stay in the environment for a long time because they have long half-lives, like cesium-137, which has a half-life of 30.17 years. Some have very short half-lives and decay away in a few minutes or a few days, like iodine-131, which has a half-life of 8 days. Very little radioactivity from weapons testing in the 1950s and 1960s can still be detected in the environment now.

FACTS

- After a nuclear explosion, debris and soil can mix with radionuclides. This mixture is sent up into the air and then falls back to Earth. It is called fallout and it typically contains hundreds of different radionuclides.
- Since the conclusion of the weapons testing in the 1980s, radionuclides in the atmosphere have largely decayed away.

Fallout comes in two varieties. The first is a small amount of carcinogenic material with a long half-life. The second, depending on the height of detonation, is a large quantity of radioactive dust and sand with a short half-life.

All nuclear explosions produce fission products, un-fissioned nuclear material, and weapon residues vaporized by the heat of the fireball. These materials are limited to the original mass of the device, but include radioisotopes with long lives. When the nuclear fireball does not reach the ground, this is the only fallout produced. Its amount can be estimated from the fission-fusion design and yield of the weapon.

Factors affecting fallout

Particle size: Assuming constant wind and altitude, larger particles land relatively close to ground zero and smaller particles land farther away.

Altitude: The higher the initial altitude of a particle, the farther away from ground zero it lands, assuming constant wind speed and particle size. This means that the fallout pattern will be different if there is a ground burst vs. one from an altitude, and increasing altitude will also affect the fallout pattern.

Wind: Wind is the most difficult factor to predict. Different altitudes through which a particle falls may have different wind speeds and directions that affect the final destination of the fallout particle. This explains how fallout can occur miles upwind of a detonation.

There have been several proposals for regional and international repositories for disposal of high-level nuclear waste, and in 2003 the concept received strong endorsement from the head of the International Atomic Energy Agency. The European Commission is funding studies to assess the feasibility of European regional waste repositories for countries with relatively little nuclear waste. Arising from these studies, 14 EU countries resolved to set up the European Repository Development Organisation (ERDO) to collaborate on nuclear waste disposal.

Solutions

- Approving of establishment of a committee focused on implementing nuclear safety and maintenance of signed treaties and bills.
- Endorse a no first use treaty among all member states to deter nations and international entities resorting to nuclear arsenal for war purposes.
- Considers initiation of a department based on developing countermeasures and preventives against nuclear weaponry consisting of qualified engineers and scientists