Country: United States of America

Committee: IAEA (International Atomic Energy Agency)

Agenda Item: Technology Infrastructure for Prevention, Detection and Responses Regarding Nuclear Security

 Atomic energy is an important resource that can be used in various fields such as weapons, industrial usage and medicine. However, atomic energy application must be carefully monitored because it has long-term risks such as nuclear accidents, radioactive waste and nuclear proliferation. These risks have numerous harmful effects on all areas where nuclear energy is present. Moreover, there are security problems as nuclear facilities can be targets for terrorism which makes the nuclear resources harder to manage. Another risk that makes atomic energy hard to control is nuclear tests. Nuclear tests are the destruction of nuclear weapons which create serious threats against international security and human health. Nuclear security aims to protect people, property, society and environment from the harmful effects of high-energy radiation. Nuclear security studies focus on preventing, detecting and responding to damaging acts of facilities or activities that contain or use radioactive materials.

 The technology infrastructure for nuclear security has been developed with the efforts of the United Nations and international collaborations. The International Atomic Energy Agency (IAEA) plays an important role in nuclear security by promoting the safe, secure and peaceful use of nuclear technology. In addition, the Global Initiative to Combat Nuclear Terrorism, launched in 2006, aims to strengthen the global collaboration in order to prevent nuclear terrorism. Radiation detection systems to control and identify nuclear materials with the help of establishments like CANBERRA (Mirion Technologies) and RADOS technology are crucial past actions done by independent companies. Furthermore, information-sharing networks such as United States Nuclear Regulatory Commission (U.S.NRC) are established by the U.S. provide the communication between individuals and countries about the information related to nuclear threats.

 The United States recognizes the importance of providing nuclear security all around the world. To develop the technology infrastructure regarding nuclear energy, United States collaborates with global organizations including IAEA to improve its detection strategies and technologies. In addition, United States actively participates in international nuclear security initiatives and the global dialogue. Furthermore, the U.S. uses latest technologies surveillance systems to strengthen nuclear security at the important facilities. These advanced technologies provide effective control and fast responses to nuclear dangers.

 Although we cannot completely clear off the damage caused by some nuclear accidents but as the United States, we think that we must do our best to minimize these accidents and the damage that may occur. We think AI-powered systems would be useful because these systems can help us with risk prediction in nuclear facilities by the usage of drone-based monitoring, especially in the areas where there are high risks of nuclear explosions. Additionally, we should provide comprehensive technical training to the operators working in nuclear facilities in order to avoid nuclear accidents. Routine drills will help these operators understand and experience what to do in case of an emergency. Moreover, building digital models of nuclear facilities with the help of other UN bodies like the United Nations Office for Disaster Risk Reduction (UNDRR) can help us with any risk assessments.

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