**Country:**Georgia

**Committee:**International Atomic Energy Agency

**Agenda Item: For** Technology and Infrastructure for

Prevention,Detection and Responces Regarding Nuclear Security

Georgia, country of Transcaucasia located at the eastern end of the Black Sea on the southern flanks of the main crest of the Greater Caucasus Mountains. It is bounded on the north and northeast by Russia, on the east and southeast by Azerbaijan, on the south by Armenia and Turkey, and on the west by the Black Sea. Georgia includes three ethnic enclaves: Abkhazia, in the northwest (principal city Sokhumi); Ajaria, in the southwest (principal city Batʿumi); and South Ossetia, in the north (principal city Tskhinvali). The capital of Georgia is Tbilisi (Tiflis).

One of the most independence-minded republics, Georgia declared sovereignty on November 19, 1989, and independence on April 9, 1991.

The IAEA an agency set up as the world’s ‘Atoms For Peace’ organization was founded in 1957 in response to the deep anxieties and expectations developed by the discoveries and many uses of nuclear technology.

It was initially tasked with promoting safe, secure, and peaceful nuclear technologies in collaboration with its member states and numerous international partners.

The IAEA intends to encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world

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

As the world attempts to transition its energy systems away from fossil fuels towards low-carbon energy sources, we have a range of energy options: renewable energy technologies such as hydropower, wind, and solar, as well as nuclear power. Nuclear energy and renewable technologies typically emit very little CO2 per unit of energy production and are also much better than fossil fuels at limiting local air pollution.

However, while some countries invest heavily in increasing their nuclear energy supply, others are shutting down their plants. Therefore, nuclear energy's role in the energy system is very specific to each country. Due to the fact that even though nuclear energy has its oppurtunities it also comes with challanges.Starting with the advantages of nuclear energy:Unlike the traditional fossil fuel generation sources pump massive amounts of carbon dioxide into the atmosphere,nuclear energy plants do not produce carbon dioxide or any pollution during operation.Subsequently nuclear energy plants take up far less physical space than other common clean energy facilities.Nuclear power plants produce high energy levels compared to most power sources,making them a great provider of baseload electricity.Lastly,nuclear energy is a reliable energy source based on its constant production and accessibility.Although nuclear energy has its many advantages,it also comes with risky and hazardous disadvantages.Even though nuclear energy is a “clean“ source of power it is not renewable.Current nuclear technology relies on uranium ore for fuel,which exists in limited amounts in the earth’s crust.Secondly,operating a nuclear energy plant is relatively low,but building it in the first place is quite expensive.Nuclear reactors are complex devices that require many levels of safety built around them,which drives up the cost of new nuclear plants.Focusing on a highly significant and impactful issue:The health hazards of nuclear energy.Potential releases of this energy would likely deliver a low dose of a high dose of radiation.At high doses,ionizing radiation can cause immediate damage to a person’s body,including radiation sicjness and death.At lower doses,ionizing radiation can cause health effects such as cardiovascular disease and catarats,as well as cancer.Addisionaly if an accident occurs there can be long term and short term effects on health.And now,the delicate issue of nuclear waste.Nuclear waste is radioactive,making it an enviromental and health catastrope waiting to happen.These reasons are why goverments spend tons of money to safely package and dispose of used up nuclear fuel.

As a transit country in the Caucasus region, Georgia is keenly aware of the growing challenges posed by nuclear and radiological security. Since becoming a member of the International Atomic Energy Agency (IAEA) in 1996, Georgia has made substantial progress in strengthening its nuclear security infrastructure and addressing the risks associated with nuclear and radiological materials. However, significant challenges remain, particularly in the areas of detection, prevention, and response to nuclear security threats.Georgia's efforts to enhance nuclear safety and security are framed by its national Nuclear and Radiation Safety Law, which ensures that all nuclear activities are conducted under a licensing system, overseen by the Nuclear and Radiation Safety Service (RB) within the Ministry of Environmental Protection and Natural Resources.

Georgia had cooperation with IAEA with the intention to further strengthen its nuclear security, Georgia signed key international agreements, including the CSA (SQP),The Comprehensive Nuclear-Test-Ban Treaty(CTBT) and the Additional Protocol with the IAEA in 2003. These agreements have facilitated the exchange of expertise, resources, and best practices in the field of nuclear security.

With the assistance of the IAEA, Georgia, a country dedicated to the peaceful use of nuclear energy, completed an INSServ mission that evaluated the nation's nuclear security regime for nuclear and other radioactive out of regulatory control (MORC).According to the team, the nation has advanced in creating mechanisms to identify and address unlawful or deliberate conduct involving MORC.It urged Georgia to keep creating these agreements as well as the plans and processes that go along with them.Additionally, a number of best practices in this area of nuclear security were identified.

This mission,carried out at the request of the Goverment of Georgia,took place from 24 April 2023 to 5 May and involved a team of eight international specialists from France,Greece,Jordan,Spain,United Kingdom,United States of Ameica,Vietnam and one IAEA staff member.

With regard to criminal and purposeful unauthorized acts involving nuclear or other radioactive material that are lost, misplaced, stolen, improperly disposed of, or improperly kept or handled, INSServ missions are designed to assist States in better preventing, detecting, and responding to such incidents. These situations are referred to as MORCs, or material out of regulatory control.

Another initiative Georgia has undertaken within the framework of peaceful use of nuclear energy is The Country Programme Framework. On November 26, 2020, Georgia's Country Programme Framework (CPF) for the years 2020–2025 was signed by IAEA Deputy Director General and Head of the Department of Technical Cooperation Dazhu Yang and Agency of Nuclear and Radiation Safety Head Vasil Gedevanishvili. A CPF establishes priority areas where nuclear technology transfer and technical cooperation resources will be allocated to achieve national development goals and serves as the framework for medium-term planning of technical cooperation between a Member State and the IAEA.

Its 2020-2025 CPF priorities are briefly:Ensuring nuclear and radiation safety and security,increasing early detection and treatment of oncological diseases,ensuring food safety,improving water sources management and assessing the national potential to use renewable energy.

Georgia once operated a research nuclear reactor(IRT-M),however under an IAEA Technical Cooperation(TC) projects(GEO/4/002)work was carried out to secure the reactor,due to financial constraints and safety concerns.The decision was made to seal the reactor’ core and lower tank with concrete.As a result,the nuclear reactor was shut down in 1988.

Given Georgia’s role as a transit country, it faces the risk of nuclear and radiological smuggling. With the IAEA's assistance, Georgia has been attempting to improve border security by implementing sophisticated radiation detecting equipment. The nation has made strides, in particular, in installing modern detectors to keep an eye out for illegal nuclear material trafficking. The success of these enhancements was demonstrated by the seizure of approximately 4 kg of illicit uranium at the borders.However, there are steps that must be taken in order to permanently stop these problems (such as radiological and nuclear smuggling, unregulated, abandoned, or missing radioactive sources, etc.):

* The IAEA should supervise the nuclear energy usage at predetermined intervals and those who exceed the restrictions shall be imposed sanction.such as:Cutting funds,decommisioning nuclear reactors,dismantling nuclear plants etc.
* Increasing cybersecurity for nuclear infrastructure: To stop cyberattacks that could compromise nuclear plants or detection systems, an international framework devoted to cybersecurity for nuclear infrastructure should be established.
* Advocating for the esthablishment of a global coalition for the development and sharing of advanced nuclear detection Technologies,including radiation detectors,drones and satellite systems,which can monitör potential threats in real-time.
* Encouraging nuclear security education and training, including for experts in radiation detection, threat analysis, and emergency response, to guarantee reaction teams' preparedness and efficient use of cutting-edge detection technologies, and lowering the dangers associated with nuclear threats.
* Integration of AI and machine learning technologies into nuclear security systems to

detect anomalies, automatically recognize trends, and react to attacks more quickly.

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