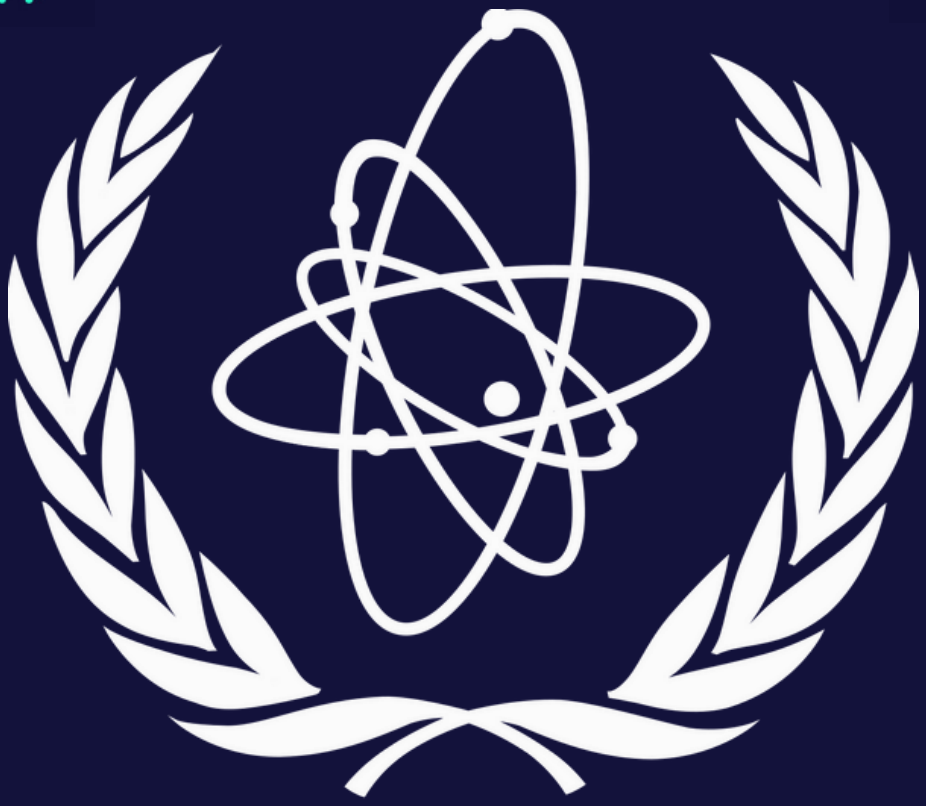

IAEA

MUNMX RO 2023, Campus Morelia

I. A MESSAGE FROM YOUR DAIS:

Esteemed delegates,

It is with immense pleasure we welcome you to the MUNMX 2023: Región Occidente at the Tecnológico de Monterrey Campus Morelia.

We are thrilled to have you on our committee and have you join us in this wonderful experience from November 9th to November 11th.

We are massively honored to be with you, future diplomats, negotiators, and leaders, who will not only promote human rights but will improve the quality of international relations and communications. Coming up with incredible ideas, and solutions to problems.

We expect nothing less than your full effort as we engage in the topics of "Strengthening International Cooperation in Nuclear Emergency Preparedness and Response" and "New Ways to Manage the Waste of Byproducts Safely and Economically". The skills you will develop here are vital in everyday life and essential tools for shaping a better future. We are counting on you, your curiosity, innovation, and participation.

We hope you enjoy this United Nations simulation as much as we enjoyed preparing it.

International Atomic Agency Board

MUNMX RO 2023

II. MEET THE TEAM:

I am Matilde Cueto Farley Rivas from Campus Querétaro, and I will be serving as your president for this simulation. If you have any doubts don't be scared to approach me. I hope we all have a great time debating solutions to this topic, and learning whilst we debate. Always remember to be respectful, and most importantly, have fun.

I am José Miguel Ordoñez Ortiz from Campus Querétaro, and I will be your moderator. It is an honor to be part of this model and I'm eager to get to know all of you. Please feel free to contact me if you have any doubts or if you need help. I hope we have an excellent debate and remember, we are here to learn and have fun.

I am Ilya Issa Ocaña Benítez from Campus Querétaro, and I will be the conference official for this event. Seeking cooperation and diplomacy, I will provide guidance and advice in anything you might need. I am looking forward to working with you in the debate and finding innovative solutions.

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REGIÓN OCCIDENTE
MORELIA 2023

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III. COMMITTEE BACKGROUND

The International Atomic Energy Agency was created on the 29th of July, 1957 after discoveries and diverse uses for nuclear technology were made. U.S. President Eisenhower directed his concerns to the United Nations General Assembly on December 8th, 1953. The committee was approved by 81 nations in October of 1956.

The IAEA's headquarters were first located in Vienna, Austria. However, it now has 2 regional offices in Toronto, Canada (1979), and Tokyo, Japan (1984). It also has 2 liaison offices in New York City, United States (1957) and Geneva, Switzerland (1965). The IAEA operates a variety of laboratories that specialize in nuclear technology. Which are located in Vienna and Seibersdorf, Austria (1961), and Monaco (1961). The International Atomic Energy Agency now consists of 177 member states. (*History IAEA*, 2016) (*Member States of the IAEA and Dates of Membership | IAEA*, 2016)

The committee debates nuclear technology and its uses as weapons or practical valuable tools. Its objective is to mandate work alongside its Member States and other partners worldwide to promote safe, secure, and peaceful nuclear technologies. Its dual mission is to promote and control the atom. (*History IAEA*, 2016)

The IAEA consists of 2 main work areas: the regular programme, and the "Technical Cooperation programme". Each one is financed from a separate fund, and is additionally supported by extra-budgetary contributions from its Member States, and non-member donors The main sources of funding come from ."Regular Budget Fund", the "Technical Cooperation Fund" and "Extrabudgetary Programme Funds", which are sometimes funded by member and non-member states. The budget is approved annually by the IAEA General Conference. (*Budget | IAEA*, 2016)

IV. PARTICIPATION LIST

- Argentine Republic
- Bolivarian Republic of Venezuela
- Commonwealth of Australia
- Dominion of Canada
- Federal Democratic Republic of Ethiopia
- Federative Republic of Brazil
- French Republic
- Kingdom of Belgium
- Kingdom of Norway
- Kingdom of Spain
- Kingdom of Sweden
- People's Republic of China
- Republic of Austria
- Republic of Chile
- Republic of Finland
- Republic of India
- Republic of Iraq
- Republic of Italy
- Republic of South Africa
- Russian Federation
- Slovak Republic
- Swiss Confederation
- Ukraine
- United Kingdom of Great Britain and Northern Ireland
- United States of America

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TOPIC A

"Strengthening International Cooperation in Nuclear Emergency Preparedness and Response"

International Atomic Energy Agency

MUNMX RO 2023

V. TOPIC BACKGROUND

According to the World Health Organization (WHO), nuclear emergencies involve energy release resulting from nuclear chain reactions or the decay of chain reaction products, as seen in nuclear power plant accidents like Chernobyl and Fukushima (WHO, 2023). These emergencies can be intentional or unintentional, such as terrorist attacks or accidents involving radioactive materials. Their impact can affect health, the environment, and quality of life within a geographic area. Since the response to such emergencies may be limited by each State's resources, cooperation is imperative to protect life, health, property, and the environment.

The International Atomic Energy Agency (IAEA) assists States in developing emergency preparedness and response (EPR) strategies, following the International EPR framework, which establishes safety standards for Member States. This framework is legally founded on the Convention on Early Notification of a Nuclear Accident (Early Notification Convention) and the Convention on Assistance in the Case of a Nuclear Accident (Assistance Convention), which seek cooperation to prompt support in the event of nuclear accidents.

Additionally, to maintain nuclear safety standards, the IAEA offers the Emergency Preparedness Review (EPREV) Service, initiated in 1999. With over 40 missions conducted globally, this service assesses on request Member States' preparedness for nuclear or radiological emergencies (IAEA, 2020).

VI. GENERAL HISTORY

The Chernobyl disaster in April 1986 highlighted the necessity of enhancing international cooperation in nuclear emergency preparedness and response. It resulted from a reactor explosion during improper testing at the Chernobyl Nuclear Plant, leading to a release of significant radiation. In the aftermath, the IAEA supported the Soviet Union and facilitated the creation of two conventions: the Convention on Early Notification of a Nuclear Accident (CENNA) and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (CANARE). Both aimed to mitigate consequences in future incidents (IAEA, 2023).

Following the Chernobyl accident, numerous meetings were held to assess Member States' strategies for nuclear accidents. In 2005, the IAEA established the Incident and Emergency Centre (IEC) to respond to the growing use of nuclear applications. The IEC played a crucial role in addressing another significant event: the Fukushima Daiichi Nuclear Accident on March 11, 2011, when an earthquake triggered a Level 7 incident at the Fukushima Daiichi Nuclear Power Station (IAEA, 2021). Subsequently, the IAEA developed the Action Plan on Nuclear Safety, endorsed by its Member States to strengthen the nuclear safety framework.

In 2021, the Agency was informed by competent authorities or became aware through earthquake alerts or media reports, of 161 events involving or suspected to involve nuclear or radiological facilities or activities. Requests from Member States for technical support and advice in strengthening national and regional EPR arrangements increased from 126 in 2020 to 220 in 2021 (IAEA, 2022).

VII. COMMITTEE FOCUS

The delegates will be focusing on providing solutions to prevent and respond to nuclear emergencies by means of cooperation between nations. By augmenting the methods that should be taken to address the aftermath of nuclear crises and new ways to prevent them.

Delegates are required to take other solutions, and past events to create adequate solutions and actions, to prevent such events from happening in the future. Establish what actions can be taken such as campaigns, covenants, or programs that could aid the problem. Avoid already existing solutions and actions being taken by the United Nations, otherwise making them better and more effective.

Key Questions

I. What factors cause nuclear emergencies?
II. What actions will be taken in the case of a nuclear emergency?
III. How can the current issues cause future world problems?
IV. How will the issue be solved without damaging the infrastructure of nations, or impacting them negatively?
V. How will solutions work in the long term?
VI. What actions will be taken in the case of a nuclear emergency?

Factors to consider

I. Nuclear Security
II. Technological Advancements
III. Climate Change
IV. Human Error
V. Resource Allocation

IX. EXISTING SOLUTIONS

The Agency doesn't only provide guidance to Member States, it also funds and conducts research and development initiatives aimed at improving the nuclear emergency preparedness and response. For instance, they develop advanced monitoring technologies, modeling prediction tools and innovations in decontamination and mitigation strategies. (IAEA, 2023)

Also, the Agency has created the Response and Assistance Network (RANET) that aids Member States to fulfill their obligation under the Assistance Convention. Member states have to register their capabilities to assist in RANET, the following are: Decontamination, Dose Assessment, Sampling Analysis, Medical Support, Nuclear Installation assessment and advice, Radiation survey, Radiological assessment and advice, and Source search and recovery.

Moreover, The IAEA cares deeply about international cooperation, they have helped develop 25 Active Technical Cooperation Projects, that have the purpose to prepare all Member States in case of a nuclear emergency, some of those projects are:

- Strengthening National Capacities for Radiological Emergencies and Response. (Africa)
- Establishing an Arab Network for Environmental Radiation Monitoring and Early Warning. (Austria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Sudan, Tunisia)
- Enhancing the Capacities of Nuclear Emergency Response by Source Term Estimation and Unmanned Aerial Survey of Radioactivity. (Asia and the Pacific)
- Building Capacity for Research on the Key Issues of Emergency Preparedness and Response for Nuclear Fuel Cycle Facilities. (Asia and the Pacific)
- Upgrading Capabilities of the Emergency Crisis Centre. (Europe)

X. KEY TERMINOLOGY

GW: Gigawatts, a unit of power equal to 1,000 million watts. (*Definition of Gigawatt*, 2023)

Member States: "A country that belongs to a political, economic, or trade organization such as the European Union." (Cambridge Dictionary, 2023)

Mitigate: "To make something less harmful, unpleasant, or bad."

Nuclear chain reactions: "Nuclear chain reactions are a series of nuclear fissions (splitting of atomic nuclei), each initiated by a neutron produced in a preceding fission." ("Nuclear Chain Reaction | Physics | Britannica," 2023)

Nuclear technologies: Technology that involves the nuclear reactions of atomic nuclei. (Wikipedia Contributors, 2023)

Nuclear waste: "A byproduct from nuclear reactors, fuel processing plants, hospitals and research facilities." (*Backgrounder on Radioactive Waste*, 2015)

Radioactive: "Having or producing powerful and dangerous energy that comes from the breaking up of atoms." (Cambridge Dictionary, 2023)

Reactor explosions: "The steam pressures and/or the explosion of the hydrogen can rupture the reactor vessel and allow radioactive vapors to escape." (Pedersen, 2007)

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TOPIC B

"New Ways to Manage the Waste of Byproducts Safely and Economically"

International Atomic Energy Agency

MUNMX RO 2023

XIII. TOPIC BACKGROUND

Radioactive waste and spent fuel are byproducts of nuclear power generation and other uses of radioactive material. These waste materials are classified based on their potential hazard, determining the containment and isolation required. Nuclear waste is commonly categorized as low, intermediate, or high-level, although specific classifications vary among countries (IAEA, 2023).

The IAEA plays a crucial role in managing nuclear waste, coordinating the Waste Safety Standards Committee among its Safety Standards Committees. This committee provides feedback to the agency on its nuclear waste programs. To promote awareness of proper disposal and management, the IAEA offers the Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning, and Remediation (ARTEMIS). ARTEMIS is an integrated peer review service available to governments, private sector entities, and international organizations, conducted by international specialists convened by the IAEA. Its aim is to provide guidance on waste management, national policies, and decision-making processes.

Additionally, the IAEA serves as the Secretariat for the meetings of the Contracting Parties of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. This convention represents the first global legal instrument addressing radioactive waste (IAEA, 2023.).

Given that radioactive waste poses potential risks to human health and the environment, it is imperative for all states to establish clear policies and strategies for waste management. States must cooperate and adhere to established regulations to ensure the efficient management of these waste byproducts.

XIV. GENERAL HISTORY

Starting from the mid-1990s, there has been a growing emphasis on the non-technical aspects of managing radioactive waste. While technological innovation has always played a crucial role in designing new waste management strategies, the necessity of effectively managing radioactive waste has been underscored by events such as the Chernobyl accident. In response to this disaster, for instance, the IAEA coordinated the International Chernobyl Project in 1990, a collaborative effort involving various UN organizations. Its purpose was to assess the radiological consequences of the accident and evaluate protective measures (IAEA, n.d).

Publications on this topic have often covered it partially or regionally. Since 1992, the European Commission has periodically published relevant information every three years. The IAEA has been actively gathering data on radioactive waste inventories since 2000 and released global waste inventory estimates in 2007, which also encompassed information on defense and nuclear weapons (IAEA, 2018).

According to IAEA estimates, approximately 392,000 tonnes of heavy metal (tHM) in the form of used fuel have been discharged since the inception of the first nuclear power plants. Of this, roughly 127,000 tHM have undergone reprocessing. The current volume of solid High-Level Waste (HLW) inventory is estimated at around 29,000 m^3. Despite over 50 years of experience with civil nuclear power, the management and disposal of civil nuclear waste have not caused any significant health or environmental issues, nor have they posed a substantial risk to the general public. This is mainly attributed to its lower level of radioactivity and easier manageability compared to high-level waste products (World Nuclear Association, 2022).

XV. COMMITTEE FOCUS

The committee will focus on the ways to manage the waste of byproducts in a safe, environmentally friendly manner, as well as in an economical context.
Solutions should include the side effects of managing these byproducts, and consider the economic factors of introducing these new techniques.
Delegates will focus on addressing the aftermath of reusing or recycling these products, by providing innovative solutions that do not already exist and also promoting them.

Key Questions

I. How do byproducts affect the world?
II. What actions will be taken to reduce the risks of byproducts?
III. How can the committee reduce the making of byproducts?
IV. How will the issue be solved without damaging the infrastructure of the world?
V. How will solutions work in the long term?
VI. What actions will be taken in regard to transnational corporations?

Factors to consider

I. International and national responses
II. Risks of procedures
III. Global infrastructure
IV. Existing mechanisms and procedures

XVII. EXISTING SOLUTIONS

Managing waste of byproducts responsibly and economically is extremely important for the IAEA, if the waste isn't managed properly it could jeopardize the health of the people and the environment. Nuclear facilities need to have the correct equipment and training to decompose radioactive waste.

The IAEA serves its Member States by establishing a proper safety framework for the management of radioactive waste and spent fuel. Safety Standards are developed in order to manage radioactive waste and spend fuel, it also aids Member States in applying them. Regularly, the IAEA organizes international projects and working groups for the safety of predisposal management of radioactive waste. (IAEA, 2023)

Also, the Agency has created 49 Active Technical Cooperation Projects to ensure that all Member States have the capabilities to follow the requirements established by the agency, some of which are:

- Strengthening the Infrastructure for Radiation, Transport and Waste Safety — Phase II. (Asia and the Pacific)
- Strengthening the National Infrastructure for Radioactive Waste Management and Environmental Radiation Protection. (Latin America and the Caribbean)
- Building Capacities for Selecting and Characterizing Potentially Suitable Sites for the Geological Disposal of Radioactive Waste and Spent Nuclear Fuel. (Latin America and the Caribbean)
- Building National Capabilities in Naturally Occurring Radioactive Material Policies and Regulations, Control and Waste Management. (Asia and the Pacific)
- Strengthening Radioactive Waste Management. (Europe)

XVIII. KEY TERMINOLOGY

Assess: To evaluate. "To judge or decide the amount, quality or importance of something." (Cambridge Dictionary, 2023)

Byproducts: "Something that is produced as a result of making something else." (Cambridge Dictionary, 2023)

High level waste: "Highly radioactive materials produced as a byproduct of the reactions that occur inside nuclear reactors." (*High-Level Waste*, 2020)

Imperative: "Extremely important or urgent." (Cambridge Dictionary, 2023)

MSW: Municipal solid waste (garbage/trash) (US, 2013)

Nuclear waste: "A byproduct from nuclear reactors, fuel processing plants, hospitals and research facilities." (*Backgrounder on Radioactive Waste*, 2015)

Radioactive: "Having or producing powerful and dangerous energy that comes from the breaking up of atoms." (Cambridge Dictionary, 2023)

Safety Standards: "The Safety Standards consists of three sets of publications: the Safety Fundamentals, the Safety Requirements and the Safety Guides. While the first one of these establishes the fundamental safety objective and principles of protection and safety, the second set out the requirements that must be met to ensure the protection of people and the environment, both now and in the future. The Safety Guides provide recommendations and guidance on how to comply with the requirements." (IAEA, 2023)

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