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DIRECTORS'
WELCOME LETTER

Dear Delegates and Faculty Advisors,

On behalf of the organizers, the Advisory Board, and the Executive Board of AUSMUN 2019, it is my greatest pleasure to welcome you to the 12th annual AUSMUN Conference. With over 900 delegates registered from more than 40 national and international educational institutions, this conference will be the biggest one yet!

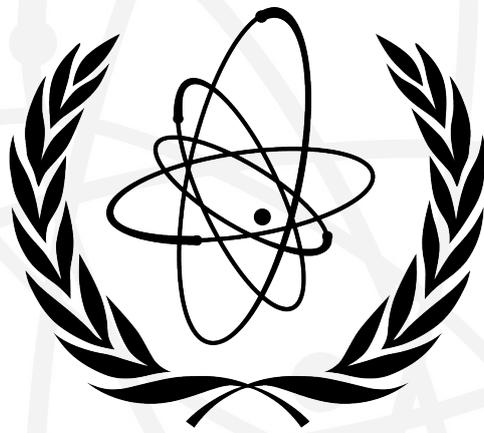
This year's background guide was diligently written to provide delegates with enough guidance for their research. It will act as a great starting point for delegates to familiarize themselves with the topics of their respective committee. After a short letter that gives the chairs a chance to welcome their delegates, a summary, a brief history, a discourse on the issue, and the latest developments of the issue will be presented. In the summary, delegates will have their first quick briefing on the issue where concerns will be defined. Followed by that, the guide delves into the root causes of the issue by identifying its history. Then, a discourse section will look into the issue with further scrutiny by presenting both sides of the topic's debate and examining some of its challenges and influences. Finally, it will aim to provide delegates with the latest activities in regards to the matter and any progressions in its respect. At the very end of the guide, delegates will find questions that will guide their thinking, some suggestions that will guide their research, and references that they can use for further relevant information. However, it is important to point out that depending solely on the guide will not be sufficient enough to prepare delegates for the conference. It is highly encouraged for delegates to look at the Delegate Handbook on the AUSMUN website and to view the "How to Research" video created by AUSMUN.

The theme of this year's conference is youth empowerment. This is very important as we are the children of tomorrow. Even if delegates are not necessarily planning on pursuing an occupation in the field of law or politics, MUN is an enriching experience to all. MUN is supposed to teach more than just details on a certain crisis, it educates them to work harder, to think on their feet, to learn from others and from themselves, to fall and to fail, and to break free from their fears. It dares them to be without hesitation. It dares them to add to the world. To Speak. To act. To know. We all understand how difficult it is to be a delegate. It requires a suspicious load of work and consumes most of one's energy. But we want delegates to give it their all and to get what they came here for.

Finally, I would like to conclude this letter by extending my gratitude to everyone who has contributed to this background guide in any way or form. It is the collaborative work of the chairs, the AUSMUN Research Team, and the AUSMUN Media Team. On behalf of them all, we truly hope that you find this background guide of great help and use.

All the best with the conference and if you have any questions or concerns, please do not hesitate to contact me at research@ausmun.com.

Nada Nassereddin
Director of Research
AUSMUN 2019



IAEA

INTERNATIONAL
ATOMIC ENERGY AGENCY



Salma Ahmed
Ibrahim ALDaour
Diala Almalik

MODERATOR'S
WELCOME LETTER

Greetings Delegates,

It is an honor to welcome you to AUSMUN 2019 and to introduce you to our committee, the International Atomic Energy Agency (IAEA). By being part of the IAEA committee, you will be discussing about pressing issues alongside other delegates and coming up with intuitive resolutions.

During the conference, you will be participating in ongoing debates in the committee, which in turn will help you learn how to build a healthy argument and enhance your argumentative skills. Presenting your countries perspective is extremely important, since every country has a different stance. Therefore, things are seen with different point of views, and with teamwork, these ideas can be combined to make one amazing resolution. We urge you to prepare well in advance for this committee as the research will help you gain the confidence to speak about the topics discussed.

The International Atomic Energy Agency is one of the many committees within the United Nations. It came into existence in 1957 in response to the fears that were caused by the discovery of nuclear technologies. The main objectives of the IAEA are to support research related to peaceful use of atomic energy and to publicize and aid the spread of information related to new nonviolent technologies discovered in this field. The IAEA is made up of 170 Member States, each of which has equal representation and voting rights. In addition, the committee requires a two-third majority to pass a resolution.

Lastly, please do not hesitate to contact us at iaea.ausmun@gmail.com for any inquiries you may have. The entire team is looking forward to meeting all of you.

Sincerely,
The IAEA Chairs.

TOPIC 1

Strengthening the International Cooperation in Preventing a Nuclear Crisis

SUMMARY

Nuclear energy is a great source of clean energy that can be obtained at a low cost. However, the same element used to create nuclear energy, which is uranium, could be enriched to create nuclear weapons. During the course of the Second World War, the nuclear bomb on Hiroshima reportedly killed between 60,000 and 80,000 people instantly (BBC, 2005). With today's technological advancements and the creation of the more powerful hydrogen bomb, the destructive power of nuclear weapons has reached new heights. The International Atomic Energy Agency is the world's top known forum for addressing the peaceful uses of nuclear technology. The IAEA works at ensuring a safe, a secure, and a peaceful implementation of nuclear science and technology. As per Article III of the IAEA statute, the IAEA strives for encouraging the research and development of nuclear technology, offering services and tools to its Member States, and fueling scientific and technical exchange in the field. One of its main commitments is to prohibit the start of a nuclear crisis and the use of nuclear energy for any military purposes, including nuclear weapons. The IAEA calls upon national, regional, and international cooperation to eliminate the threat of nuclear terrorism and nuclear proliferation and to strengthen cooperation to address such matters. Doing so will ensure the safety of individuals, as well as the peace between Member States. Here, a nuclear crisis denotes to the usage of nuclear weapons, artillery, or bombs that threaten the safety of the environment and its people. By preventing a nuclear crisis from occurring, Member States are contributing to the development of nuclear technology that will aim at improving the lives of all individuals. The greatest issue is ensuring that all Member States collaborate in the hopes of achieving this goal, so as to prevent countless lives from being lost. Without cooperation, the threat of a nuclear outbreak will always be present.

HISTORY

The IAEA was created in a response to the deep fears generated by the discoveries and the diverse uses of nuclear energy. The first ever nuclear attack was in 1945, when the United States was testing the use of its nuclear bomb against forces in Japan. Despite their catastrophic consequences, multiple countries started generating nuclear weapons to strengthen their military power. In addition, in 2011, the Fukushima Daiichi nuclear power plant caused a nuclear crisis in Japan, where nuclear power safety was brought into question as a consequence. From there, in 1957, the IAEA was established to ensure that this would not happen again.

Every year, the IAEA meets to report the progress and challenges faced within the year. After the Fukushima disaster that occurred in 2011, the IAEA has refocused its efforts to effectively aid all participating Member States in the safe use of nuclear energy. Moreover, as a result of the 1540 Security Council Resolution, all states are required to protect their nuclear materials from theft or sabotage. In order to ensure that the nuclear technology being used by Member States is safe, the IAEA offers peer review missions.

DISCOURSE ON THE ISSUE

One must practice precaution when using nuclear materials, whether for weapons or energy, as they have the potential to cause critical humanitarian and environmental crises. Nuclear power plant safety systems are designed to reduce the number of risks. In the unlikely case of a nuclear accident, there are guidelines that plant operators use to specifically deal with that condition. According to the IAEA, “The IAEA has a toolkit to help operators develop these guidelines and offers training to its Member States” (Severe Accident Management, para.1). The international cooperation of Member States and organizations will aim at ensuring the minimal risk of any possible nuclear crises’. The number of nuclear weapons has drastically decreased over the years with the establishment of organizations such as the NPT and the UNSC, alongside the cooperation of the IAEA. Still, India, Pakistan, the United States, Russia, Iran, France, North Korea, and China publically possess nuclear weapons. One of the main issues that might place some countries on the verge of a nuclear crisis is the tension between nuclear weapon states and non-nuclear weapons states. Some states present a compliance concern as they continue to violate certain IAEA safeguard agreements. Nuclear crisis has many impacts on the safety of the people; therefore, international cooperation is essential to prevent yet another crisis.

PAST IO ACTIONS AND THE LATEST DEVELOPMENTS

The Non-Proliferation Treaty on nuclear weapons (NPT) is under the responsibility of the IAEA. It aims at preventing the use of nuclear weapons and technology. In addition, the NPT fosters the peaceful use of nuclear energy. Furthermore, the IAEA works in close proximity with the United Nations Security Council (UNSC) and drafted a resolution that specifies a law that prohibits countries from manufacturing, acquiring, selling, or possessing nuclear weapons. According to the IAEA, “The IAEA provides, on request, assistance to the UN Committees established in relation to the Security Council Resolutions 1373 and 1540. Additionally, the Office assists States, where appropriate, in meeting their obligations under these resolutions” (UN Security Council Resolutions, para.1).

In addition, the IAEA adopted another resolution with 123 votes in favor of the cooperation in the peaceful uses of nuclear energy. Furthermore, a branch of the IAEA is the Department of Nuclear Safety and Security (DNSS), which ensures the protection of people, societies, and the environment from the effects of any radiation. In addition, it provides a framework for a strong, sustainable, and visible global nuclear safety. The IAEA was given the mandate to work with all Member States to ensure the peaceful use of nuclear energy and prohibit the use of nuclear energy for military purposes. The IAEA also works alongside the International Renewable Energy Agency (IRENA) by encouraging the use of peaceful nuclear technology and serves a platform for the international cooperation of all Member States in the prevention of a nuclear crisis. Nuclear crisis is a continuous threat that hovers over countries, especially those in possession of nuclear weapons; therefore, ensuring international cooperation to prevent this is an essential task that must be undertaken by all Member States.

QUESTIONS THE DISCUSSIONS AND THE RESOLUTIONS SHOULD ADDRESS

- How can Member States ensure the cooperation within themselves to prevent a nuclear crisis?
- What are the measures that should be taken to ensure that countries in possession of nuclear weapons do not use them?
- What are the consequences of not abiding by the laws of already set conventions or ones that will be set in the future?

SUGGESTIONS FOR FURTHER RESEARCH

- Safe Application of Nuclear Technology.
- Non-Proliferation Treaty.
- International Cooperation between Member States in Maintaining the Safe Use of Nuclear Technology for Development Purposes, not Military Purposes.

REFERENCES

BBC. (2005). Fact File: Hiroshima and Nagasaki. Retrieved from:

<https://www.bbc.co.uk/history/ww2peopleswar/timeline/factfiles/nonflash/a6652262.shtml>

IAEA. (n, d.). Severe Accident Management Guideline Development Toolkit (SAMG-D). Retrieved from:

<https://www.iaea.org/topics/severe-accident-management/severe-accident-management-guideline-development-toolkit-samg-d>

IAEA, (n, d.). Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

Retrieved from: <https://www.iaea.org/publications/documents/treaties/npt>

NBC News. (n,d.). Who has nuclear weapons? How many do they have?. Retrieved from <https://www.nbcnews.com/news/world/fact-sheet-who-has-nuclear-weapons-how-many-do-they-n548481>

T O P I C 2

Radioactive Waste and Spent Fuel Management

S U M M A R Y

The topic of nuclear industry and its evolution has been controversial in many aspects. The most important argument Member States raise is the effects of the radioactive wastes that are created from the production of nuclear energy. Many specialists argue that the benefits resulting from nuclear energy do not exceed the harms resulting from the waste it produces. This varies in terms of the health dangers it imposes on humans, the environment, and the costs it takes to reprocess the waste or store it (IAEA, 2018). Radiations resulting from those wastes can reach far distances and may remain dangerous for thousands of years (“Radioactive wastes”, 2018).

The IAEA finds it critical that spent fuel is properly managed and is handled safely from the moment it leaves nuclear power plants until it is safely disposed (IAEA, 2018). The main goal is to find ways to process spent fuel and radioactive wastes rather than simply storing it underground or in pools under water bodies. This primarily needs to be done to ensure the safety and health of humans now and in the future.

H I S T O R Y

Radioactive waste has been produced since nuclear power generation was first established in the 1940s. Large radioactive waste that is neither well-stored nor treated causes major accidents (Ojovan & Lee, 2006). The Nuclear Waste Policy Act of 1982 was established to ensure safety after waste disposal; however, two major accidents still occurred after the establishment of the act. The two accidents being the Chernobyl Nuclear Accident in 1986 in Ukraine and the 2011 Fukushima Nuclear Accident in Japan. Those two incidents were caused due to the production of radioactive waste in large amounts without establishing a well-organized system for its disposal. Because of the death of millions affected by the accidents, the harm done to the environment, and the cost of damage repairs, most Member States agreed to establish laws and regulations regarding the disposal of radioactive waste and spent fuel in order to avoid future accidents.

DISCOURSE ON THE ISSUE

Radioactive waste has a specific lifetime in which it imposes its harm. Therefore, storage techniques of radioactive waste usually depend on the half-life of the radioactive material and the danger level of the waste. Low level Radioactive waste is usually stored near the Earth's surface and takes up to 30 years to decay. Intermediate level radioactive waste takes up to 300 years to decay. High level radioactive waste, which includes spent fuel, is currently produced at a rate of 10,000 m³ per year and is stored underground (IAEA, 2018). It is classified as the most dangerous waste produced, while taking up thousands of years to decay (BBC, 2018).

Spent fuel is usually uranium fuel which has been used for two years and is no longer useful for power generation reactors. Moreover, it is classified as a high-level radioactive waste. Due to the rising demand for a more cost-effective replacement for fossil fuels, nuclear energy presented itself as the solution. However, nuclear waste management takes precedence when considering that improper management can lead to radioactive pollution, which causes genetic mutations in plants, reduced crops, polluted water, threats of multiple forms of cancer and genetic mutations that span multiple generations ("Radioactive waste", 2018). The need for research, data and guidance arises, especially when prevention and containment become necessary. This is in accordance with the United Nations Charter, Article 62, stating that "The Economic and Social Council may make or initiate studies and reports with respect to international economic, social, cultural, educational, health, and related matters and may make recommendations with respect to any such matters to the General Assembly to the Members of the United Nations, and to the specialized agencies concerned" ("Charter of the United Nations", 2018)

Nowadays, more and more countries are turning to nuclear energy, and as of 2016, there are 451 nuclear reactors and 59 under construction. The demand for nuclear energy will result in exponentially increasing the amounts of radioactive waste, which in turn increases the possibility of accidents. Should it be mismanaged, it will result in nearly irreparable damage to the environment and large economic losses. Assuming a best-case scenario, where the exposure is contained early, the cost of "cleaning up" spilled radioactive material and de-contaminating the area can reach billions of dollars. In worse scenarios, nuclear waste can seep into water, soil, and air and contaminate everything that living organisms consume, causing genetic mutations that can eventually lead to cancer in its different forms (Dangers and Effects of Nuclear Waste Disposal, 2016).

PAST IO ACTIONS AND THE LATEST DEVELOPMENTS

Since its inception, the IAEA holds its general conference yearly and it is on its 62nd iteration (as of 2018). During this year's conference, resolutions are made regarding nuclear security, strengthening international cooperation in nuclear safety, and IAEA logistics (Budgeting, fund allocation, Membership and Management). In this year's iteration, the IAEA adopted the resolution "Nuclear and Radiation Safety" on the 20th of September. The resolution tackled many topics, from the aftermath of the Fukushima power plant accident to encouraging member countries to join the Convention on Nuclear Security (CNS). The resolution also continues to support the Safety Standards Commission (CSS) and encourages Member States to develop their radiation safety standards and align them to the revised International Basic Safety Standards (GSR Part 3). The resolution concludes by reaffirming the importance of implementing safe radioactive waste management processes into their safety guidelines, safe storage of radioactive sources, and R&D and personnel expansions. Moreover, it includes information regarding incident emergency preparedness and response through the IAEA's Unified System for Information Exchange (USIE) for early notification.

With regards to safety of spent fuel and radioactive waste management, the IAEA reaffirmed the importance of planning and implementing the methods available in their safety guides as well as encouraged more topical discussions and information-exchanging channels on the topic of safety of the nuclear fuel cycle.

Other than the United Nations, in the past years, several organizations have taken up the responsibility for documenting and reporting on the latest developments on nuclear operations. The World Nuclear Association (WNA) is an international organization that produces and facilitates access to information from and to all nuclear companies/R&D organizations. Other organizations include the World Association of Nuclear Operators (WANO), the European Atomic Energy Community (EAEC or Euratom) and the American Nuclear Society (ANS). Data and statistics from these organizations can be used to gain a better understanding of the topic and the current efforts in waste management.

QUESTIONS THE DISCUSSIONS AND THE RESOLUTIONS SHOULD ADDRESS

- What are some alternatives to store radioactive waste and spent fuel which will be safer and financially better than existing methods?
- What is your Member State's program in storage and management of radioactive waste and spent fuel, if applicable?
- How can Member States ensure that their radioactive waste production rate does not exceed the available storage areas and the rate by which spent fuel is reprocessed and stored?
- How can countries, with the help of the IAEA, speed up the process of waste storage and management?

SUGGESTIONS FOR FURTHER RESEARCH

- Safety in Decommissioning, Uranium Mining and Processing, and Environmental Remediation.
- Research, Development and Capacity Building in the Nuclear Sector.
- Innovative Methods and Techniques for Nuclear Waste Storage.
- Other Programs and Organizations and their Contributions to the Nuclear Safety Conversation.

REFERENCES

Background and Objectives | Tourism and Poverty Alleviation. (n.d.). Retrieved from:

<http://sapiir.psych.wisc.edu/papers/scudellari2016.pdf>

BBC. (2018). Retrieved from:

http://www.bbc.co.uk/schools/gcsebitesize/science/add_ocr_21c/radioactive_materials/safehandlingrev9.shtml

IAEA. (2018). Status and Trends in Spent Fuel and Radioactive Waste Management. Vienna: IAEA.

Ojovan, M., & Lee, W. (2006). An introduction to nuclear waste immobilisation. *Materials Today*, 9(3), 55. doi: 10.1016/s1369-7021(06)71394-3

Radioactive Wastes. (2018). Retrieved from <http://www.world-nuclear.org/information-library/nuclear-fuel-cycle/nuclear-wastes/radioactive-wastes-myths-and-realities.aspx>

Severe Accident Management. International Atomic Energy Agency. Retrieved from: <https://www.iaea.org/topics/severe-accident-management>

Spent fuel management | IAEA. (2018). Retrieved from <https://www.iaea.org/topics/spent-fuel-management>

UN Security Council Resolutions. International Atomic Energy Agency. Retrieved from: http://www-ns.iaea.org/security/sc_resolutions.asp?s=4&l=28

Dangers and Effects of Nuclear Waste Disposal. (2016, December 25). Retrieved from <https://www.conserve-energy-future.com/dangers-and-effects-of-nuclear-waste-disposal.php>