2024

Specpol - Special Political

RMUN

Letter from the Chair

Dear Delegates,

Hello, and thank you for choosing to come to the third annual Rice Model UN conference! My name is Nathan Horton, I will be your chair for the Special Political and Decolonization Committee. Your choice to take the time outside of school demonstrates commitment and a desire to learn, which is not lost on me. It is my honor to get to hear from all of you and I look forward to the fruitful debates to come.

As for a little about myself, I am a Junior at Rice from Fort Worth, Texas. I am majoring in History and Philosophy and minoring in Neuroscience on the pre-law track. While my high school did not have a Model UN club, I was on my high school's lincoln-douglas debate team all four years, giving me a passion for argumentation that led me to join Rice's Model UN club my freshman year. Outside of school, I love obscure music, college sports, and cooking, all three of which I could talk about for hours. At the conference, I look forward to getting to know all of y'all and hopefully give advice that helps you as you move forward into college, your careers, or whatever lies next.

Representing the Special Political and Decolonization Committee, we will be discussing a topic of significant, but often overlooked, importance: the disposal of nuclear waste. I encourage you to try and think creatively and be thorough when researching this topic, as the difficulties it poses are more complex than they appear at first glance. As always, nuance will be critical.

In any case, I hope that this background guide serves well as a starting point for your knowledge of the subject. Don't hesitate to reach out to me if you have any questions, and good luck!

Best,

Nathan Horton - SPECPOL Chair

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The Special Political and Decolonization Committee

The Special Political and Decolonization Committee (SPECPOL) is the fourth committee of the United Nations General Assembly. As the name suggests, it deals with a wide variety of issues, including the use of UN Peacekeepers, refugee relief, and peace in outer space. However, its jurisdiction over the effects of atomic radiation is the most relevant to the issue at hand. In the current (77th Session) of SPECPOL, its bureau consists of Chair Mohamed Al Hassan of Oman, Vice Chairs Iason Kasselakis of Greece, Klemen Ponvikar of Slovenia, and Ray T. Sithole of South Africa, alongside Rapporteur Maria Noel Beretta Tassano of Uruguay.

History of Topic

Following the rapid development of nuclear fission technology under the Manhattan Project in World War Two, culminating in the creation of the first atomic bombs, scientists and political leaders were quick to search for civilian applications of the new technology. This was realized in the 1950's, when the first nuclear power plants were created. Over the next three decades, the use of nuclear energy rapidly expanded, especially in Europe, the U.S.S.R., and the United States. However, following accidents at plants in both the U.S. (Three Mile Island) and the U.S.S.R. (Chernobyl), the use of nuclear energy began to decline slowly, from 17% of the world's total energy production at its 1980's peak to 10% by 2020. Despite this decline, nuclear energy has received increased attention in recent years as climate change becomes an ever more

pressing issue. With many countries pledging carbon-neutrality in the coming decades, nuclear energy is an attractive option as a source of clean energy.

Above pictured, a reactor in Bay City, Texas. Photo Credits: Texas Tribune, 2013

While there are different forms of nuclear energy, both real and potential, the most common today uses enriched uranium for fuel. Dramatically simplified, this starts with mining uranium ore, which is then enriched and converted to uranium oxide, which is formed into the fuel rods that are the base of the reaction in nuclear power plants. The fission produced from these rods heats water to steam in the plant, which then turns turbines that produce electricity. These rods become spent after about 18-36 months, at which point they are moved to a pool of water, usually within the power plant, that cools them and shields the radiation they continue to give off. After several years, the rods will be sufficiently cool to be stored elsewhere or

reprocessed, but will remain radioactive, and consequently extremely hazardous, for hundreds of years.

This nature of the spent fuel is one of the most pressing concerns surrounding the usage of nuclear power. In the U.S. alone, 2,000 metric tons of spent nuclear fuel per year is stranded at reactor sites, with no plans for permanent disposal or relocation. Even if all global production of nuclear energy were to cease tomorrow, then the waste that currently exists would be a grave issue. Proper nuclear waste storage sites would be extremely expensive, as they would need to be both secure from outside threats, and far away from human activity. Globally, millions of tons of nuclear waste are currently in facilities without a plan for permanent storage.

There have already been many close calls and incidents caused by the insufficiently secure management of nuclear waste. In the Goiana accident in Brazil, radioactive waste falling into the hands of an unqualified individual led to several deaths from radioactive exposure. In the Marshall islands, the Runit dome contains hundreds of tons of waste, and is currently at risk of being submerged with rising sea levels, which could potentially contaminate the islands.

Above pictured, the Runit dome. Photo credits: the LA Times, 2020.

Furthermore, the Fukushima nuclear disaster in Japan was nearly dramatically worsened by a failure in the cooling system for one of their spent fuel pools. Luckily, the water did not boil enough to expose the spent fuel to the outside world, but the risk was undeniably present and should not be taken lightly. Mismanagement, deterioration, and bad actors all affect nuclear waste disposal. In the wrong hands, there is no doubt that the multitude of tons of spent fuel could be used for dramatic harm, intentionally or not. Highlighting these concerns, the United Nations Office of Counter-Terrorism 2017 Under-Secretary-General Vladimir Voronkov claimed the following, acknowledging nuclear waste as a potential chemical weapon:

> In the case of radiological and nuclear emergencies, the coordination of response is very well established under the leadership of the International Atomic Energy Agency (IAEA).

> Conversely though, there is an absence of an overall "mechanism" or lead agency mandated to coordinate response in the event of a possible terrorist attack involving chemical or biological weapons – a gap that we must strive to close.

In the face of these issues, nuclear energy becomes a less attractive option, but not an unviable one. It will be up to you, in your debates, to determine the future of nuclear waste disposal, and consequently the path of the broader transition towards clean energy in the face of the climate crisis.

Nuclear Power Timeline

December 1942 - First self-sustaining chain nuclear reaction created by Enrico Fermi and colleagues at the University of Chicago.

August 1946 - The United States Atomic Energy Commission is created, with the purpose of using nuclear energy for civilian purposes.

December 1951 - In Arco, Idaho, the first complete nuclear energy reactor successfully generates the first electricity from nuclear energy, powering four lightbulbs.

June 1954 - In Obninsk, a city near Moscow, the Obninsk Nuclear Power Plant is the first to generate electricity for a civilian grid.

July 1955 - Arco, Idaho, with a population of 1,000 at the time, becomes the first town powered entirely by a nuclear power plant.

July 1957 - The United Nations creates the International Atomic Energy Agency (IAEA) based in Vienna, Austria.

August 1964 - The Private Ownership of Special Nuclear Materials Act is signed in the United States, allowing private nuclear power companies to own their own uranium fuel.

March 1975 - Large protests against a planned nuclear power plant in Wyhl, Germany, lead to its construction being canceled, a landmark for anti-nuclear activism.

April 1977 - President Jimmy Carter Announced that the U.S. would indefinitely defer plans to reprocess spent nuclear fuel.

April 1986 - The Chernobyl Disaster occurs in Pripyat, a city in the North of the Ukrainian SSR in the Soviet Union, the most disastrous nuclear incident to this day.

Early 1990 - Italy becomes the first country with operational nuclear power plants to completely phase out the use of nuclear energy.

1987 - 2004 - Nuclear power's contribution to global electricity generation peaks and is maintained at slightly above 15%, with France and the U.S. being the largest producers.

2020 - Nuclear power's contribution to global energy falls to 10%.

September 2022 - Xi Jinping announces that China, the world's largest emitter of Carbon Dioxide, will aim for carbon neutrality by 2060, increasing investments in nuclear energy.

2025 - Projected opening date of the first permanent storage site for spent nuclear fuel, underneath Onkiluoto island, Finland.

Bloc Positions and Considerations

There are several proposed ways to repurpose nuclear waste, such as reprocessing, breeding, and hypothetical nuclear fusion reactors, but they all ultimately are currently impossible or have little effect in their current state. Permanent disposal is the only viable option for dealing with nuclear waste today, yet it comes in many forms with many different limitations. The best method appears to be underground storage, but it is currently extremely expensive, and the only commercial scale nuclear waste repository in the world is under construction in Finland. Furthermore, different nations have different agendas when it comes to nuclear waste disposal. While the harms of nuclear waste are globally applicable, the views towards nuclear energy, and consequently the amount of nuclear waste produced by different nations differs wildly, even among similar nations. In the EU, for example, France gets over 70% of its electricity from nuclear plants, while its neighbors in Italy and Germany have pushed to severely curb nuclear energy production.

The attitudes of different nations on this subject can be divided into three main categories:

1. Countries with significant investments in nuclear energy, which wish to either maintain or increase their usage of it in the future. These nations will want to focus on solutions that will be adaptable and sustainable for years to come, and will be inexpensive enough to make nuclear energy worthwhile. This category includes, among others, the United States, France, China, India and the United Kingdom.
2. Countries that have pushed to phase out nuclear energy, either due to safety or waste concerns. These nations will want to focus on permanent solutions that will encourage

other countries to also cease nuclear energy production, with less focus on the expenses. This category includes, among others, Germany, Italy, Australia, Sweden, and Portugal.

3. Countries which have never had operating reactors, due to a variety of reasons such as technological limitations, a prevalence of different energy forms, or just a lack of political willpower. These nations serve as the intermediary in the debate, primarily concerned with the safety of storage, alongside minimizing the potential costs for their own people. They may take either side in the debate, and may wish to invest in nuclear energy themselves if a satisfactory solution is reached. This category includes Nigeria, Israel, Thailand, Chile, and New Zealand.

Overall, any solution that this committee reaches must be able to be equally applied across all nations, be relatively inexpensive, and be immune to future concerns stemming from waste disposal, such as the potential for nuclear terrorism if it falls into the hands of a bad actor. The opinions of many of these countries are nuanced, so I encourage you in your research to keep complexity in mind.

Questions to consider:

How can we evaluate the threats from our current nuclear storage, reinforcing safeguards which are already in place?

How can we store our future waste in a safe and sustainable manner, while balancing costs?

How can we transport nuclear waste to storage facilities following use, is that necessary or necessarily efficient?

What knowledge do nations and experts need to deal with nuclear waste in the proper manner?

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