Boston University Academy Model United Nations Conference X

Saturday, January 29th to Sunday, January 30th, 2022

Boston University Academy

Boston, MA

INTERNATIONAL ATOMIC ENERGY AGENCY

(IAEA)

Background Guide

Introduction from the chair and vice-chair:

Hello, Delegates!

My name is Daschel Koh. I am a current sophomore at BUA, and I will be your chair for BUAMUN X! My vice-chair will be Celine Cheung (‘25). The committee will be modeled on the International Atomic Energy Agency, or IAEA for short. The IAEA committee is the UN committee responsible for dealing with matters concerning nuclear energy in any field, ranging from innovations in nuclear power to “safeguards," which involve routine inspections of nuclear facilities. The IAEA is a big part of keeping people safe from the dangers of nuclear technology, from the war front to the energy plant, as well as innovating and helping to develop the latest techniques in nuclear science.

I joined BUAMUN so that I could help facilitate and organize something that I feel has helped me with critical thinking and analytical skills. I remember when I was a delegate, writing position papers for events like COMMUN and being so excited on the first day of the conference. Some of my favorite parts of MUN were developing ideas and honing my debate skills, hanging around with friends during break times, and, most importantly, learning and having fun.

Some things to keep in mind for the conference: while only a position paper is required for the conference, it is highly advised for you to have background research. For example, has your member state been cooperating with other member states in this field? How many resources have been allocated to this problem, and how would your state act on certain propositions? Also, remember this very important detail: while you are here to compete and there is a certain amount of seriousness required, this should be fun. If you are too stressed at any point, whether it be writing your position paper, during the conference, or otherwise, please take care of yourself. Best of luck, and I look forward to watching you all try your hand on the floor!

Sincerely,

Daschel Koh
Boston University Academy, ‘24
dasko@bu.edu

Celine Cheung
Boston University Academy, ‘25
cecheung@bu.edu

Committee Information:

The committee you will be in for this conference is the IAEA. The IAEA, as formerly stated, deals with matters concerning nuclear energy and the sciences. It works for the safe, secure, and peaceful uses of nuclear technology, helping to contribute to international peace and security under the UN's Sustainable Development Goals. In general, this includes monitoring member states' access to nuclear technologies and weaponry. Originally, it was established to respond to growing concerns following the creation and use of atomic bombs in World War II in 1957. The IAEA currently has offices in three places, Vienna, Toronto, and Japan, and also two liaison offices in New York and Geneva. The organization has labs in Vienna and Seibersdorf in Austria.

Position Paper Guidelines:

This committee requires two position papers. They are on the topics of Reducing Plastic Pollution and Decommissioning Nuclear Power Plants. The absence of at least one position paper will disqualify you (the delegate) from receiving an award. The quality, depth, and clarity of your position paper(s) will influence award decisions. Each position paper should be 1-3 pages and double-spaced. This includes citations which are preferably in the format of footnotes. To insert a footnote, simply click *Insert* > *Footnote*. Note: a footnote goes after the period. Position papers should follow a general outline with three paragraphs. This is only a suggestion; as long as the paper fits the aforementioned specifications, the number of paragraphs will not be taken into consideration.

Possible position paper outline:

1) Introduction to your delegation and the topic as a whole
2) The position of your delegation
3) Your delegations proposed solutions

Furthermore, the position paper must be titled in the following format:

Delegation: Daschel Koh and Celine Cheung

School: Boston University Academy

Committee: IAEA

Position: _____

Topic: _____

Topic 1: *Use of Nuclear Technology to Reduce Plastic Pollution*

General Overview:

Plastic pollution is one of the world's most pressing environmental challenges. It is projected that by 2025 there will be one tonne of plastic for every three tonnes of fish in the ocean. Currently, eight million metric tons of plastic are dumped into the ocean each year. The ocean pollution has caused five giant garbage patches to form around the world. 80% of plastic pollution comes from just 20 countries. About 70% of ocean garbage is at the bottom of the ocean, making it unlikely that it will be cleaned up. The goal of Nuclear Technology for Controlling Plastic Pollution (NUTEC Plastics) is to limit the amount of plastic pollution in the ocean. NUTEC Plastics plans to first provide evidence to assess the microplastic pollution in the ocean and then to show the use of ionizing radiation in recycling plastic to transform plastic waste into resources.

More Information:

The National Nuclear Security Administration (NNSA) works with the IAEA and other organizations to accomplish tasks. They supplied the IAEA $1 million in their efforts to reduce plastic pollution with nuclear mechanics.

Marine monitoring: the IAEA will help support laboratories to research the impacts of ocean pollution. This will find the trends and status of marine plastic particles, assess plastic bioaccumulation pathways, and will impact and develop risk scenarios for better-informed decision making.

Recycling with irradiation: using electron beam and gamma radiation technologies, some plastic waste can be changed and reused, or recycled. The technology will sort plastic waste based on polymer type, break down plastic polymers to be used as materials for new products, and turn plastic into fuel through radiolysis (irradiation + chemical recycling).

There are 6 Institutes of Nuclear Chemistry and Technology (INCT) designed to support the promotion of peaceful uses of nuclear technology.

The Institute of Marine Research (IMR) in Bergen, Norway implements projects with the IAEA and proposed a global monitoring system that would provide data for environmental, economic, and social assessments on the impact of plastic pollution.

Denmark, Finland, Iceland, Norway, Sweden, Canada, the United States of America, and Russia previously approved a Regional Action Plan to use both sea and land activities to reduce the negative impacts of marine pollution in the Arctic environment.

Many waterways in Africa are being clogged by plastic waste, which is ingested by marine species and then travels up the food chain. A roundtable discussion between representatives from 46 countries in Africa occurred in September 2021 where they discussed nuclear technologies and existing practices.

Questions to Consider:

- What are the benefits and drawbacks of using nuclear technology for reducing plastic pollution?
- Are there any financial incentives to use nuclear technology?

Bloc Positions – Topic 1:

Argentina *(against using nuclear technology to reduce plastic pollution)*
They want to maintain a constant stream of revenue for importing plastic.

Australia *(against using nuclear technology to reduce plastic pollution)*
They produce a lot of coal and want to maintain the use of coal to reduce plastic.

Brazil *(in agreement with using nuclear technology to reduce plastic pollution)*
They want to limit the amount of pollution because it is harming the Amazon Rainforest.

Canada *(against using nuclear technology to reduce plastic pollution)*
They are using other ways to tackle plastic pollution other than nuclear energy.

China *(against using nuclear technology to reduce plastic pollution)*
They produce a lot of coal and want to maintain the use of coal to reduce plastic. They also are not importing plastic waste anymore.

Egypt *(in agreement with using nuclear technology to reduce plastic pollution)*
The Nile River is being polluted and they want to clean the river.

India *(against using nuclear technology to reduce plastic pollution)*
They produce a lot of coal and want to maintain the use of coal to reduce plastic.

Italy *(in agreement with using nuclear technology to reduce plastic pollution)*

They use incinerated plastic to generate energy such as electricity and heat.

Indonesia *(in agreement with using nuclear technology to reduce plastic pollution)*
Most of Indonesia's plastic waste ends up in the ocean and harms the fishing industry.

Japan *(in agreement with using nuclear technology to reduce plastic pollution)*
They are being overwhelmed by the amount of plastic in their country, now that China stopped importing plastic.

Republic of Korea *(in agreement with using nuclear technology to reduce plastic pollution)*
They announced that they will cut the amount of plastic waste in half by 2030.

Morocco *(in agreement with using nuclear technology to reduce plastic pollution)*
They are impacted by the quality of the Nile River, which is heavily polluted.

Philippines *(neutral)*
They have banned the use of single-use plastics so they are not heavily impacted by the pollution.

Russian Federation *(against using nuclear technology to reduce plastic pollution)*
They are uninterested in reducing pollution.

South Africa *(in agreement with using nuclear technology to reduce plastic pollution)*
They want to improve their current waste management system.

Switzerland *(neutral)*
They are in the process of banning the use of single-use plastics so they are not heavily impacted by the pollution.

Thailand *(neutral)*
They have banned the use of single-use plastics so they are not heavily impacted by the pollution.

Turkey *(in agreement with using nuclear technology to reduce plastic pollution)*
They want to reduce the amount of plastic that is illegally burned.

Ukraine *(against using nuclear technology to reduce plastic pollution)*
They have no incentive to reduce their pollution.

United Arab Emirates *(neutral)*

They are in the process of enacting a plan to ban all single-use plastics.

United Kingdom *(in agreement with using nuclear technology to reduce plastic pollution)*
They want to continue exporting their plastic to other countries so that they do not have to deal with it.

United States *(in agreement with using nuclear technology to reduce plastic pollution)*
They want to continue exporting their plastic to other countries so that they do not have to deal with it.

Further Research:

https://www.conservation.org/stories/ocean-pollution-11-facts-you-need-to-know
https://www.iaea.org/newscenter/news/nutec-plastics-using-nuclear-technologies-to-address-plastic-pollution
https://www.iaea.org/services/key-programmes/nutec-plastics
https://www.energy.gov/nnsa/articles/nnsa-pledges-1-million-fund-peaceful-use-nuclear-technology-fight-plastic-pollution
https://www.iaea.org/newscenter/news/nutec-plastics-roundtable-for-europe-central-asia-focuses-on-nuclear-solutions-to-plastic-pollution
https://www.iaea.org/newscenter/news/nutec-plastics-ministers-from-countries-in-africa-discuss-nuclear-solutions-to-address-plastic-pollution

Topic 2: *Decommissioning of Nuclear Power Plants and its Financial Impact*

General Overview:

Throughout the world, nuclear technology is being innovated and used in many situations, including the production of energy. Nuclear energy is often regarded as the next frontier of energy, and it has many benefits. However, it does also have drawbacks, such as water pollution and, most notably, nuclear radiation. Nuclear radiation has adverse effects on the nearby environment and the health of people and animals.

In order to reduce the lasting effects of nuclear power plants and the radiation associated with them, nuclear power plants must be decommissioned within 60 years of the nuclear site being terminated. The process of decommissioning can be difficult and also requires that the company assure that funds will be available to aid in the decommissioning efforts. This process involves removing the nuclear fuel from the site, safely storing it, and dismantling the facility (stripping any radioactive products and cleaning up the area). There is also, as one might expect, paperwork that must be filed to decommission a power plant.

There are two main ways in which a plant can be decommissioned. The first is storage, in which the nuclear plant remains intact and the radioactive fuel is stored in a protective shell for a long enough period for the radioactive material to decay into stable elements that don't pose harm to the nearby environment. The site is continually inspected during this period for safety. Once the radiation levels are low enough for workers to begin disassembling the site, that process begins. The second method is to immediately remove the fuel rods from the reactor to speed up the decommissioning process. The decommissioning process is often considered at the earliest stages in a nuclear plant's life cycle.

Decommissioning plants can take a fair amount of resources and labor and, if not done properly, can mar the environment for decades to come. The effects of radiation are clear from accidents like Chernobyl and the deadly atomic bombs, so it is of high importance to the IAEA to ensure safety when discussing nuclear technology.

More Information:

Decommissioning: the process of retiring power plants from service. The operating license of the U.S. Nuclear Regulatory Commission must also be terminated.

Questions to Consider:

- What are some ways your member state could aid in the efforts of decommissioning nuclear plants?

- What are some of the tradeoffs for greater power production, in terms of environmental effect, labor, and decommissioning costs?

Bloc Positions – Topic 2:

Argentina *(against decommissioning nuclear power plants)*
They only have a few power plants and would like to continue using them.

Australia *(in agreement with decommissioning nuclear power plants)*
They currently have a ban on nuclear power and would like other countries to decrease their usage as well.

Brazil *(against decommissioning nuclear power plants)*
They want to keep the few power plants they currently have.

Canada *(in agreement with decommissioning nuclear power plants)*
Their decision to decommission a power plant is solely due to the license.

China *(against decommissioning nuclear power plants)*
They don't want to spend more money building new power plants

Egypt *(in agreement with decommissioning nuclear power plants)*
Nuclear power causes water pollution in the Nile River.

India *(against decommissioning nuclear power plants)*
Nuclear power is their 5th largest source of energy and they want to continue using the seven power plants they have, instead of building new ones.

Italy *(in agreement with decommissioning nuclear power plants)*
They have already shut down all of their power plants. They don't want nuclear power to be overused because of the radiation that is emitted.

Indonesia *(in agreement with decommissioning nuclear power plants)*
They have a lot of experience using nuclear power and know the benefits of shutting down power plants after 60 years.

Japan *(in agreement with decommissioning nuclear power plants)*
They know the consequences of radioactive material leaking out, so they are more cautious now and want to decommission power plants after their lifetime.

Republic of Korea *(against decommissioning nuclear power plants)*

They are very advanced in nuclear technology and don't want to get rid of their advancements.

Morocco *(against decommissioning nuclear power plants)*

They currently do not have any power plants but are planning on building one. They want to keep that power plant in use as long as possible, so they don't want to decommission it after 60 years.

Philippines *(against decommissioning nuclear power plants)*

They have found nuclear power to be a solution to the 1973 oil crisis.

Russian Federation *(in agreement with decommissioning nuclear power plants)*

They make a lot of revenue exporting nuclear goods, including power reactors, so they want to make more money by exporting even more after old power plants are decommissioned.

South Africa *(against decommissioning nuclear power plants)*

They don't have enough water for coal-fueled power so they use nuclear power.

Switzerland *(against decommissioning nuclear power plants)*

Up to 40% of their electricity comes from nuclear power, so they do not want to decommission their power plants.

Thailand *(in agreement with decommissioning nuclear power plants)*

They do not have any nuclear power plants and would like other countries to decommission theirs in case of radiation.

Turkey *(against decommissioning nuclear power plants)*

They are currently building a power plant, which is their sixth attempt at building a plant since 1960.

Ukraine *(in agreement with decommissioning nuclear power plants)*

They want to shut down power plants, having observed the effects of the Chernobyl disaster.

United Arab Emirates *(against decommissioning nuclear power plants)*

They believe nuclear power is the best choice for them, as it is a clean, safe, and proven technology.

United Kingdom *(in agreement with decommissioning nuclear power plants)*

They plan to decommission many of their existing power plants.

United States *(in agreement with decommissioning nuclear power plants)*

They have already begun the process of decommissioning power plants and plan to retire eight more power plants.

Further Research:

https://www-pub.iaea.org/MTCD/Publications/PDF/PUB1942_web.pdf
https://en.wikipedia.org/wiki/Nuclear_decommissioning
https://www.nei.org/resources/fact-sheets/decommissioning-nuclear-power-plants#:~:text=Decommissioning%20is%20the%20process%20by,the%20U.S.%20Nuclear%20Regulatory%20Commission.&text=The%20owner%20remains%20accountable%20to,agency%20has%20terminated%20its%20license.
https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.html