COPUOS: Nuclear Power in Outer Space

Hi there delegates! My name is Haley Christian and I am junior that has been in the MUN program for 3 years. I am on the golf team, part of the IB program and take part in many clubs including but not limited to NHS, SHS and the debate team. I'm looking forward to moderating a great discussion at the conference!

I. Background

Nuclear power in outer space has greatly benefited space stations like NASA, and the Russian Federal Space Agency. Solar energy is a very efficient way to collect energy, although, once the probe passes Jupiter, the photons per square meter drops to where it is not worth it to use solar. It would still be possible to use solar, but you have to use a great array of solar panels. This ultimately defeats the purpose, because it adds more bulk and weight, so it needs more energy to move and function. They needed an efficient way to power the probe. The Unites States first started a test of a nuclear reactor in space in 1965. Since then, they have used radioisotope thermoelectric generators, or RTGs. It is a nuclear reactor that powers the probe, which is light, and long lasting. There are other types of energy, which includes Stirling Radioisotope Generator (SRG), Fission systems, and nuclear electric systems.

II. UN Involvement

The United Nations have many organizations with a goal to regulate the safety and usage of nuclear power in outer space. Organizations like International Atomic Energy Agency (IAEA), General Assembly (GA), and the Office for Outer Space Affairs (UNOOSA), all have created treaties involving nuclear power in outer space. UNOOSA mainly focuses on the safety and safe use of the nuclear power. The United Nations top priority is to regulate the safety of the power.

III. Possible Solutions

A possible solution is to create a three step plan. First, is to regulate and create guidelines on when you are allowed to use nuclear power. In order to minimize risk, you are only allowed to use nuclear power when the mission is impossible to complete without it. In order to send a mission using nuclear power, you have to file and get permission to send it, bases on your goals and reasons. The second step is to regulate and create guidelines on what you can use for nuclear power. The power source needs to be assessed before it is used. The assessment will be based on how much energy is in it, and if it is safe and secure. The source cannot be over a certain level of energy based on the situation. The last step is to regulate and create guidelines on the re-entry of the spacecraft back into the atmosphere. Before it enters the atmosphere, they have to complete an assessment on the reason of the mission, date, and time of the launch. The spacecraft also has to have radiation protection to ensure there are no leaks or risks of accidents on the trip back into the atmosphere.

IV. Country Bloc Positions

<u>African:</u> Africa does not have a space station that is currently using nuclear power in outer space, but South Africa is a part of a treaty involving safe and peaceful use of nuclear power in outer space.

Western: The West currently uses nuclear power in outer space, and uses it safely and in regulations.
Asia/Pacific: Asia/Pacific does not currently use nuclear power in outer space, although agrees that it is okay to use for space exploration.
Europe: Europe wants to stick to the traditional space systems, and are anti-nuclear, except are going to have no other choice but to use nuclear power for the outer space.
Middle East: The Middle East has a ban on nuclear arms in outer space, but are allowed to use nuclear power in outer space.

V. Questions to Consider

1. How can you keep nuclear power in outer space regulated and safe?
2. What should the criteria for the safety of nuclear power use be based on?
3. How can we ensure that there are no countries that are breaking the rules and being unsafe with the procedures?

VI. Works Cited

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