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Abstract:

International Atomic Energy Agency (IAEA)

Simulating a Meeting of the Board of Governors

“Sustainable Nuclear Waste Management”

Introduction

The International Atomic Energy Agency (IAEA) is an independent international organization, closely related to the United Nations system. The IAEA is the world's center of cooperation in the nuclear field, whose major task is to promote the safe, secure and peaceful use of nuclear sciences and technology. The General Conference and the Board of Governors are the two decision-making organs of the IAEA. The Board of Governors, which will be simulated at this year's VIMUN, generally meets five times a year and is responsible for most of the actions taken by the IAEA (e.g.: recommendations and examinations on accounts, programs, budgets etc.).

Sustainable Nuclear Waste Management

Driven by an increasing strive for energy, 29 countries currently administer more than 440 nuclear power plants in their energy supply portfolio worldwide. As a result, these countries continuously cumulate vast amounts of nuclear waste. Evidently, only a fraction (up to 10%) of the hazardous nuclear waste, which is produced due to complex nuclear reactions, can be reprocessed. Moreover, given the current technological standards, it is unlikely that these numbers will improve in the near future. The political controversy between pro-atomic politicians, who argue that nuclear power has a high potential to reduce CO₂ emissions and to become less dependent on fossil fuel, on the one hand, and anti-atomic politicians, who emphasize the missing knowledge of sustainable waste management, on the other hand, is one of the most pressing issues nowadays. Besides high risk and insecurity, one of the major problems of nuclear power plants is that the entire nuclear waste material often remains highly radioactive.

When the operation time of the nuclear fuel rods has elapsed, they are substituted and stabilized for transportation either for direct disposal or for reprocessing in special facilities. In the course of reprocessing, only 1-10% of reusable uranium can be extracted from the used fuel rods for new ones while the rest remains highly hazardous nuclear waste. Besides not being able to reprocess the total amount of nuclear waste, this procedure is highly expensive. In addition, due to the fact that nuclear power is rather a young technology in comparison to the life span of its radioactive waste, a safe storage cannot be guaranteed and the long-term effects on the waste containers and the storage sites cannot be predicted.

Taking the reprocessing into account, more than 90% of all nuclear material produced is directly disposed. Although the tragic incident of Fukushima last year has triggered once again discussions not only on the safety of nuclear power facilities but also on new methods and technologies to dispose atomic waste, no sustainable solutions have been developed thus far.

The IAEA committee session at VIMUN 2012 will discuss the problems concerning nuclear waste management from a global perspective with the aim of finding sustainable solutions for managing the growing amount of radioactive waste. The principal issue on the agenda will be the consequences of nuclear power plants regarding the substituted fuel rods, contaminated cooling water, and nuclear air pollution. Another major focus will be the safety issue concerning the reprocessing of nuclear material. Thus, the IAEA will seek to discuss the important problems at hand in order to come forth with a resolution that will help the international community to cope with this fundamental issue.