Online Nuclear Dilemma-2

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Nuclear dilemma is a contest on critical thinking and problem solving on a theoretical or real scenario. It is a role playing team activity. After getting the problem statement, discuss among your team members about the purpose of your team's role and how to build an answer to the question that have been asked on this particular dilemma. Read the problem statement well and present your opinions in a Powerpoint presentation in not more than 6 slides including the team members' name. The presentation should be very brief. Your problem statement starts from next page of this document.

1. You can use graphs, pie chart or other data to support your position.

2. You can use pictures.

3. Long descriptions are highly discouraged in slides for the preliminary round.

4. The file must be submitted within 8 hours after receiving the problem statement.

5. Try to be brief in the Powerpoint presentation as you need to present your ideas in a speech in front of the judges.

6. In the final presentation, you will get 5 minutes to present your opinions and ideas on the matter. Then a there will be a round of discussion where each team will be asked questions from the other 3 teams. The merit of both the questions and their answers will be considered to be a scoring factor. The teams will get 90 seconds to answer each question.

FRESH WATER AT A NUCLEAR POWER PLANT

Constant drought has a negative impact on agriculture in Middle Eastern, Central Asian and African countries. Many states promote fresh water preservation; introduce administrative measures against those who waste water. The use of nuclear technology can solve the problem of fresh water shortages in arid regions. The use of small nuclear reactors for seawater desalination will have a significant positive effect in the nearest future. The NPP project, which the State Corporation Rosatom plans to build in Egypt, includes desalination equipment. The nuclear power plant in El Dabaa, Egypt, will be Russia and Egypt's largest joint project since the building of the Aswan Dam. Desalination units working on nuclear energy will be able to provide Middle Eastern countries with drinking water, but their active development is hampered by fears of local residents who are afraid to drink water obtained with the help of a nuclear reactor.

The dilemma: **Do we need to develop nuclear desalination technologies in the face of unfavorable public opinion?**

YOUR ROLE: CHIEF ENGINEER OF THE NPP

You work for a new nuclear power plant on the shore of the Red Sea, and you are responsible for the proper functioning of all its systems. The plant design includes a desalination installation that turns seawater into drinking water. A more emotional person would decide that this is a miracle: a valuable and rare product in local conditions (fresh drinking water) is produced from a virtually unlimited resource (sea water). But you just know that the plant works as it should.

Your goals:

- To provide local residents with access to fresh water.
- Upon request of the NPP director, you as an expert shall explain to the local community that this water is safe to drink.

There are panic-ridden articles about the dangers of your water on the Internet and in newspapers. You know that this is nonsense: the desalination installation operates on heat or electricity generated by the plant, there is no contact between the radioactive elements and the water. How do you convince consumers of this?

Discuss among your teammates and present your ideas strictly from the viewpoint of the role that you have been given.