

FORUM: HISTORICAL SECURITY COUNCIL  
ISSUE: **The nuclear accident of Chernobyl**  
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## Introduction

On April 26, 1986 during a routine test to determine how the turbines would react if there happened to be a loss of electrical power supply, Unit 4 of the nuclear power station in Chernobyl, Ukraine, exploded due to an uncontrollable power surge. This chemical explosion released “nearly 520 dangerous radionuclides into the atmosphere” which immediately killed thirty people, and led to the contamination 155,000 square kilometers of land in three countries. “Agricultural areas covering nearly 52,000 square kilometers... were contaminated with cesium-137 and strontium-90, with 30-year half-lives respectively.” The amount of radiation let off from this reactor was one hundred times the amount of radiation that was dropped during the nuclear attack on Hiroshima and Nagasaki.

It was not until three days after the event that the Swedish government detected “enhanced” radiation levels in Europe with wind direction and traced it back to the Soviet Union where they announced a nuclear accident had occurred.

## Definitions of key terms

**Nuclear and radiation accident:** is defined by the International atomic Energy Agency as “an event that has led to significant consequences to people, the environment or the facility.” This could include anything from large radioactivity release to the environment, and reactor core melt to lethal effects to individuals.

**Nuclear Power Plant:** is a thermal power station where the heat source comes from one or a number of nuclear reactors. These power plants use radioactive isotopes and break them down by binary fission (nuclear reaction) which eventually generates steam that drives a turbine which is connected to a generator that produces electricity.

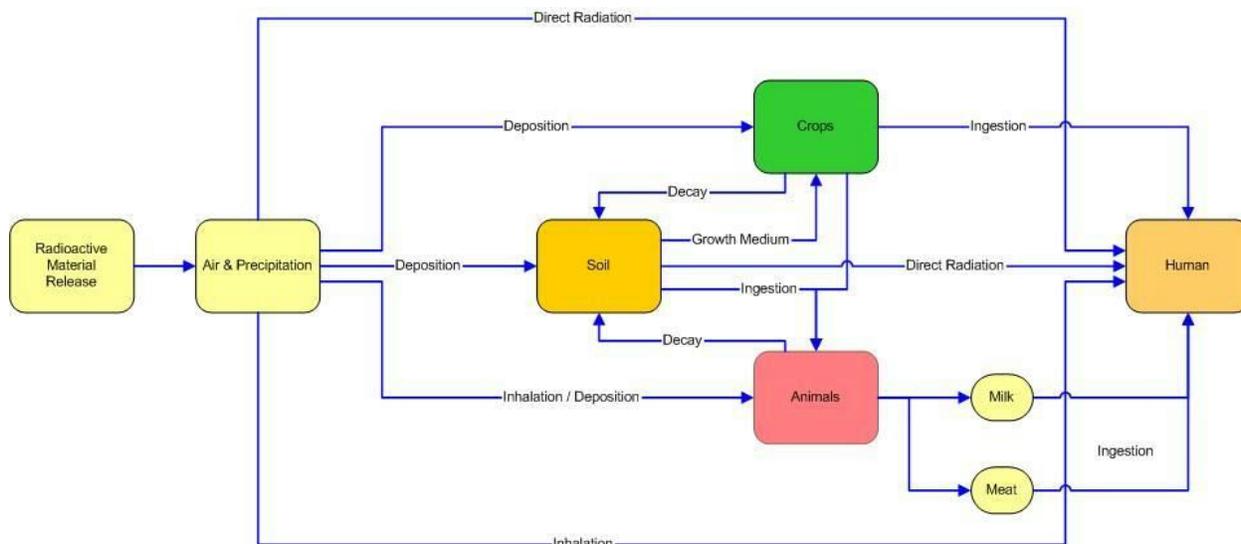
**Nuclear Reactor:** is a thermal power station in which the heat source comes from one or more nuclear reactors.

**Irradiation:** is “exposure to penetrating radiation” and occurs when “all or part of the body is exposed to radiation from an unshielded source.”

**Radioactive Contamination:** is deposit of radioactive atoms on the skin, clothing, or any place where it is undesired. is “a person contaminated with radioactive materials will be irradiated until the source of the radioactive material is removed.”

Contamination Guidelines:

- A. A person is externally contaminated if radioactive material is on the skin or clothing
- B. A person is internally contaminated if radioactive material is taken in through breathing, swallowing, or absorbed through wounds
- C. The environment is contaminated if radioactive material is spread about or uncontained



**Radionuclide:** Is a chemical element that is radioactively decaying therefore making it unstable and letting out an emission on nuclear radiation.

# Background Information

## 1. History of Chernobyl Power Station:

On the 15th of August, 1972 construction began on the Chernobyl Nuclear Power Station. It would mark the third nuclear power station in the Soviet Union and the first nuclear power plant in the Ukraine. This nuclear power station is located 18 kilometers northwest of the city of Chernobyl, 16 kilometers from the borders of both Ukraine and Belarus and nearly 100 kilometers north of Kiev. The first of the six reactors to be built was commissioned in 1977. The second, third, and fourth reactors were completed in 1978, 1981, and 1983 respectively. The fifth and sixth reactors, however, were not yet completed when the accident occurred. Both reactors three and four were second generation units, meaning that they were designed to be more secure with regards to their accident localization system.

## 2. Previous accidents

Before this nuclear accident occurred two other "serious" nuclear plant disasters have occurred including: Three Mile Island accident in 1979, as well as the SL-1 accident in 1961. The Three Mile Island accident, in which only a low level of radiation leakage occurred, is said to have been directly related to the high incident rates of cancer in particular leukemia, and lung cancer.

## Major countries and organizations involved

**The Soviet Union:** took control of the situation immediately after the accident happened, although they had no reports released and few immediate precautions taken

## Timeline of events

**July 26:** The nuclear accident of Chernobyl occurs

**July 28:** The announcement of a nuclear accident in the Soviet Union by the Swedish authorities

## Relevant UN Treaties:

None at this point in time

## Possible Solutions

Delegates may focus on solutions to a number of possible issues surrounding how the situation should be managed, as well as what are the possible methods of nuclear safety and possible ways of containment including the monitoring the existing contamination and decontamination. The means of communicating protective measures early will be important but the details of how this will be done needs to be considered including things such as but not limited to plans regarding evacuation. It is also important to take into consideration the details regarding environmental conditions.

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