

# \* Chernobyl - 30 years later



- \* The Chernobyl nuclear accident occurred in 26th of April 1986, in the area of current Ukraine, former Soviet Union.



Alert 1,000 miles away in Sweden after Moscow admits casualties

Huge nuclear leak at Soviet plant

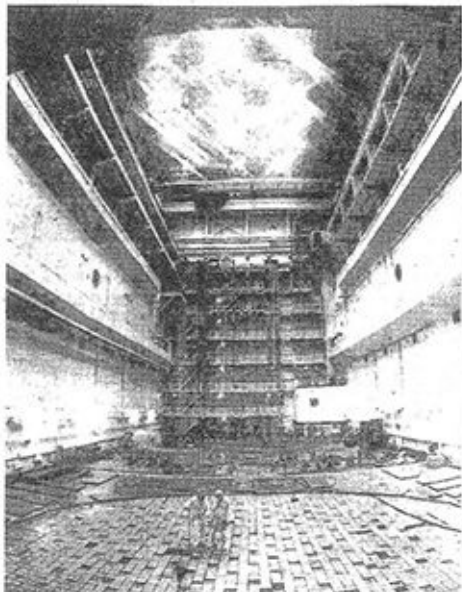
By Thomson Prentice, Science Correspondent, and Christopher Mosey, Stockholm

A massive radioactive leak at a Soviet nuclear power station has caused casualties in what may be the world's worst nuclear accident. The leak was so large that it prompted a full-scale alarm nearly 1,000 miles away in Sweden, including the evacuation of 600 workers from a Swedish power station on the Baltic coast.

Finland reported radiation levels six times higher than normal. Denmark five times higher than normal, and Norway 50% up as a result of the accident. "We have reported radiation just about everywhere where we have looked," said Mr. Ragnar Hope, of the Swedish Radiation Institute.

Some Swedish nuclear experts said they believed the Soviet accident was caused by the overheating of nuclear fuel. A "considerable explosion" would be the result of such overheating and could have led to a "meltdown" of the nuclear core of the reactor, they said.

They must demand that Soviet Union improve their security, and inform the rest of the world of such accidents in good time, "he said. The first stage of the Chernobyl nuclear plant was put into service in September 1975, followed by two more stages in 1980.



The Tass statement was a propaganda effort by the Kreninist Party, traditionally hostile to the Soviet Union, to reveal the extent of its nuclear with secrecy. It village. There is nuclear accident in Leningrad during 1975-82, according to a report published in the Oak Ridge laboratory in reported.

local population at Forsmark. It would not be a danger to human beings, although regional specialists said the level was twice as high in Finland as in Sweden and Norway.

A millirem is a unit of ionizing radiation that gives the same biological effect as one thousandth of a standard unit of X-rays.

Mr. Gorbachev came to power in March 1985 there have been repeated calls in the Soviet press for more open reporting of disasters inside the Soviet Union.

MANHATTAN \* \* \* SPORTS FINAL
DAILY NEWS
NEW YORK'S PICTURE NEWSPAPER
Wednesday, April 30, 1986

FIRE RAGES, CLOUD SPREADS

THOUSANDS FLEE NUCLEAR NIGHTMARE

- Help us, USSR pleads
Death toll uncertain
Europe fears fallout

SEVEN PAGES OF IN-DEPTH COVERAGE BEGIN ON PAGE 2

The News and Observer

Raleigh, N.C. Wednesday, April 30, 1986

Soviets battle nuclear disaster

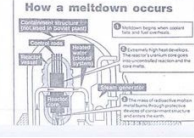
USSR pleads for help fighting fire in core; settlements evacuated

Fire out of control, U.S. officials say

Washington—U.S. officials said today that a fire in the core of the Chernobyl nuclear reactor is out of control and spreading rapidly, according to a report from the Oak Ridge laboratory in Tennessee.



Casualties may be felt for weeks, generations



By ROBERT M. SCHNEIDER JR. The type of radioactive exposure that could be caused by a nuclear accident is not clear, but it could be very serious. The first and most immediate danger is to the people living in the area of the accident. The second is to the people living in the area of the accident. The third is to the people living in the area of the accident.

SOVIET PLANT SPEWS ATOMIC CLOUD

NUCLEAR DISASTER

Western officials fear high death toll



A rare Soviet cry for help

WASHINGTON—The world's first nuclear power plant to be built in the Soviet Union is now in a dire state of emergency, according to a report from the Oak Ridge laboratory in Tennessee.



From the inevitable radioactive cloud plume, the most serious danger is to the people living in the area of the accident. The second is to the people living in the area of the accident. The third is to the people living in the area of the accident.

OUR DIRTY SECRET

Like Soviet, Wash. plant lacks safety shell

Washington—U.S. officials said today that a fire in the core of the Chernobyl nuclear reactor is out of control and spreading rapidly, according to a report from the Oak Ridge laboratory in Tennessee.

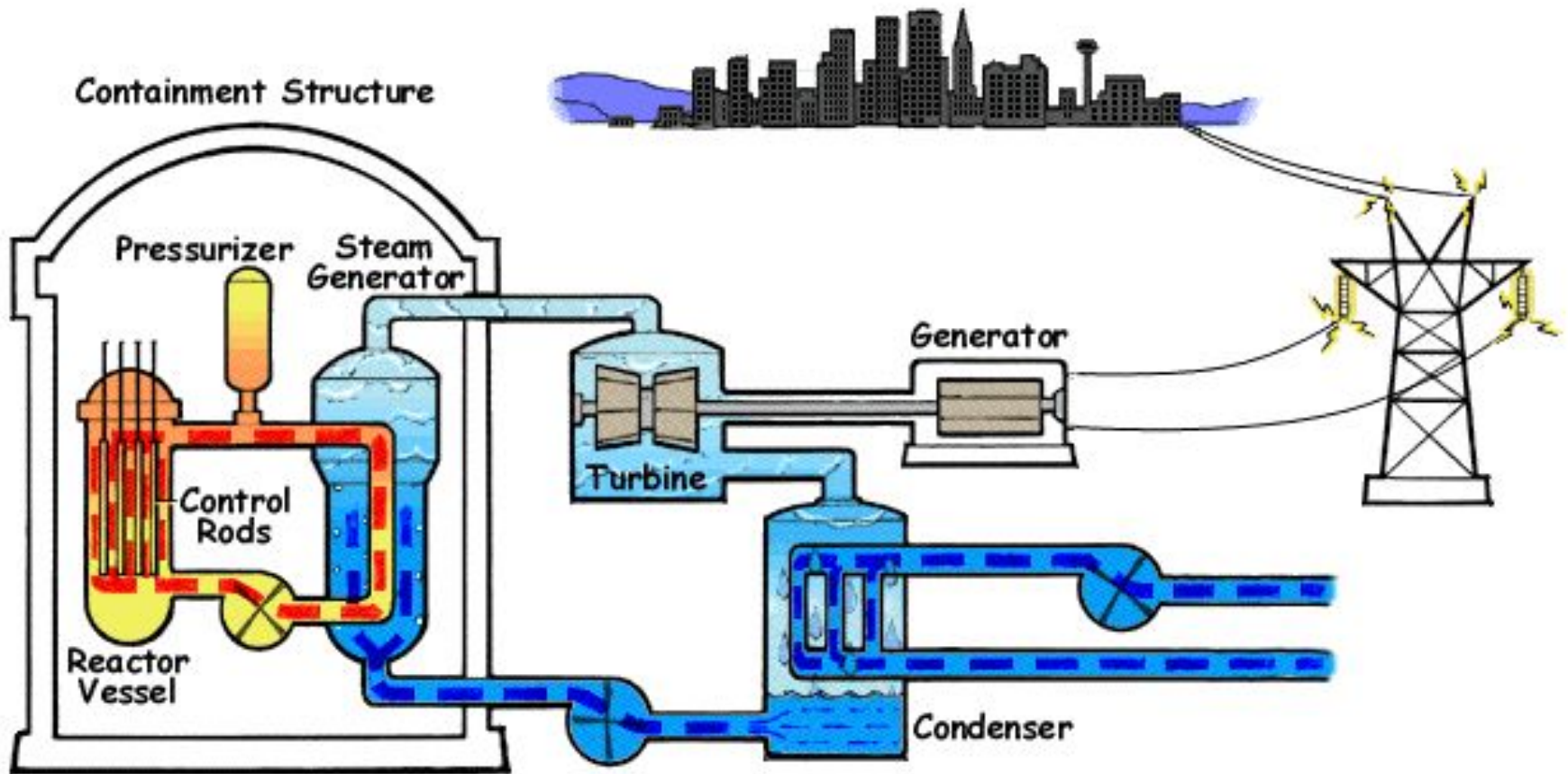
SEVEN PAGES OF IN-DEPTH COVERAGE BEGIN ON PAGE 2

# \*What happened?

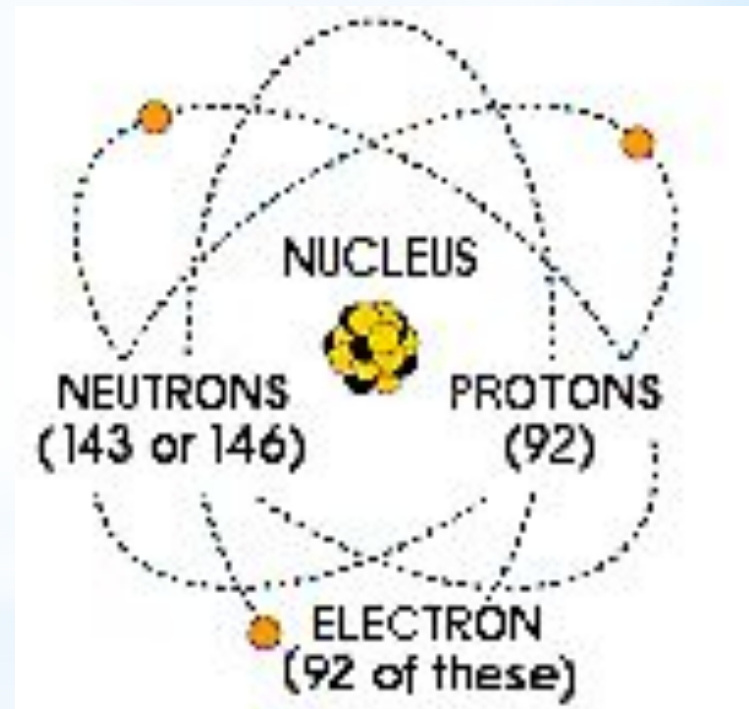
- \*Chernobyl nuclear power plant included four reactors, that produced energy. The reactors were model RBMK-1000. In the night of 26<sup>th</sup> of April a system test made in the reactor number 4 went badly wrong, causing the nuclear accident.



# \* How does nuclear power work?



# \*Uranium



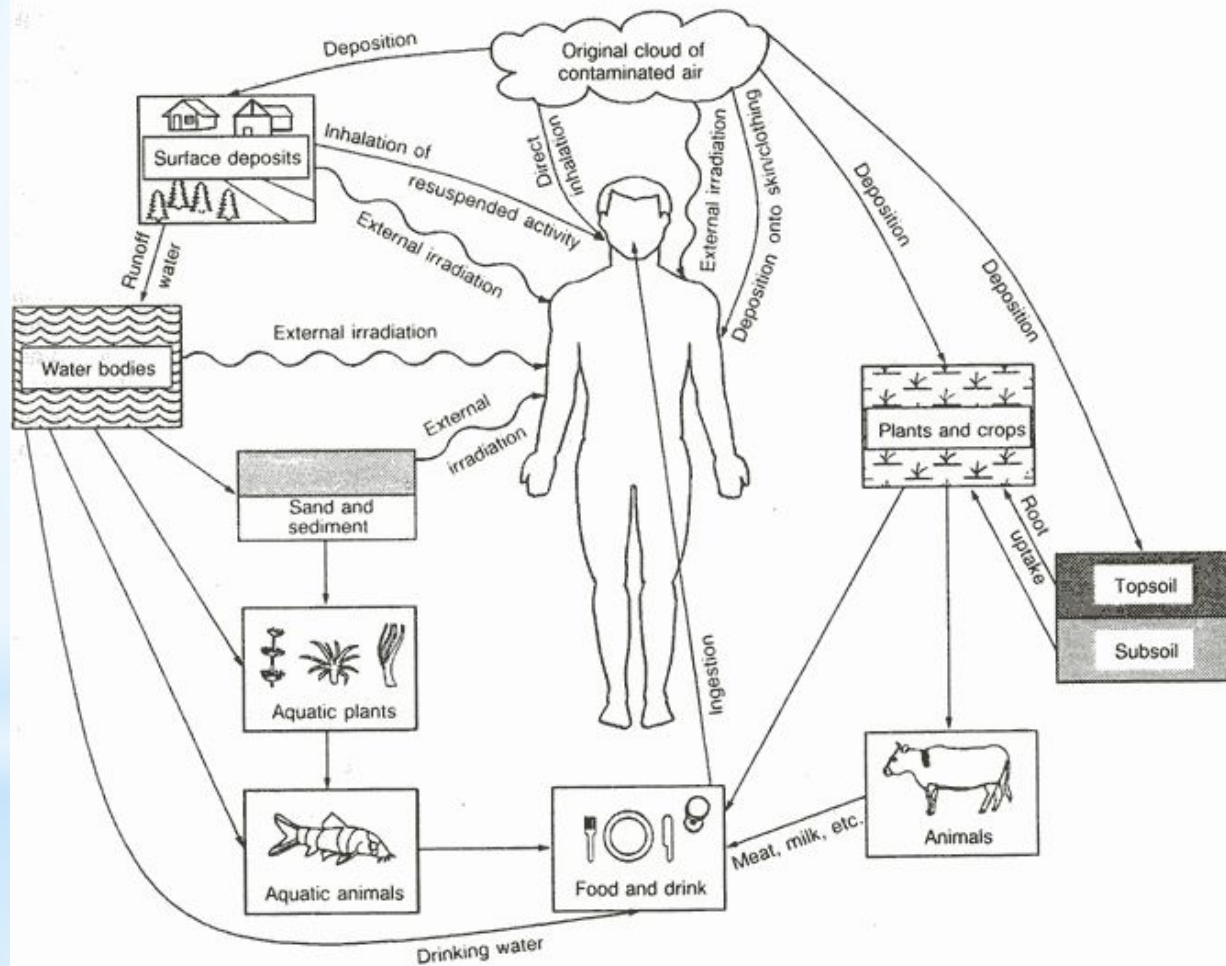
# \*Consequences of the accident

\*The Chernobyl accident had several grave impacts. It released the biggest amount of uncontrolled radioactive gases into the atmosphere in the history.

\* 1) On humans:



# \* Pathway of radiation to human body



**Main environmental pathways of human radiation exposure**

[Source : IAEA technical report ISBN 92-0-129191-4 Vienna 1991]

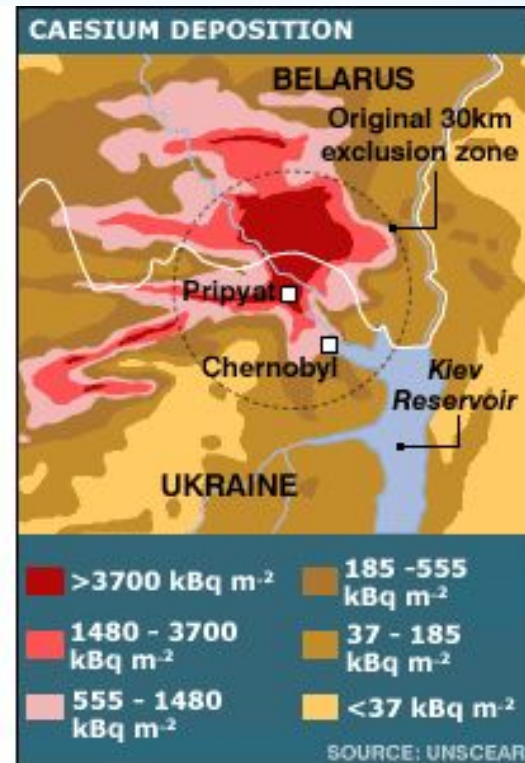
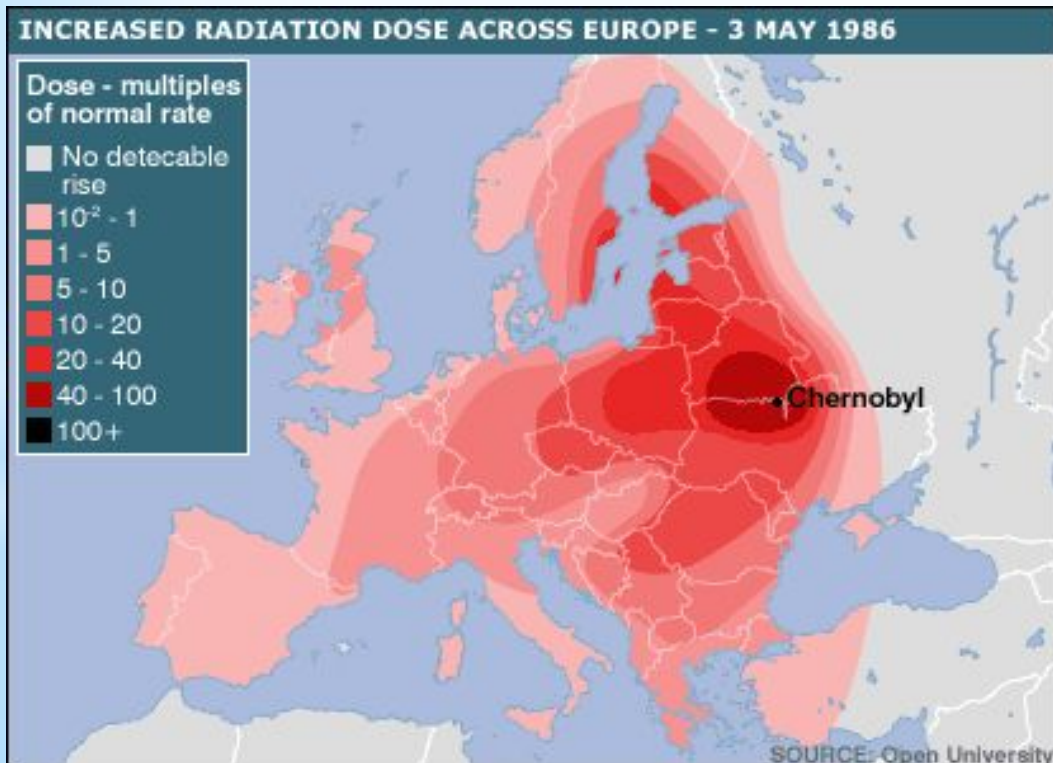


# \* How does radiation affect human body

- \* The radiation that comes from a nuclear accident is different compared to for example x-ray radiation.
- \* It is found to cause cancers, cardiovascular diseases and lower mortality rates.



\*Because of the winds, the radiation was carried to several countries.



# \* Consequences of the accident

## \* 2) On the environment

\* Not only humans, but also the environment was affected due to the accident.



# \* Timeline of the events:

- 26<sup>th</sup> of April - the explosion occurred in the 4<sup>th</sup> reactor of Chernobyl nuclear power plant.
- 27<sup>th</sup> of April- helicopters start to drop sand to the reactor to stop the on going fire.
- 27<sup>th</sup> of April - The close town of Pripyat was evacuated.
- 28<sup>th</sup> of April - Moscow TV announces the accident. International medias also acknowledges the event. Radiation levels are high in different parts of Europe.
- 9<sup>th</sup> of May - First firemen at the site die due to exposure to radiation.
- 10<sup>th</sup> of May - the fire in the reactor is extinguished.
- 3<sup>th</sup> of June - Viktor Petrovich Bryukanov, the director of the Chernobyl plant is prisoned.
- 14<sup>th</sup> of December - A sarcophagus is made to cover the reactor 4.
  
- In 2000 the reactor 3, last functioning reactor of Chernobyl is closed down.
- 2017 - New Sarcophagus for reactor 4 should be ready

# \*Now - 30 years after the accident

<https://vimeo.com/112681885>

- \*We should remember the disaster, so that an event like that does not occur ever again.
- \*Keep in mind the dangers of nuclear.

# \* Quiz:

- \* 1. When did the Chernobyl accident happen?
- \* 2. What was the reason for the accident?
- \* 3. In what current state did it happen?
- \* 4. What is the chemical reaction called that nuclear powers use?
- \* 5. What is the main element (chemical) that is used in nuclear power?
- \* 6. Mention some effects of radiation on humans?
- \* 7. Mention some effects of radiation on the environment?
- \* 8. What is the name of the closest town, that got evacuated?
- \* 9. Why did the radiation spread so widely?
- \* 10. From what other sources does radiation come from?

\* Good luck!