

INSTRUCTIONS

IN CASE OF RADIATION HAZARD

In this notice, you will find information in the event of a highly unlikely accident at the Loviisa power plant, causing a radiation hazard.

In case of an accident, it is important that you follow the instructions available in the radio and YLE teletext pages 112 and 867-868. Follow the instructions given by the authorities.

In case of a radiation hazard, the authorities will issue instructions to the population in regard to taking shelter indoors, taking iodine tablets, and evacuation. They strive at preventing immediate health hazards and restricting the impact of radiation as much as possible. Do not take iodine tablets or leave the area unless told to do so by the authorities.

This public notice, Instructions in case of a radiation hazard, is distributed to the residents in the emergency planning zone every three years.

IF YOU HEAR THE GENERAL HAZARD SIGNAL

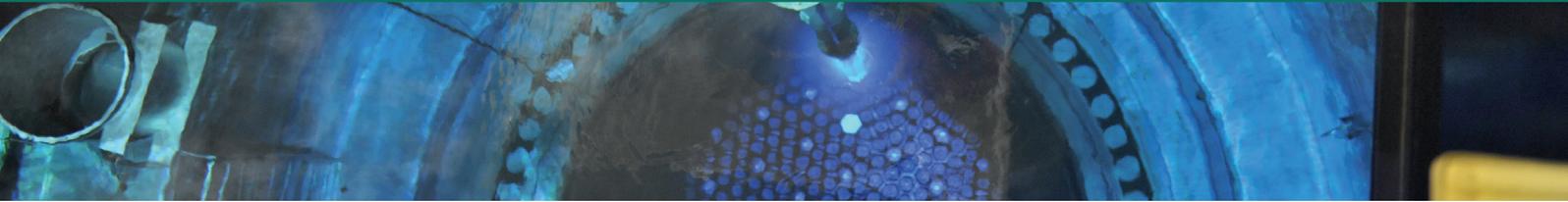
In case of a radiation hazard, the Emergency Response Authority informs the public with a general hazard signal and general hazard statement. The general hazard signal lasts for 60 seconds, with alternating seven-second rising and falling pitch.



1. Go indoors and stay there.
2. Shut the doors, windows and ventilation holes and turn off ventilation equipment.
3. Switch on the radio or YLE teletext. Keep calm and wait for instructions.
4. Avoid using the phone so that the lines stay open.
5. Do not leave the area without being told to do so by the authorities.

The 'all-clear' signal is a one-minute continuous even sound which notifies that the threat or hazard is over.

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RADIOACTIVITY AND RADIATION

There are small concentrations of radioactive substances in our daily living environment: the soil, construction materials, water, air and our bodies. This radiation and the background radiation from space is called natural radiation.

Some of the dosage to people is caused by the utilisation of radiation, such as using radiation for medical purposes.

THE HEALTH IMPACT OF RADIATION

Exposure to the ionising radiation of radioactive substances increases the risk of cancer. The risk of cancer is small even when the radiation dosage is large. The tumor only appears many years after the exposure and a specific tumor cannot usually be connected to any specific case of exposure.

Only those exposed to large radiation dosages within a short time period may have radiation symptoms soon after the exposure, such as nausea and diarrhea.

The damage to health from radiation can be roughly estimated on the basis of the radiation dosage. Radiation dosages are usually specified in millisieverts (mSv).

All unnecessary radiation must be avoided. The higher the radiation dosage to the person, the higher is the likelihood of health damage.

RADIATION HAZARD

The normal operations of the Loviisa power plant do not subject people or the environment to danger.

A radiation hazard may occur in a nuclear plant accident where radioactive substances are released to the air or seawater in an uncontrolled way.

This means that people may be exposed to radiation through radioactive substances travelling in the air, or substances that have landed in the environment, or substances that have ended up in the body through breathing contaminated air or eating contaminated food.

THE AVERAGE ANNUAL RADIATION DOSE FOR FINNS IS 3,2 mSv

- Radon in indoor air 50%
- External radiation from the soil 14%
- Cosmic radiation from space 10%
- Natural radioactivity in the body 10%
- Medical x-ray examinations 14%
- Medical radio isotope studies 1%
- Nuclear weapon testing and fallout from Chernobyl 1%



EXAMPLES OF RADIATION DOSES

Dose rate

- | | |
|----------|---|
| 0.01 mSv | Dose received by a patient having his/her teeth X-rayed |
| 0.1 mSv | Dose received by a patient having his/her lungs X-rayed |
| 2 mSv | The annual dose of cosmic radiation received by a person working in an aeroplane |
| 3.2 mSv | The average annual radiation dose for Finns caused by indoor radon, X-ray examinations, etc. |
| 20 mSv | The highest permitted dose for a radiation worker over a period of a year |
| 1000 mSv | The dose which may cause symptoms of a radiation sickness (e.g. tiredness and nausea) if received within 24 hours |
| 6000 mSv | A dose that when received within under 24 hours causes radiation sickness and can be fatal |

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THE AUTHORITIES RUN THE OPERATIONS IN DANGEROUS SITUATIONS

The safety of the nuclear plant and the radiation status of the environment is monitored on a continuous basis.

In the case of a radiation hazard, the rescue authorities will communicate about the hazard and issue instructions to the population in regard to taking shelter indoors, taking iodine tablets, and evacuation. The authorities also give instructions for protecting agricultural production and fodder so that products obtained from animals will not be contaminated.

The purpose of rescue operations is to prevent immediate health hazards and to mitigate the radiation impact.

STAY INDOORS

Residential buildings provide good protection in case of a radiation hazard. Try to seal the space as well as possible. Shut the doors, windows and ventilation holes. Seal all gaps with plastic film, tape etc. Switch off the ventilation. This way, you will reduce the amount of radioactive particles and gases permeating indoors. Protect food supplies in dustproof bags or containers, for example plastic bags. Refrigerator, freezer and dustproof packing protect food supplies from radioactive dust.

Thick walls and a thick ceiling damp radiation, which means that the protection is the best in the building's centre section or basement. Avoid staying in rooms with large windows.

Protection is obtained indoors for a maximum of two days. Even when apartments are sealed, some radioactive material may still permeate inside. Once the radioactive cloud has passed, carefully ventilate indoor spaces and wipe the surfaces.

If it is absolutely necessary to go outdoors, wear a respirator (e.g. a scarf) and put on clothing, such as rain clothing, which covers the skin as extensively as possible and is easy to clean. When you return indoors, leave outdoor clothing in the hallway and carefully wash yourself. This will help prevent the radioactive substances from reaching the skin and indoor spaces.

If you are on a farm, move the cattle indoors and feed them clean fodder so that products obtained from animals, such as milk, are not contaminated. Reserve enough fodder for cattle for several days. Protect the fodder stock against fallout.

IODINE TABLETS

Radioactive iodine may be released into the outdoor

air in a reactor accident. Protection against radioactive iodine is obtained by taking iodine tablets which prevent accumulation of radioactive iodine in the thyroid. Taking iodine tablets is particularly important for children and pregnant women because the thyroids of children and fetuses are more sensitive than those of adults.

Do not take iodine tablets unless the authorities recommend it. If you take the tablets too early or too late, their effect is not optimal.

Iodine tablets are available for purchase at pharmacies. You should keep them in stock to be on the safe side.

Do not go outdoors to obtain iodine tablets if the general hazard signal has been sounded, or the authorities have otherwise told you to stay indoors. When you obtain protection by staying indoors, the amount of iodine accumulated in the body through breathing is also reduced substantially.

LISTEN TO THE RADIO OR TELEVISION

Follow the instructions on the radio and on television. The instructions are available also on Yle teletext pages 112 and 867-868.

DO NOT USE THE PHONE

Avoid using the phone during a radiation hazard. Any extra load on the mobile network may block all calls, which may cause problems to rescue operations.

EVACUATION

If the authorities consider that staying indoors is not protective enough, the population is ordered to leave the hazard area temporarily. Only take essential equipment such as medicines, toiletries, and wallet with you. Switch off the ventilation. Otherwise, you can leave your apartment as if you were going on a long journey. If you are on a farm, take the cattle indoors and follow the instructions issued by the authorities.

Evacuation will take place before the radioactive cloud reaches the area provided that there is enough time. If not, evacuation will only take place once the cloud has passed the area. When the cloud is near your location, take shelter indoors.

The authorities will issue more detailed evacuation instructions via radio and television. In the evacuation, most of the population leaves the hazard area in private vehicles. When necessary, the rescue operations administration will also provide bus transport. The transport arrangements, destination and possible assembly locations will be decided according to the situation.

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The protective zone is an area which extends to 5 kilometres from the nuclear plant and which is subject to land use limitations.

The preparedness zone is an area which extends to 20 kilometres from the nuclear plant and for which the authorities must draw up an external rescue plan according to the Act on Rescue Services.

PREPAREDNESS AND RESCUE OPERATIONS

Under the leadership of the rescue department, governmental and municipal authorities, and businesses participate in rescue operations planning and respond to accidents and emergencies so that rescue operations can be implemented effectively.

In case of a radiation hazard the following parties contribute to response: the rescue department, the police, the food authorities, the health and social authorities, The Finnish Border Guard, the Ministry of the Interior, the agricultural authorities, the Finnish Radiation Authority STUK and the Finnish Broadcasting Company. Other parties can also be ordered to help, such as transport and accommodation companies.

The Eastern-Uusimaa Fire and Rescue Service has drawn up an external rescue plan for Loviisa power plant in case of a radiation accident. The rescue authorities and other parties organise exercises which cover the operations described in

the external rescue plan, continuously maintaining their preparedness.

THE INSTRUCTIONS ARE DISTRIBUTED TO THE RESIDENTS OF THE PREPAREDNESS ZONE

According to the regulations issued by the Radiation and Nuclear Safety Authority STUK and the decree by the Ministry of the Interior, the rescue authorities, STUK and the nuclear plant shall provide in cooperation the residents of the emergency planning zone with instructions in case of a radiation hazard at three-year intervals.

These instructions have been distributed to households and workplaces in the Loviisa and Pyhtää area. Holiday dwelling owners have received it to their permanent address, and the owner is requested to take the instructions with them to the holiday dwelling.

ADDITIONAL INFORMATION:

Eastern-Uusimaa Fire and Rescue Service, tel. 020 111 1400, www.iupela.fi/en

Fortum, Loviisa power plant, www.fortum.com/loviisa

Radiation and Nuclear Safety Authority STUK, tel. 09 759 881, www.stuk.fi/en

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