

STUK has given the ministry a report on how nuclear power plants are prepared for exceptional natural phenomena

16/05/2011

No new threat factors or deficiencies that would require immediate safety improvements have appeared in Finnish nuclear power plants, STUK states in its investigation, carried out as a result of the accident in Fukushima.

Due to the nuclear power plant accident in Fukushima, Japan, the Ministry of Employment and the Economy (TEM) requested from the Radiation and Nuclear Safety Authority (STUK) an investigation into how Finnish nuclear power plants are prepared for the effects of floods and other extreme natural phenomena on the functionality of plants and how plants have ensured the availability of electricity during various fault and malfunction situations.

The natural phenomena which caused the Fukushima accident, a very powerful earthquake and extremely high tsunami, are not considered possible in Finland. Nevertheless, the accident revealed factors which must also be taken into account here.

STUK states that although there is no need for immediate safety improvements, there is reason for power companies to continue investigations into preparation for certain exceptional natural conditions. Investigations and plans for safety improvements can be compiled in connection with and on the same schedule as stress tests carried out at the request of the EU Council of Ministers during this year.

Companies shall carry out additional investigations into the effects of e.g. an extremely unlikely, possibly even physically impossible high flood in Loviisa. At the same time, companies will investigate how some of the plants' systems would function during earthquakes which would be more intense than any earthquake considered possible in Finland until now. Such sub-zero and high temperatures so unlikely that they have not previously been taken into consideration will now be included. Companies will also investigate the functionality of power plants' systems which ensure the electricity supply needed during accident situations.

STUK will take into account the experience gained from the Fukushima accident and the results of the investigations when developing nuclear safety rules. The experience will also be taken into consideration when emphasising projects in the Finnish Research Programme on Nuclear Power Plant Safety SAFIR2014. As yet there has been no need for drastic changes.

In its statement, STUK states that it has been possible to efficiently improve the safety of Finnish nuclear power plants during their use and that power companies have long-term programs for the management of ageing plants, ensuring the planned service life, modernising the plants and improving safety.

Power companies' own investigations as the basis of STUK's investigation

The report given to TEM by STUK on Monday 16.5.2011 is based on investigations carried out by Finnish power companies (Fennovoima, Fortum and TVO), which STUK's own experts have evaluated. External experts have also been consulted during the evaluation.

STUK will deliver a more comprehensive report on the investigation now given by the end of June. The report is not a public document because it contains information which could be used to plan deliberate damage to a plant.

Nuclear power plant safety under continuous evaluation

A periodic safety evaluation is carried out around every ten years on nuclear power plants in use in Finland, either in connection with licence processing or as a separate interim assessment.

STUK last carried out a safety evaluation on the Olkiluoto 1 and 2 plant units in connection with licence renewal in 1997 and an interim assessment in 2008. The safety evaluation of Loviisa 1 and 2 plant units was last carried out in 2007 in connection with licence renewal.

In 2009 STUK carried out preliminary safety evaluations on new nuclear power plant units presented in Fortum's, TVO's and Fennovoima's policy statement application. The evaluation also dealt with the suitability of plant locations in Håstholmen in Loviisa, Olkiluoto in Eurajoki, Karsikko in Simo and Hanhikivi in Pyhäjoki.

In plant location specific evaluations, each plant location was examined for weather phenomena considered possible, extreme sea level values taking into account climate change, ice conditions, seismic conditions and other external threats, among others oil transportation accidents.

Additional information (after the press conference that starts at 3.30 pm):
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