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## **Opinion regarding the revised environment impact statement programme for the planned Fennovoima nuclear power plant at Pyhäjoki**

MKG, the Swedish NGO Office for Nuclear Waste Review, would like to make the following comments regarding the revised environmental impact assessment programme for a nuclear power plant at Pyhäjoki as presented by the company Fennovoima:

1. Before a decision to build a new nuclear reactor is taken there has to be an assurance that the nuclear waste from the reactor can be managed in a long-term environmentally acceptable and a sustainable way.

Special care has to be taken in the assessment of the plans to manage the spent nuclear fuel from the reactor. A decision to build a new reactor should in the 21st century not be taken before there is an assurance that there is an acceptable method and site available for final disposal of the spent nuclear fuel. To do so was seen as acceptable in 1960 with the limited understanding at that time of the difficulties involved. Today we know different.

MKG has in the presented EIA programme found very little information on how Fennovoima intends to manage spent nuclear fuel and other nuclear waste. The environmentally long-term safe management and disposal of nuclear waste is the biggest challenge when planning for the use of nuclear power. It is clearly unacceptable that the project is not better prepared for this challenge.

Fennovoima has so far not been able to get an agreement to be allowed to join the ongoing Posiva spent fuel disposal project in Olkiluoto. But even if the company succeeds to do this it is uncertain whether Posiva can proceed with the construction of a repository for spent nuclear fuel.

2. The Finnish plan for final disposal of spent nuclear fuel that is proposed by Posiva is a copy of the Swedish plans developed by the Swedish nuclear industry. An application for a license by the Swedish nuclear waste company SKB to build a repository using the KBS method at the Forsmark nuclear power plant was submitted in March 2011. The application is under parallel review by the Swedish regulator, the Swedish Radiation Safety Authority and the Swedish Land and Environmental Court. The review is still in the phase where an evaluation is made what additional material has to be added to the application in order to make a final review possible.

So far the regulator, the Swedish Council for Nuclear Waste, a number of other reviewing bodies, including MKG, have found a very large number of issues that are not covered well in the application. Among the most important is the lacking scientific evidence that the artificial barriers of copper and clay will behave as predicted in the repository environment. Other issues concern the coverage of alternative methods and sites, how the repository can withstand the forces of repeated ice ages, risks for intentional intrusion into the repository, and the threats to the very sensitive nature in the Forsmark area.

There are therefore still difficult questions to answer regarding the long-term environmental safety of the method. It is not at all certain that the application will be approved.

3. The Finnish program for disposal of spent nuclear fuel as presented by Posiva is totally dependent on a positive development of the Swedish programme for spent fuel management. The uncertainties in the development of the Swedish nuclear waste programme need to be taken into account in the environmental impact assessment for a nuclear reactor in Pyhäjoki.

4. It is the opinion of MKG that the plan presented in the environmental impact assessment programme for management and final disposal of short-lived radioactive waste does not represent the best available technology. A relatively shallow repository at a coastal site will not have an acceptable safety case. An optimal solution for short-lived radioactive waste would be a deeper repository in a recharge area for regional groundwater flow at an inland location.

This comment is also submitted to the Swedish contact point for consultation according to the Esboo Convention.

Best regards,

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