



Ministry of the Environment
PO Box 35
FIN-00023 Government
Finland

TEL +49 3018 305-8005

FAX +49 3018 305-8009

poststelle@bfe.bund.de
poststelle@bfe.de-mail.de
www.bfe.bund.de

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Transnational environmental impact assessment for a planned spent nuclear fuel encapsulation plant and final disposal Facility in Finland

Your letter to the office for the Espoo Convention of 22 June 2016

To whom it may concern,

Thank you for requesting comments regarding the planned Finnish repository for spent nuclear fuel from the nuclear power plant Hanhiviki 1 within the framework of the corresponding transnational environmental impact assignment.

I hereby would like to comment on this planned project based on the documents as listed below:

- Fennovoima (2016): Umweltverträglichkeitsprogramm der Verkapselungsanlage für verbrauchte Kernbrennstoffe und des Endlagers – Internationale Anhörung, Zusammenfassung.- (19 pages in German)
- Fennovoima (2016): Environmental Impact Assessment Program for Spent Nuclear Fuel Encapsulation Plant and Final Disposal Facility.- June 2016, Supplement to the Construction License Application for the Hanhikivi 1 Nuclear Power Plant. (132 pages in English)

In regard to the project design as specified in the documents listed above,





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I would like to make the following remarks:

The given level of detail of the project design as specified in the documents mentioned above is appropriate for the transnational participation procedure within the scoping phase.

Due to the early planning stage, the Environmental Impact Assessment Program of the project solely contains the assessment areas and the methods used for the assessment. Given this level of information, potential environmental impacts of the planned facility on the environment potentially resulting also in a severe impact on the territory of Germany cannot be fully identified. This concerns environmental impacts caused by ionizing radiation in particular.

At this planning stage and in regard to the given information, potential environmental impacts of a spent nuclear fuel encapsulation plant and final disposal facility in Finland can only be identified in general. A distinction between the two possible sites of the facility based on their potential environmental impacts on the territory of Germany cannot be made at this point.

In order to identify and assess potential transnational environmental impacts of the planned facility with special regard to the territory of Germany further reports (e. g. site reports, risk assessments in regard to postulated accidents) are necessary. Based on this information a complete risk analysis of potential environmental impacts of the planned project on the territory of Germany could be conducted.

From the point of view of a nation within a 900 km distance of one potential facility and with special consideration of the matters of radiation protection I suggest the following information to be included in the further EIA program or, respectively, in the announced EIA report. In order to thoroughly identify and assess potential environmental impacts of the planned facility on





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the territory of Germany, solid and comprehensible information are necessary

For an assessment of potential impacts caused by a spent nuclear fuel encapsulation plant and final disposal Facility as planned by the nuclear power plant operator Fennovoima Oy on the Federal Republic of Germany I therefore hereby strongly recommend the forthcoming EIA report to consider the following aspects:

1. The documents as listed above do not comprise a sufficient inventory of the waste planned to be emplaced in the facility. A detailed inventory of the waste including a nuclide inventory and a description or simulation of potential diffusion or transportation paths of radionuclides is essential to conduct a risk analysis of potential radiological impacts of the planned facility on the environment in general and the territory of Germany in particular.
A detailed characterization and comprehensive declaration of the waste produced as estimated during the operation and decommissioning of the planned nuclear power plant would be helpful. Uncertainties within the projection of the estimated waste inventory should be covered through conservative assessments.
2. The documents as listed above give no further information regarding the requirements for operational radiation protection or security systems of the planned facility.
3. The documents as listed above do not provide an in-depth risk assessment of postulated accidents, containing the probability of the respective postulated accidents and their potential transnational impacts. If added, the methods used for the risk assessment need to be comprehensible.





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Detailed risk assessments of postulated accidents resulting in the release of radionuclides in regard to

- a. all ways of transport between the nuclear power plant, the conditioning plant and the encapsulation plant and final disposal facility,
- b. all plans for the construction, operation and decommissioning of the conditioning plant,
- c. of construction, operation and decommissioning of the encapsulation plant and final disposal Facility

are of interest.

4. The Environmental Impact Assessment Program of the project contains the assessment areas covered in the program, including Soil, bedrock, groundwater, flora, fauna and inshore water systems among others. The Baltic Sea is not listed as assessment area and therefore potential impacts on its water, flora and fauna are not covered. In regard to the geographical proximity of one potential location of the planned encapsulation plant and final disposal Facility to the Baltic Sea it should be added as an assessment area.
5. The potential site in Pyhäjoki is located in close proximity of the planned nuclear power plant site and has been designated for further consideration as repository site based on geological explorations. The criteria used to distinguish the site in Pyhäjoki from other potentially suitable sites should be more transparent in further programs.



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6. Regarding the assessment area "Combined impacts with other projects" it is stated that in regard to those sites designated for consideration for the planned spent nuclear fuel encapsulation plant and final disposal Facility no other projects relevant for a combined impact are planned within close proximity.

As the area of Eurajoki has been selected as a potential site for a planned spent nuclear fuel encapsulation plant and final disposal Facility both by the nuclear power plant operators Fennovoima Oy and Posiva Oy, further EIA reports should be assessing combined impacts between both planned facilities, if both Fennovoima Oy and Posiva Oy continue to consider the area of Eurajoki as a potential site for planned spent nuclear fuel encapsulation plant and final disposal facility.

Yours sincerely,

On behalf of

