SWEDISH ENVIRONMENTAL PROTECTION AGENCY

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2016-02-04 Case number:
NV-08364-15

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Comments from Sweden concerning the notification for the construction and operation of a nuclear power plant in Poland

Sweden has received a notification from the General Director for Environmental Protection regarding the Construction and operation of the first Nuclear Power Plant in Poland with a capacity of up to 3,750 MWe in the area of municipalities: Choczewo or Gniewino and Krokowa in Pomorskie Voivodeship.

The Swedish Environmental Protection Agency (SEPA) decided that Sweden should participate in a transboundary consultation. Therefore SEPA consulted relevant authorities and organizations on the 15th of December 2015, submitting the Polish notification and information about the procedure for environmental impact assessment (EIA). The consultation process lasted until the 29th of January 2016. The consultation material including the Environmental Scoping Report has been available on SEPAs web page.

Comments received

Answers arrived from fourteen authorities and three non-governmental organizations, see enclosures. Here below the comments are summarized.

The County Administrative Board of Kalmar *(Länsstyrelsen Kalmar)* has no objections regarding the proposed focus and scope of the EIA, with respect to the description of the cross-border implications. The County Administrative Board, however, emphasizes the importance of carefully describing site-specific risks regarding a new nuclear plant and climate changes such as rising sea levels, flooding etc., for the different locations that will be presented in the EIA documentation.

The County Administrative Board of Skåne *(Länsstyrelsen Skåne)* means that a future EIA should be strengthened in several areas and leaves detailed comments which can be summarized in the following way. The issue of waste management needs to be developed so that the opportunities and issues are clarified for both management and disposal as well as for transport routes and security. There is also a need for a more comprehensive description of security and protection zones for major accidents which involve information systems to inform about the accident to neighboring countries. The transboundary environmental impact needs to be further described and the worst case scenarios presented in the EIA. Furthermore the County Administrative Board of Skåne would like to stress the importance of an evaluation and motivation of this project in relation to Directive 2009/28/EC on the promotion of the use of energy from renewable sources.

The Geological Survey of Sweden *(SGU)* deems that some additional information is necessary in the geology section 12.3. This concerns the location of the proposed sites for the nuclear plant in relation to existing faults and paleoseismicity. In particular, there is a lack of description of recent seismicity in the region. The latter is important with the earthquakes of magnitudes Mw 5.0 and 5.2 in Kaliningrad in 2004 in mind. A seismic hazard is primarily a safety issue, but since a seismic event can cause damage to a nuclear installation it might have important environmental consequences. The IAEA report "Seismic Hazards in Site Evaluation for Nuclear Installations" (Specific Safety Guide No. SSG-9) provides recommendations and guidance on the evaluation of seismic hazards at nuclear installations.

The National Board of Housing, Building and Planning *(Boverket)* notes that that both the number of reactors and choice of technology have not been determined. Therefore the authority believes that the consequences of the worst case scenarios for Sweden with the least secure technology should be analyzed and compared with the safest technology. The differences in costs between the choices of technology should also be reported and compared as well as what a nuclear clean up in Sweden may cost in the case of the worst possible accident. If the safest technology is not chosen, the reasons for this should be clearly explained. Furthermore the authority considers that the management of nuclear waste is described too summarily. The method for management of nuclear waste should be developed and the consequences described. It should be made clear if Poland intends to take care of its nuclear waste itself or not. The risk of transmission of radioactivity to the Baltic ecosystem should be described as well as how risks differ with different choices of temporary storage or repository.

The Swedish Board of Agriculture *(Jordbruksverket)* considers that the EIA should include an analysis regarding the discharge of cooling water in an open cooling system. Discharge of cooling water can have a wide range of both physical and biological effects on the aquatic environment and fishery. The analysis should estimate the magnitude of the effects. Additionally the EIA needs to further consider the impact of major accident scenarios. The assessment should be supplemented to illustrate how agriculture both in Poland and in neighboring countries may be affected by different types of nuclear accidents and different weather conditions – both typical and extreme conditions –

involving the release of different radionuclides to the environment. Furthermore, the transfer of the released radionuclides to various crops should be estimated in order to assess if the levels of different radionuclides will exceed the EU limit values for marketed foodstuffs. This is important to investigate because the limit values are relatively low, which means that even a small release of radionuclides can have major consequences for agricultural production.

The Swedish Meteorological and Hydrological Institute *(SMHI)* considers that an impact assessment should be added in chapter 10.5 "Possible transboundary environmental impact" i.e. an analysis based on an accident in the Power Plant. The analyzes should include dispersion model runs for short- and long-range transport based on different weather scenarios.

The Swedish National Council for Nuclear Waste *(Kärnavfallsrådet)* stresses that in order to meet the requirements of the EC Directives on EIA[1] and the Directive establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste[2] a thorough account of the possible environmental impacts resulting management of the spent fuel and nuclear waste resulting from operation and decommissioning is required. The council means that the Environmental Impact Statement of the new reactor should contain a proposal for how the waste and spent fuel resulting from reactor operations will be handled. This applies to both the management and disposal of spent nuclear fuel, operational waste and waste resulting from the decommissioning. Furthermore, responsibilities during the various stages of processing, including the description of the impact of possible radioactive emissions through long-distance transport should be described.

The Swedish Radiation Safety Authority *(SSM)* strongly recommends that the development of a nuclear power programme in Poland including the final disposal of radioactive waste and spent nuclear fuel is treated as an integrated system and that this is described in the EIA. It is also important that all stages of the plant life cycle are included in the EIA (location, construction, operation and decommissioning). SSM stresses also that it must be shown that the Best Available Technology (BAT) is used not only in order to minimize the discharges of radioactive substances from the reactor both in normal operation and in emergency situations. Also the choice of reactor type has to include considerations on BAT, taking into account the discharges to the environment as well as discharges and the resulting doses to members of the public in neighboring countries. The Helsinki Convention (HELCOM) very clearly points out that BAT shall be used in relation to discharges of radionuclides in to the Baltic Sea. SSM considers it is of utter importance that the impact on the environment and the impact on the people of Sweden are fully described in the EIA. This includes normal operation as well as emergency situations, including accidents with very low probability (10^{-6} per year). The system for emergency preparedness should also be described.

[1] Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment

[2] Council Directive 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste

The following authorities leave no comments on the Environmental Scoping Report:

- ***The County Administrative Board of Blekinge*** *(Länsstyrelsen Blekinge län)*
- ***The Swedish Civil Contingencies Agency*** *(MSB)*
- ***The Swedish Agency for Marine and Water Management*** *(Havs- och Vattenmyndigheten)*
- ***The Swedish National Food Agency*** *(Livsmedelsverket)*
- ***The Swedish Forest Agency*** *(Skogsstyrelsen)*
- ***The Swedish Energy Agency*** *(Energimyndigheten)*

Greenpeace leaves an extensive document with comments on the scoping report and the EIA procedure. The organization recommends that a new and more detailed scoping report needs to be prepared and that the public should be given full opportunities for participation before the scoping report can form the basis of the final EIA. Greenpeace´s comments can briefly be summarized in the following way:

- public participation is necessary during the scoping phase
- the justification in the scoping report is extremely poor, lacks substantial information and contains distorted data, and for that reason should be reassessed
- the scoping report lacks essential information about the zero alternative and other alternatives to the project such as the development of renewable energy and energy efficiency
- the scoping report excludes relevant accident scenarios which could have major local or regional impact
- the scoping report does not adequately include the full aspects of radioactive waste management and associated projects such as transmission lines and transformer stations
- the scoping report has too limited assessment of which nature areas need to be considered as protected

The Swedish NGO Office for Nuclear Waste Review *(MKG)* means that it is not acceptable that the environmental scoping report leaves out management and final disposal of the radioactive waste produced by the power plant. The organization deems that decision to build a nuclear reactor in a country cannot be taken unless there is an assurance that the nuclear waste from the reactor can be managed in an environmental and sustainable way in the long term. Other countries have found it very difficult to site and make safe facilities for radioactive waste management and disposal.

The Swedish Nuclear Society *(SKS)* propose that the consequences of the zero alternative should be presented in greater detail. The organization recommend that the assessment of environmental impact of non-execution of the project should cover the positive environmental and health impacts effects present when displacing present coal production in the polish electrical system. SKS means that the construction of the polish nuclear reactors does not only reduce

greenhouse gases but directly improves human health by reducing particulate and heavy-metal air-pollution from coal burning plants.

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cc

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Enclosures

Statements from:

- The County Administrative Board of Kalmar (Länsstyrelsen Kalmar län)
- The County Administrative Board of Skåne (Länsstyrelsen Skåne)
- The Geological Survey of Sweden (SGU)
- The National Board of Housing, Building and Planning (Boverket)
- The Swedish Board of Agriculture (Jordbruksverket)
- The Swedish Meteorological and Hydrological Institute (SMHI)
- The Swedish National Council for Nuclear Waste (Kärnavfallsrådet)
- The Swedish Radiation Safety Authority (SSM)
- Greenpeace
- The Swedish NGO Office for Nuclear Waste Review (MKG)
- The Swedish Nuclear Society (SKS)