



Öppen

Rapport

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# **Interim storage facility, encapsulation plant and final repository for spent nuclear fuel**

## **Transboundary environmental impact**

### **Account of consultation in accordance with the Espoo Convention**

#### **Part 1 – 2008**

**Svensk Kärnbränslehantering AB**

Box 250, 101 24 Stockholm

Visitors' address Blekholmstorget 30

Telephone 08-459 84 00 Fax 08-579 386 10

[www.skb.se](http://www.skb.se)

556175-2014 Registered office Stockholm

## Reading instructions

This document deals with the consultation held during the first half of 2008 with the countries around the Baltic Sea regarding Sweden's plans to create an encapsulation plant and a final repository for final disposal of the spent nuclear fuel from the Swedish nuclear reactors.

The document is available in its entirety in Swedish and in English. Statements received are in four different languages. The statements are attached in the original language in both the Swedish and the English version. Both versions are available on SKB's website. The English version has been sent for information to all countries around the Baltic Sea.

## Summary

Swedish Nuclear Fuel and Waste Management Co. (SKB) has been assigned with managing and disposing of the waste from the Swedish nuclear power plants. For its final management and disposal of the spent nuclear fuel SKB is planning to build an encapsulation plant where the spent nuclear fuel will be encapsulated in copper, and a final repository at a depth of about 500 metres in the bedrock.

Through the Swedish Environmental Protection Agency (EPA), SKB has carried out the first part of a written consultation with the countries around the Baltic Sea in accordance with the Espoo Convention. In December 2005 the EPA submitted a notification and an enquiry as to whether the following countries were interested in taking part in consultations regarding Sweden's plans for an encapsulation plant and a final repository: Denmark, Estonia, Finland, Latvia, Lithuania, Poland, Russia and Germany.

Finland, Lithuania, Poland, Russia and Germany replied that they wanted to take part in the consultation. The other countries (Denmark, Estonia and Latvia) did not want to take part in the consultation, but wanted to be kept informed.

In February 2008 the Swedish EPA sent documentation for written consultation to the countries that had declared interest to participate (Finland, Lithuania, Poland, Russia and Germany). The documentation focused on aspects that may result in transboundary environmental impact in conjunction with construction and operation and after the sealing of a final repository for spent nuclear fuel. The documentation included the SR-Can safety assessment (Can as in canister), which provides an initial evaluation of the long-term safety of a final repository in Forsmark (Östhammar municipality) and Laxemar (Oskarshamn municipality). The same documentation was sent for information to Denmark, Latvia and Estonia.

The received opinions mainly concerned the risk for and consequences of transboundary dissemination of radioactive substances, in the short term (e.g. in conjunction with accidents) and in the long term (after sealing of the repository). A desire for a consultation meeting was expressed.

In November 2006 SKB submitted an application in accordance with the Nuclear Activities Act to build and own an encapsulation plant for spent nuclear fuel and to operate it integrated with the interim storage facility for spent nuclear fuel (Clab) in Oskarshamn.

In June 2009 SKB selected Forsmark in Östhammars municipality for the location of the final repository for spent nuclear fuel. SKB is planning to make an application in mid-2010 for permits in accordance with the Swedish Environmental Code for the encapsulation plant and the interim storage facility in Oskarshamn municipality and for the final repository in Östhammars municipality. SKB is simultaneously applying for permits in accordance with the Nuclear Activities Act to build and run the final repository.

A joint environmental impact statement (EIS) will be attached to the applications. In connection with the applications a long-term safety assessment of the final repository (SR-Site) will be submitted. The intention is that SR-Site and extracts from the EIS attached to the applications will constitute the main documentation for the second and concluding part of the consultations with the Baltic Sea countries, the start of which is planned for the latter part of 2010. A meeting may be arranged in conjunction with this consultation. This would then probably take place during 2011.

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# 1 Background

If an activity is likely to have a significant environmental impact in another country, the Swedish Environmental Protection Agency (EPA) shall, according to the Convention on Environmental Impact Assessment in a Transboundary Context, known as the Espoo (EIA) Convention, “inform the competent authority in that country about the planned activity or measure and give the country concerned and the citizens who are affected the opportunity to take part in a consultation procedure concerning the application and the environmental impact assessment” (Environmental Code Chap. 6 Sec. 6).

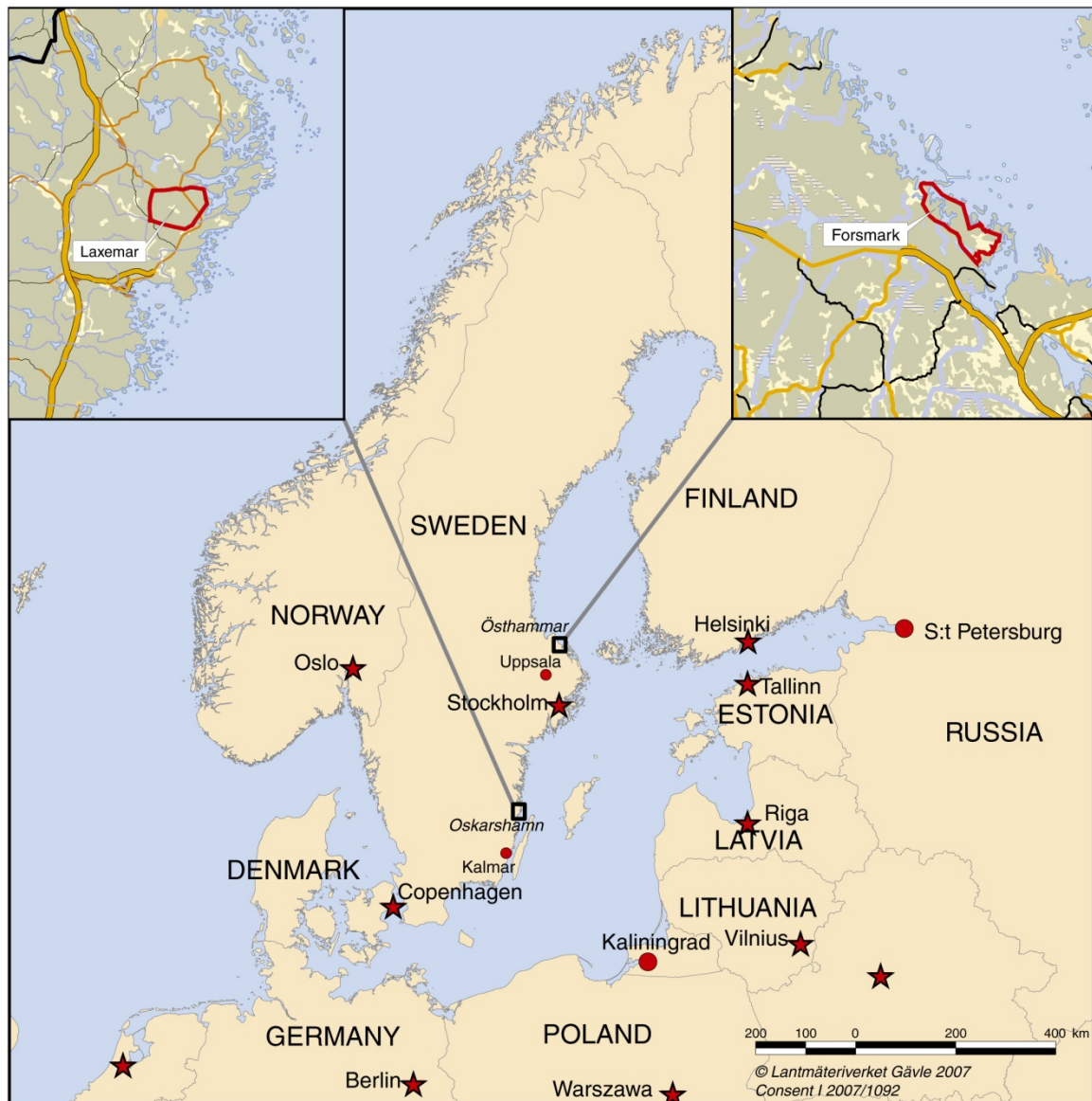
Swedish Nuclear Fuel and Waste Management Co. (SKB) has been assigned with managing and disposing of the waste from the Swedish nuclear power plants. For its final management and disposal of the spent nuclear fuel SKB is planning to build an encapsulation plant where the spent nuclear fuel will be encapsulated in copper, and a final repository at a depth of about 500 metres in the bedrock.

In November 2006 SKB submitted an application in accordance with the Nuclear Activities Act to build and own an encapsulation plant for spent nuclear fuel and to operate it integrated with the interim storage facility for spent nuclear fuel (Clab) in Oskarshamn.

Investigations have been carried out in Forsmark (Östhammar municipality) and Laxemar (Oskarshamn municipality) regarding the possibility to locate the final repository. Both Laxemar and Forsmark are located on the Baltic Sea coast in southern Sweden. The only possible activities or measures that could affect other countries are if radionuclides are released from the final repository to the surrounding groundwater and to the Baltic Sea. During 2008 SKB thus carried out the first part of the written consultation with the countries around the Baltic Sea.

In June 2009 SKB selected Forsmark in Östhammars municipality for the location of the final repository for spent nuclear fuel. SKB is planning to make an application in mid-2010 for permits in accordance with the Swedish Environmental Code for the encapsulation plant and the interim storage facility in Oskarshamn municipality and for the final repository in Östhammars municipality. SKB is simultaneously applying for permits in accordance with the Nuclear Activities Act to build and run the final repository.

A joint environmental impact statement (EIS) will be attached to the applications. In connection with the applications a long-term safety assessment of the final repository (SR-Site) will be submitted. The intention is that SR-Site and extracts from the EIS attached to the applications will constitute the main documentation for the second and concluding part of the consultations with the Baltic Sea countries, the start of which is planned for the latter part of 2010. A meeting may be arranged in conjunction with this consultation. This would then probably take place during 2011.



**Figure 1.** Two sites – Forsmark in Östhammar Municipality and Simpevarp/Laxemar in Oskarshamn Municipality – have been investigated for siting of the final repository. In June 2009 SKB decided to select Forsmark.

## 2 Enquiry regarding participation in consultation

In December 2005 (Doc. No. 121-6695-05, dated 13.12.2005) the Swedish EPA submitted a notification and an enquiry as to whether the following countries were interested in taking part in consultations regarding Sweden's plans for an encapsulation plant and a final repository: Denmark, Estonia, Finland, Latvia, Lithuania, Poland, Russia and Germany, see Appendix 1. A background material was enclosed, "Encapsulation plant and final repository for spent nuclear fuel", where activities, environmental impact, etc. of the proposed facilities were described.

Finland, Lithuania, Russia, Poland and Germany replied that they wanted to take part in the consultation. The other countries (Denmark, Estonia and Latvia) did not want to take part, but wished to be kept informed.

### 3 Background information for the consultation

In February 2008 (Doc. No. 121-6695-05, dated 11.02.2008), see Appendix 2, the Swedish EPA sent the following documentation for consultation with the countries that had declared interest to participate in the consultation (Finland, Lithuania, Poland, Russia and Germany):

- Proposed table of contents in the coming EIS document for the final disposal system.
- Updated version of the document 'Encapsulation plant and final repository for spent nuclear fuel'
- SR-Can safety assessment
- Extract from the SR-Can safety assessment

The consultation documentation focused on possible transboundary environmental impact in conjunction with building and operation and after the sealing of a final repository for spent nuclear fuel. It is only if radionuclides were to spread from the final repository to the surrounding groundwater and to the Baltic Sea that other countries could be affected. The documentation included the SR-Can (as in canister) safety assessment, which provides an initial evaluation of the long-term safety of a final repository for spent nuclear fuel in Forsmark and Laxemar.

The material was in English and was distributed on CD. The material was also available through SKB's website during the consultation. At Finland's request parts of the consultation documentation were translated into Finnish and Swedish.

The countries that had expressed that they did not want to take part in the consultation, but wanted to be kept informed, received the same material. The registration number of the covering letter is Doc. No. 121-6695-05, and it is dated 11.02.2008, see **Appendix 3**.

The consultation was concluded in June 2008. Replies were received from the countries that had expressed that they wished to take part in the consultation, apart from Russia.

## 4 Received statements and SKB's response

Statements were received from Finland, Lithuania, Poland and Germany. Table 4.1 provides a brief compilation of the contents.

**Table 4.1 Brief compilation of received statements.**

<b>Finland</b>	The EIS should deal with possible transboundary environmental impact. (Reply in Swedish, Finnish and English)	
<b>Lithuania</b>	The EIS should deal with the effect in the Baltic Sea and long-distance transportation of radionuclides. (Reply in English)	Interested in a meeting.
<b>Poland</b>	Generally interested. (Reply in Polish)	Possibly interested in a meeting
<b>Russia</b>	No reply.	
<b>Germany</b>	Questions related to transboundary environmental impact. (Reply in English)	Interested in a meeting.

Statements and SKB's response/comments are to be found below. The replies are found in the original language in **Appendix 4** and translated into English in **Appendix 5**.

### 4.1 Finland

The consultation within Finland was handled by the Ministry of the Environment. Referral statements received and the Ministry of the Environment's summary as well as Finland's statement in its entirety in the original languages (Finnish, Swedish and English) is available in **Appendix 4A** and translated to English in **Appendix 5A**.

**The Ministry of the Environment received seven statements. These came from: The Ministry of Employment and the Economy, the Ministry of the Interior, the Radiation and Nuclear Safety Authority, Southwest Finland Regional Environment Centre, the State Provincial Office of Western Finland and the Government of Åland. The Ministry for Foreign Affairs stated that they do not have any viewpoints.**

**The Ministry of the Environment made a compilation based on the received statements with reference to the Ministry of the Environment's own opinions. The compilation states that Finland wishes to stress the importance of thorough analyses of the risk and safety issues, and want a full and clear description of them in the environmental impact statement (EIS). It is important that the results of the analyses show what transboundary environmental impact the project may entail.**

**The Ministry of the Environment requests that other factors presented will be given sufficient consideration. The Ministry of the Interior states that the EIS should include an evaluation of possible effects on the emergency services' arrangements in the area and the possible regional risks of the project during both building and operation. The need for protection of the population and evacuation in the event of an accident and effects of the emergency services should also be evaluated. The Ministry of the Interior stresses the importance of close collaboration between the local emergency services and the project manager in these issues.**

**SKB's response:** The risk and safety issues, including the question of transboundary environmental impact, will be thoroughly analysed and described. Summarising results will be reproduced in the environmental impact statement (EIS), whilst the detailed analyses and descriptions will be reported in separate documents. An important document in this context is the SR-Site safety assessment, in which the final repository's long-term safety will be described.

With regard to radiological risk and safety issues during construction and operation, SKB will be preparing preliminary safety reports (PSAR) for the facility in question. In these we will analyse the extent to which the surroundings could be affected by disturbances or mishaps during operation of the encapsulation plant and the final repository.

Construction and operation of the encapsulation plant and the final repository are also associated with risks that are not only connected with radiation from spent nuclear fuel. Accidents of various kinds may occur. Work is in progress on investigating these so called non-radiological risks, describing the possible consequences and proposing preventive measures. SKB will also take this into consideration in the work on describing the environmental impact.

It can furthermore be stated that in Sweden it is the Radiation Safety Authority's task to protect people and the environment from the consequences of radiation accidents. The authority thus has a preparedness plan for dealing with events such as accidents when transporting radioactive material and nuclear accidents. As an expert in the field of radiation protection and nuclear technology the authority gives advice and offers recommendations, primarily to those in charge of handling the event or accident.

The Swedish preparedness plan comprises a network of authorities at all levels in the society. They have different areas of responsibility and roles, and in the event of accidents they will collaborate to best protect people and the environment against any unnecessary effects of radiation.

In Sweden it is the county administrative board in the county in question that is responsible for a programme for the emergency services in the event of an accident involving emission of radioactive substances from a nuclear facility, whether this is in Sweden or abroad. The county administrative board is responsible for the emergency services in the event of such an accident, and it appoints an emergency manager and sets up emergency management and the relevant staff. On the basis of documentation from various expert authorities the county administrative board decides on warnings, information and advice to the general public, and on measures to protect people, animals and the environment. The county administrative board decides on radiation measurements and decontamination. The county administrative board is also responsible for issuing alarms, distributing iodine tablets, evacuation and organising staff standby.

**SKB:n vastaus:** Riskit ja turvallisuuskysymykset, mukaan lukien kysymys rajat ylittävistä ympäristövaikutuksista, analysoidaan ja selvitetään perusteellisesti. Tulosten yhteenveto esitellään ympäristövaikutusten arviointiselostuksessa, YVA-asiakirjassa. Yksityiskohtaiset analyysit ja kuvaukset puolestaan selostetaan erillisissä asiakirjoissa. Yksi tärkeä asiakirja tässä yhteydessä on turvallisuusanalyysi SR-Site, jossa kerrotaan loppusijoituspaikan turvallisuudesta pitkällä aikavälillä.

Rakentamisen ja käytön aikaisten radiologisten riskien ja turvallisuuskysymysten osalta SKB laatii laitokselle alustavia turvallisuusselvityksiä (PSAR). Selvityksissä analysoidaan, missä määrin kapselointilaitoksen ja loppusijoituspaikan käytön aikana tapahtuvat häiriöt tai onnettomuudet vaikuttaisivat ympäristöön.

Kapselointilaitoksen ja loppusijoituspaikan rakentamiseen ja käyttöön liittyy käytetyn ydinpolttoaineen säteilyn ohella muitakin riskejä, sillä myös erilaiset onnettomuudet ovat mahdollisia. Näitä niin kutsuttuja ei-radiologisia riskejä kartoitetaan parhaillaan. Samalla selvitetään niiden seuraukset ja mietitään ennaltaehkäiseviä toimenpiteitä. SKB ottaa nämä seikat huomioon laatiessaan ympäristövaikutusten arviointiselostusta.

Todettakoon lisäksi, että Ruotsissa ihmisten ja ympäristön suojeleminen säteilyonnettomuuksien seurauksilta on Ruotsin säteilyturvaviranomaisen (Strålsäkerhetsmyndigheten) tehtävä. Siksi sillä on valmius käsitellä erilaisia tapahtumia, kuten ydinonnettomuuksia ja radioaktiivisten materiaalien kuljetuksen yhteydessä sattuvia onnettomuuksia. Säteilysuojauksen ja ydintekniikan asiantuntijana viranomaisen antaa neuvoja ja suosituksia ensisijaisesti niille, jotka johtavat tapahtuman tai onnettomuuden käsittelyä.

Ruotsin valmius muodostuu viranomaisverkosta, joka toimii kaikilla yhteiskunnan tasoilla. Viranomaisilla on eri vastuualueita ja tehtäviä, ja onnettomuustilanteissa ne tekevät yhteistyötä suojatakseen ihmiset ja ympäristön mahdollisimman hyvin säteilyn haitallisilta vaikutuksilta.

Ruotsissa läänien lääninhallitukset vastaavat siitä, että pelastuspalvelulla on ohjelma sellaisen onnettomuuden varalta, jossa Ruotsissa tai ulkomailla sijaitsevasta ydinlaitoksesta on vuotanut radioaktiivisia aineita. Tällaisessa onnettomuustilanteessa vastuu pelastuspalvelusta (valtiollisesta pelastuspalvelusta) on lääninhallituksella. Lääninhallitus myös nimittää pelastusjohtajan ja perustaa pelastusjohdon henkilöstöineen. Eri asiantuntijaviranomaisilta saaman tuen perusteella lääninhallitus päättää varoituksesta, tiedotuksesta ja yleisölle annettavista ohjeista sekä ihmisten, eläinten ja ympäristön suojaamiseksi tarvittavista toimenpiteistä. Lääninhallitus päättää säteilymittauksista ja dekontaminaatiosta. Lääninhallituksella on myös vastuu hälytyksen tekemisestä, joditablettien jakamisesta, evakuoinnista ja henkilöstön valmiuden organisoinnista.

## 4.2 Lithuania

Lithuania's statement is available in its entirety in the original language (English) in **Appendix 4B**. The statement from Lithuania came from the Ministry of Environment and comprises two aspects.

**Lithuania is especially interested in emission of radionuclides into water and the air. The EIA must thus include a detailed analysis of any effect on the Baltic Sea and long-distance transport of radioactive emissions.**

**SKB's response:** The SR-Site safety analysis that is to be carried out for the final repository will concern the final repository's long-term safety and thus also deal with issues associated with any emissions from radionuclides in the Baltic Sea.

**Lithuania also state an interested in a consultation meeting regarding the proposed activities' effect on the environment, and that such a meeting should ideally be held after the environmental impact assessment has been reviewed by the general public and the authorities in Lithuania.**

**SKB's response:** Lithuania's proposal is very much in line with SKB's planning.

In June 2009 SKB selected Forsmark in Östhammars municipality for the location of the final repository for spent nuclear fuel. (Note: Prior to the site selection SKB published a compilation of questions and answers from the consultations in 2008. The wording regarding the site selection has been changed after the selection.) SKB is planning to submit an application in mid-2010 for permits in accordance with the Swedish Environmental Code for the encapsulation plant and the interim storage facility in Oskarshamn municipality and for the final repository in Östhammars municipality. SKB is simultaneously applying for permits in accordance with the Nuclear Activities Act to build and run the final repository.

A joint environmental impact statement (EIS) is being attached to the applications. An analysis of the final repository's long term safety (SR-Site) will be submitted in connection with the applications. The

intention is for that analysis and extracts from the EIS attached to the applications to constitute the main documentation for the second and concluding part of the consultations with the Baltic Sea countries, the start of which is planned for the latter part of 2010. A meeting may be arranged in conjunction with this consultation. This would probably be during 2011.

### 4.3 Poland

The statement from Poland came from Minister Środowska (Ministry of the Environment). Poland's statement is available in its entirety in the original language (Polish) in **Appendix 4C** and translated to English in **Appendix 5B**.

**Poland does not feel the need to be involved in the assessment of the effect on the environment, but is interested to receive information on planned activities and the results of the meetings. Poland also requests the opportunity to take part in meetings, depending on which subjects are dealt with.**

**SKB's response:** Poland will be kept informed of planned activities and the continued consultation. And Poland is of course welcome to take part in the continued consultation, including the meeting planned for after submission of the applications.

### 4.4 Germany

The consultation with Germany resulted in a statement from Mecklenburg-West Pomerania's Ministry of the Interior. The statement comprises a number of questions and requests, which are reported and commented on below. The statement is available in its entirety in the original language (English) in **Appendix 4D**.

**I need statements about a possible release of radioactive substances when accidents occur during transportation and storage of fuel (e.g. in the event of a plane crash).**

**SKB's response:** The magnitude of a possible leakage in the event of various types of mishap is described in safety reports. Safety reports have been drawn up for the transport system, interim storage (Clab) and the encapsulation plant. The safety report for the joint facility Clab and the encapsulation plant will be submitted to the authority during 2009. The safety report for the final repository for spent nuclear fuel will be attached to the application, submission of which is planned for mid 2010.

The analysis of environmental safety for the transport system includes a description for the environment impact due to a radiological accident. Such an eventuality would require a barrier breakthrough, i.e. the transport cask would need to be damaged, causing dissemination of radioactive substances. Such damage to the cask is not envisaged in the design criteria, but it must be assumed so as to facilitate a listing of radiological consequences. Thus occurrence of this type of event is presupposed, and is called a hypothetical accident. The hypothetical accident scenarios that have been analysed are mechanical damage to the cask, prolonged fire and the cask sinking to the bottom of the sea. The analysis shows that the consequence for people's health and the environment is negligible, despite very conservative assumptions regarding emission of radioactivity.

The safety report for Clab includes analysis of a worst-case scenario, assuming loss of about 25 fuel assemblies containing fuel far fresher than the fuel that will be handled in the encapsulation plant. These analyses show that the emissions into the environment would not be high.

With waste deposited in a final repository at a depth of 500 metres in the bedrock, a plane crash would not have any consequences for the final repository.

**Antwort von SKB:** Wie umfassend eine Freisetzung bei unterschiedlichen Arten von Unfällen gegebenenfalls ist, ist in den Sicherheitsberichten beschrieben. Sicherheitsberichte wurden für das Transportsystem, das Zwischenlager Clab und die Kapselungsanlage ausgearbeitet. Der Sicherheitsbericht für die angebaute Anlage Clab und die Kapselungsanlage wird der Behörde 2009 vorgelegt. Der Sicherheitsbericht für das Endlager für gebrauchten Kernbrennstoff wird dem Antrag beigefügt, der voraussichtlich Mitte 2010 eingereicht wird.

Die Analyse der Umgebungssicherheit des Transportsystems umfasst ein Folgenszenario für die Umgebung bei einem radiologischen Unfall. Ein solcher Unfall setzt einen Barrieredurchbruch voraus, das heißt die Transportbehälter müssten so stark beschädigt werden, dass sich radioaktives Material ausbreiten kann. Diese Art von Behälterschäden sind nicht Bestandteil der Konstruktionskriterien, doch man muss sie in die Annahmen einschließen, um die radiologischen Folgen beschreiben zu können. Darum geht man davon aus, dass solche Ereignisse eintreffen können, und bezeichnet sie als hypothetische Unfälle. Der analysierte hypothetische Unfallverlauf ist ein mechanischer Schaden am Behälter, ein langwieriger Brand und das Hinabsinken des Behälters auf den Meeresboden. Die Analyse zeigt, dass die Folgen für die menschliche Gesundheit und die Umwelt trotz sehr konservativer Annahmen im Hinblick auf radioaktive Emissionen vernachlässigbar sind.

Im Sicherheitsbericht für Clab hat man unter anderem den so genannten „worst case“ analysiert. Hierbei geht man von der Annahme aus, dass man ca. 25 Brennelemente verliert, die Brennstäbe enthalten, welche wesentlich frischer sind als diejenigen, von denen wir in Zusammenhang mit der Kapselungsanlage sprechen. Diese Analysen zeigen, dass die Emissionen in die Umgebung nicht hoch wären.

Da sich das Endlager, in dem der Abfall gelagert wird, in 500 Metern Tiefe im Grundgestein befindet, hat ein möglicher Flugzeugabsturz für das Endlager keine Folgen.

**What are the ocean currents in the Baltic Sea between Sweden (Forsmark and Oskarshamn) and Germany (in particular the Mecklenburg West Pomeranian coast)? To what extent could radioactive substances affect us?**

**SKB's response:** The currents in the Baltic Sea are largely governed by prevailing winds. There can be currents between Forsmark/Oskarshamn and the German coast. There is not, however, any constant direct current linking Forsmark or Oskarshamn with the German coast.

Future emissions to the water recipient from a fully developed Clab, including the encapsulation plant, are estimated to about 2 GBq/year. This can be compared with measured emissions from the current Clab, which during the period 1997-2007 have averaged 0,55 GBq/year, with a downward trend. The estimated emission of 2 GBq/year is equivalent to an annual dose of about  $2 \cdot 10^{-6}$  mSv to members of the critical group. This dose is more than one order of magnitude lower than the initial licensing value for Clab. The radionuclides that give dominant contribution to the dose are Co-60 and Cs-137.

SKB must show that the final repository will meet the risk criterion forming part of one of the regulations of the Swedish Radiation Safety Authority (SSM). The risk criterion states that the annual risk of harmful effects must not exceed  $10^{-6}$  for a representative individual in the group who is exposed to the biggest risk. 'Harmful effects' means cancer and hereditary damage. According to SSM the risk limit corresponds to a dose limit of about  $1.4 \cdot 10^{-2}$  mSv/year, i.e. about one per cent of the natural background radiation in Sweden.

**Antwort von SKB:** Die Wasserströmungen in der Ostsee werden weitgehend durch die herrschenden Windverhältnisse bestimmt. Es kann Strömungen zwischen Forsmark/Oskarshamn und der deutschen Küste geben. Es gibt jedoch keine ständige Direktströmung zwischen Forsmark oder Oskarshamn und der deutschen Küste.

Man schätzt die radioaktiven Emissionen, welche die voll ausgebaute Anlage in Clab einschließlich der Kapselungsanlage an den aufnehmenden Wasserkörper abgeben wird, auf ca. 2 GBq/Jahr. Dieser Wert ist vergleichbar mit den gemessenen Emissionen der jetzigen Anlage in Clab, die im Zeitraum von 1997 – 2007 im Schnitt bei 0,55 GBq/Jahr gelegen haben, wobei die Tendenz abnehmend war. Die geschätzten Emissionen von 2 GBq/Jahr entsprechen für Mitglieder der kritischen Gruppe einer jährlichen Dosis von ca.  $2 \cdot 10^{-6}$  mSv. Diese Dosis ist mehr als eine Grösse kleiner als der ursprüngliche Lizenzierungswert für das Clab. Die Radionuklide Co-60 und Cs-137 werden die dominierende Beiträge zur Dosis geben.

Eine Vorschrift der Strahlensicherheitsbehörde (SSM) enthält ein Risikokriterium, welches das Endlager erfüllen muss. Hierüber hat SKB einen Nachweis zu erbringen. Das Risikokriterium lautet: „Das jährliche Risiko schädlicher Einwirkungen darf  $10^{-6}$  bei einem repräsentativen Individuum einer Gruppe, die dem höchsten Risiko ausgesetzt ist, nicht übersteigen.“ Der Begriff „schädliche Einwirkungen“ bezieht sich auf Krebs und erbliche Schäden. Die Risikogrenze entspricht laut SSM einer Dosisgrenze von ca.  $1,4 \cdot 10^{-2}$  mSv/Jahr, d. h. ca. einem Prozent der natürlichen Hintergrundstrahlung in Schweden.

**Can one define the main wind directions between the areas concerned? If so, to what extent could radioactive substances affect us?**

**SKB's response:** The predominant wind direction in both Forsmark and Oskarshamn is south southwesterly.

Air emissions from Clab including the encapsulation plant are through ventilation chimneys. The estimated future annual airborne emission of radioactivity is about 840 GBq, which is 50% higher than the measured average from Clab during the period 1997–2007.

The activity emission is dominated by the noble gas Kr-85, which however has a relatively small radiological environmental impact. The expected annual air emission excluding Kr-85 is about 27 MBq. The estimated activity-related emission means an average annual dose of about  $3 \cdot 10^{-6}$  mSv to members of the critical group. The dose is dominated by contributions from the radionuclides Co-60 and Cs-137. The contribution from the encapsulation plant is considered to be small, the expected future weak growth, in comparison with previous experience from Clab, is mainly due to an increase of Cs-137 activity in the storage pools in Clab.

The final repository will be sited far below the water table. Any emission of radionuclides from the final repository will be into the groundwater, not into the air.

**Antwort von SKB:** Die vorherrschende Windrichtung sowohl in Forsmark als auch Oskarshamn ist Süd-Südwest.

Luftemissionen von Clab einschließlich der Kapselungsanlage bahnen sich ihren Weg über Lüftungsschächte. Die künftigen radioaktiven Luftemissionen werden auf ca. 840 GBq pro Jahr geschätzt, was 50 % über dem gemessenen jährlichen Durchschnittswert von Clab im Zeitraum 1997 – 2007 liegt.

Das Edelgas Kr-85 wird die Aktivitätsemissionen dominieren. Das hat aber relativ kleine radiologische Umweltauswirkungen. Die erwartete jährliche Dosis, Kr-85 exkludiert, ist ca. 27 MBq. Es wird geschätzt, dass die Aktivitätsemissionen für Mitglieder der kritischen Gruppe einer durchschnittlichen

jährlichen Dosis von ca.  $3 \cdot 10^{-6}$  mSv entsprechen. Die Dosis wird durch Beiträge des Radionuklid Co-60 und Cs-137 dominiert sein. Bewertete Emissionen zur Luft von der Kapselungsanlage sind wenige. Der zukünftige Anstieg, der in Vergleich früheren Erfahrungen von dem Clab schwach erwartet ist, hängt hauptsächlich auf eine ringe Zunahme der langlebige Cs-137-Aktivität in den Lagerungsbäcken Clabs ab.

Das Endlager wird weit unter dem Grundwasserspiegel angelegt. Emissionen von Radionukleiden aus dem Endlager werden gegebenenfalls ans Grundwasser, nicht an die Luft abgegeben.

**Is the encapsulation plant designed for a plane crash?**

**SKB's response:** The encapsulation plant is not designed to withstand a plane crash. The magnitude of a possible leakage in the event of various types of mishap is described in safety reports. There will be relatively little spent nuclear fuel in the encapsulation plant.

**Antwort von SKB:** Die Kapselungsanlage ist nicht so konzipiert, dass sie Flugzeugabstürzen standhält. Wie umfassend eine Freisetzung bei unterschiedlichen Arten von Unfällen gegebenenfalls ist, geht aus dem Sicherheitsbericht hervor. Es werden nur relativ geringe Mengen an gebrauchtem Kernbrennstoff in der Kapselungsanlage aufbewahrt.

**How strong is the throughflow of water in the bedrock? What will be the resultant flowpaths of water into the Baltic?**

**SKB's response:** Water that precipitates as rain and snow only partially infiltrates into the rock. The deeper part of the rock, where the repository is located, has a very slow groundwater flow, with a flux in the order of  $10^{-11}$  m<sup>3</sup>/m<sup>2</sup>,s. Some of the flowpaths will end up in the Baltic Sea.

**Antwort von SKB:** Wasser, das in Form von Regen und Schnee niedergeht, infiltriert nur zum Teil in das Gestein. Im tieferen Teil des Grundgesteins, wo sich das Endlager befindet, ist der Grundwasserfluss sehr langsam. Die Fließgeschwindigkeit beträgt hier ca.  $10^{-11}$  m<sup>3</sup>/m<sup>2</sup>, s. Einige der Fließwege enden in der Ostsee.

**I would appreciate answers to our questions in German. Or I would like German translations of the EIA documents, especially the parts referring to my questions.**

**SKB's response:** The replies to Germany's questions have been translated into German.

The EIS will be written in Swedish. The summary of the EIS will be translated into English. SKB has no plans for translations into other languages.

**Antwort von SKB:** Die Antworten auf die Fragen aus Deutschland wurden ins Deutsche übersetzt.

Das UVP-Dokument wird auf Schwedisch ausgearbeitet. Die Zusammenfassung des UVP-Dokumentes wird ins Englische übersetzt. SKB plant keine Übersetzungen in andere Sprachen.

**A consultation meeting could be helpful.**

**SKB's response:** Germany's questions are associated with the transboundary environmental impact caused by emissions into air and water.

In June 2009 SKB selected Forsmark in Östhammars municipality for the location of the final repository for spent nuclear fuel. (Note: Prior to the site selection SKB published a compilation of questions and answers from the consultations in 2008. The wording regarding the site selection has been changed after the selection.) SKB is planning to make an application in mid-2010 for permits in accordance with the Swedish Environmental Code for the encapsulation plant and the interim storage facility in Oskarshamn municipality and for the final repository in Östhammars municipality. SKB is simultaneously applying for permits in accordance with the Nuclear Activities Act to build and run the final repository.

A joint environmental impact statement (EIS) will be attached to the applications. In connection with the applications a long-term safety assessment of the final repository (SR-Site) will be submitted. The intention is that SR-Site and extracts from the EIS attached to the applications will constitute the main documentation for the second and concluding part of the consultations with the Baltic Sea countries, the start of which is planned for the latter part of 2010. A meeting may be arranged in conjunction with this consultation. This would then probably take place during 2011.

**Antwort von SKB:** Die Fragen aus Deutschland beziehen sich auf grenzüberschreitende Umweltauswirkungen infolge von Luft- und Wasseremissionen.

Im Juni 2009 SKB ausgewählten Forsmark in Östhammars Gemeinde für den Standort des Endlager. Mitte 2010 wird SKB für die Kapselungsanlage und das Zwischenlager in der Gemeinde Oskarshamn sowie für die Endlageranlage in der Gemeinde Östhammar. Gleichzeitig wird SKB eine Genehmigung laut schwedischem Kerntechnikgesetz für den Bau und Betrieb eines Endlagers beantragen.

Den Anträgen wird ein gemeinsamer Umweltverträglichkeitsprüfungsbericht (UVP-Bericht) beigelegt. Im Anschluss an die Anträge wird eine Analyse der langfristigen Sicherheit (SR-Site) eingereicht. Die Analyse und der Auszug aus dem UVP-Bericht, der den Anträgen beigelegt ist, sollen als Hauptunterlage für den zweiten und abschließenden Teil der Beratungsgespräche mit den Ostseeländern, die in der zweiten Jahreshälfte 2010 geplant sind, dienen. Bei dieser Gelegenheit kann ein Gespräch stattfinden. Dies wäre voraussichtlich im Jahr 2011 der Fall.

## 5 Continued consultation with the Baltic Sea countries

In June 2009 SKB selected Forsmark in Östhammars municipality for the location of the final repository for spent nuclear fuel. SKB is planning to make an application in mid-2010 for permits in accordance with the Swedish Environmental Code for the encapsulation plant and the interim storage facility in Oskarshamn municipality and for the final repository in Östhammars municipality. SKB is simultaneously applying for permits in accordance with the Nuclear Activities Act to build and run the final repository.

A joint environmental impact statement (EIS) will be attached to the applications. In connection with the applications a long-term safety assessment of the final repository (SR-Site) will be submitted. The intention is that SR-Site and extracts from the EIS attached to the applications will constitute the main documentation for the second and concluding part of the consultations with the Baltic Sea countries, the start of which is planned for the latter part of 2010. A meeting may be arranged in conjunction with this consultation. This would then probably take place during 2011.

## Appendix 1 - Notification



SWEDISH ENVIRONMENTAL PROTECTION AGENCY

Inger Alness  
 Phone: +46-8-698 1358  
 inger.alness  
 @naturvardsverket.se

2005-12-13 Dnr 121-6695-05

Send list

**To points of contact regarding issues concerning Notification in accordance with Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Russian Federation)**

We hereby notify the addressed parties about the planned Environmental Impact Assessment (EIA) procedures for the Encapsulation plant and the Final repository for spent nuclear fuel.

Sweden has twelve nuclear power reactors at four sites, ten of which are in operation. The responsible company for managing the spent nuclear fuel is SKB (Swedish Nuclear Fuel and Waste Management Co). The radioactive waste from nuclear power is divided in short-lived that is disposed in SFR in Forsmark. The spent nuclear fuel is interim-stored in Clab in Oskarshamn. SKB is preparing the EIA and application for the Encapsulation plant and the Final repository for spent nuclear fuel. SKB has submitted the attached information leaflet with a description on the background, timetable for the work and environmental impacts. More information can be found at [www.skb.se](http://www.skb.se) and the web-site of Swedish Nuclear Power Inspectorate [www.ski.se](http://www.ski.se)

Both the Encapsulation Plant and the Final Repository requires permits under the Nuclear Activities Act and under the Environmental Code. Both permit applications shall contain an EIA and information about any consultations that have taken place pursuant the EIA-rules in the Environmental Code. SKB has the responsibility for the EIA-process.

Referring to Article 3 point 3 of the Convention on Environmental Impact Assessment in a Transboundary Context Sweden ask for the addressed parties to respond to this notification **at the latest the 15<sup>th</sup> of February 2006:**

- Acknowledging receipt of the notification
- Indicate whether it intends to participate in the EIA-procedure for
  - the Encapsulation plant (application with EIA 2006)
  - the Final Repository (application with EIA 2008)

Please send the answer to: Swedish Environment Protection Agency,  
 Att. Inger Alness Se-106 48 Stockholm, Sweden.  
 By E-mail: [inger.alness@naturvardsverket.se](mailto:inger.alness@naturvardsverket.se)

For the Swedish Environment Protection Agency

Annika Jansson  
Head of Section

Inger Alness  
Point of Contact in Sweden

***Attachment:***

Encapsulation plant and final repository for spent nuclear fuel

***Send list: Points of contact from:***

***[http://www.unece.org/env/eia/points\\_of\\_contact.htm](http://www.unece.org/env/eia/points_of_contact.htm)***

Ms. Laila Weith-Knudsen  
Skov-og Naturstyrelsen  
Haraldsgade 53  
DK – 1200 København  
DANMARK

Mr. Harry Liiv  
Ministry of Environment  
Narva mnt 7 A  
EE – 15172 Tallin  
ESTONIA

Ms. Seija Rantakallio  
Ministry of the Environment  
PB 35  
FIN 00023 Government  
FINLAND

Mr Mattias Sauer  
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety  
Alexanderplatz 6  
D - 101078 Berlin  
GERMANY

Ms. Sandra Ruzia  
Ministry of Environmental Protection and Regional Development of Latvia  
Peldu 25  
LV – 1494 Riga  
LATVIA

Mr Vitalijus Auglys  
Ministry of Environment  
Jaksto 4/9  
LT – 2694 Vilnius  
LITHUANIA

Mr. Ryszard Zakrzewski  
Ministry of Environment  
Walewska street 52/54  
00 – 922 Warsaw  
POLAND

Mr Evgeny Gorshov  
Department of International Cooperation in the Field of Environmental Protection and  
Nature use  
Gruzinskaya street 4/6 B  
123995 Moscow  
RUSSIAN FEDERATION

## Appendix 2 – Covering letter, consultation



SWEDISH ENVIRONMENTAL PROTECTION AGENCY

Egon Enocksson  
 Phone: +46-8-698 11 91  
 egon.enocksson  
 @naturvardsverket.se

2008-02-11 Dnr 121-6695-05

Finland  
 Germany  
 Poland  
 Lithuania  
 Russian Federation

**Consultation according to Article 3 point 5 of the Convention on Environmental Impact Assessment in a Transboundary Context regarding the Encapsulation plant and the Final repository for spent nuclear fuel in Sweden.**

In accordance with Article 3 point 2 of the Convention on Environmental Impact Assessment in a Transboundary Context a Notification was sent in December 2005 to Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and the Russian Federation regarding their interest to participate in the EIA-procedure for the Encapsulation plant and the Final repository for spent nuclear fuel.

Finland, Germany, Lithuania, Poland and the Russian Federation expressed interest to participate in the consultations. Denmark, Estonia and Latvia wanted to be informed about the project, but did not want to participate in the consultations.

**Nature of the possible decision and EIA procedure in Sweden**

In order to dispose of the spent nuclear fuel, the developer plans to build an Encapsulation plant, where the spent nuclear fuel is encapsulated in copper canisters, and a Final repository at a depth of about 500 metres in the bedrock.

Both the Encapsulation plant and the Final repository require permits under the Nuclear Activities Act and under the Environmental Code. Both permit applications shall include an Environmental Impact Assessment (EIA) and information about the consultations that have taken place pursuant the EIA-rules in the Environmental Code.

The EIA and applications for permits under the Environmental Code for both the Encapsulation plant and the Final repository will not be submitted until earliest 2009. Also the application for a permit under the Nuclear Activities Act for the Final repository will be submitted earliest 2009.

### **Timetable for consultations**

Consultations in accordance with the Convention on Environmental Impact Assessment in a Transboundary Context are planned to take place in two steps. Background material for the first consultation is enclosed.

The second consultation is planned to be carried out when the EIA and permit applications are submitted.

### **Consultations - focus**

The consultations in accordance with the Convention on Environmental Impact Assessment in a Transboundary Context should focus on activities or measures that are likely to have a significant environmental impact in another country.

The main environmental impacts due to the Encapsulation plant and the Final repository for spent nuclear fuel will be non-radiological consequences related to increase in traffic, transportations (noise, light, vibrations) due to handling of rock spoil and impact on groundwater table. Noise is judged to be the aspect that can have an impact furthest away. Elevated sound levels will be noticed a few kilometres from the facilities and along the roads.

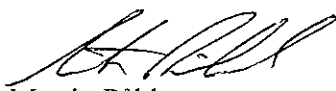
The only possible activities or measures that might have an impact in other countries are related to release of radionuclides from the final repository. The consultations will therefore *focus on the long-term safety for the final repository*.

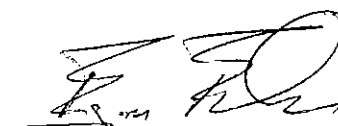
Referring to Article 3 point 5 of the Convention on Environmental Impact Assessment in a Transboundary Context, Sweden invites the addressed parties to give their comments to the attached documents especially the suggested content of the EIA regarding transboundary effects and the long-term safety for the final repository. And to submit any comments you might receive from the public in your country.

Please also note if you are interested in a consultation meeting.

Kindly send your answer **at the latest April 15, 2008** to: Swedish Environmental Protection Agency, SE 106 48 Stockholm, SWEDEN. We appreciate to receive the answer in electronic form to [registrator@naturvardsverket.se](mailto:registrator@naturvardsverket.se) Please indicate Dnr 121- 6695-05 in your answer.

On behalf of the Swedish Environmental Protection Agency

  
Martin Pahlman  
Head of Section

  
Egon Enocksson  
Point of Contact

***Enclosure (on CD)***

Interim storage facility, encapsulation plant and final repository for spent nuclear fuel. Background information, Updated version. January 2008.

General structure of the EIS for the final repository system, to be submitted with the permit applications. December 2007.

Safety and radiation protection. May 2007.

Long-term safety for KBS-3 repositories at Forsmark and Laxemar – a first evaluation, Main report of the SR-Can project, October 2006

Long-term safety for KBS-3 repositories at Forsmark and Laxemar – a first evaluation, Summary of the SR-Can project. October 2006.

***More information:***

More information can be found at the web site of the developer Swedish Nuclear Fuel and Waste Management Co. [www.skb.se](http://www.skb.se) and at the web site of the Swedish Nuclear Power Inspectorate [www.ski.se](http://www.ski.se).

**Send list:** Points of contact for notification:

[http://www.unece.org/env/eia/points\\_of\\_contact.htm](http://www.unece.org/env/eia/points_of_contact.htm)

and others mentioned in answers from each country

**Finland**

Ms Seija Rantakallio  
Ministry of the Environment  
PB 35  
FIN 00023 Government  
FINLAND  
E-mail: [seija.rantakallio@ymparisto.fi](mailto:seija.rantakallio@ymparisto.fi)

**Germany**

Mr Matthias Sauer  
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety  
Alexander str 3  
D - 101078 Berlin  
GERMANY  
E-mail: [matthias.sauer@bmu.bund.de](mailto:matthias.sauer@bmu.bund.de)  
and [markus.pfaff@bmu.bund.de](mailto:markus.pfaff@bmu.bund.de)  
and to Meckenburg-Vorpommern (only e-mail)  
E-mail: [andreas.mueller@um.mv-regierung.de](mailto:andreas.mueller@um.mv-regierung.de) (only e-mail)

**Lithuania**

Mr Vitalijus Auglys  
Ministry of Environment  
Jaksto 4/9  
LT – 01105 Vilnius  
LITHUANIA  
E-mail: [v.auglys@am.lt](mailto:v.auglys@am.lt)

**Poland**

Mr Ryszard Zakrzewski  
Ministry of Environment  
52/54 Wawelska street  
00 – 922 Warsaw  
POLAND  
E-mail: [ryszard.zakrzewski@mos.gov.pl](mailto:ryszard.zakrzewski@mos.gov.pl)

**Russian Federation**

Mr Evgeny Gorshov  
Department of International Cooperation in the Field of Environmental Protection and  
Nature use  
4/6 B Gruzinskaya street  
Moscow D-242, GSP-5, 123995  
RUSSIAN FEDERATION  
E-mail: [gorshkov@mnr.gov.ru](mailto:gorshkov@mnr.gov.ru)  
and [muzyleva@mnr.gov.ru](mailto:muzyleva@mnr.gov.ru); [measure@gan.ru](mailto:measure@gan.ru); [o.jakovenko@gosnadzor.ru](mailto:o.jakovenko@gosnadzor.ru) (the last  
three only e-mails)  
Fax: (+7495) 9124710

## Appendix 3 – Covering letter, information



SWEDISH ENVIRONMENTAL PROTECTION AGENCY

Egon Enocksson  
 Phone: +46-8-698 11 91  
 egon.enocksson  
 @naturvardsverket.se

2008-02-11 Dnr 121-6695-05

Denmark  
 Estonia  
 Latvia

**Information regarding consultation according to Article 3 point 5 of the Convention on Environmental Impact Assessment in a Transboundary Context for the Encapsulation plant and the Final repository for spent nuclear fuel in Sweden.**

In accordance with Article 3 point 2 of the Convention on Environmental Impact Assessment in a Transboundary Context a Notification was sent in December 2005 to Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and the Russian Federation regarding their interest to participate in the EIA-procedure for the Encapsulation plant and the Final repository for spent nuclear fuel.

Finland, Germany, Lithuania, Poland and the Russian Federation expressed interest to participate in the consultations. Denmark, Estonia and Latvia wanted to be informed about the project, but did not want to participate in the consultations.

**Nature of the possible decision and EIA procedure in Sweden**

In order to dispose of the spent nuclear fuel, the developer plans to build an Encapsulation plant, where the spent nuclear fuel is encapsulated in copper canisters, and a Final repository at a depth of about 500 metres in the bedrock.

Both the Encapsulation plant and the Final repository require permits under the Nuclear Activities Act and under the Environmental Code. Both permit applications shall include an Environmental Impact Assessment (EIA) and information about the consultations that have taken place pursuant the EIA-rules in the Environmental Code.

The EIA and applications for permits under the Environmental Code for both the Encapsulation plant and the Final repository will not be submitted until earliest

2009. Also the application for a permit under the Nuclear Activities Act for the Final repository will be submitted earliest 2009.

#### **Timetable for consultations**

Consultations in accordance with the Convention on Environmental Impact Assessment in a Transboundary Context are planned to take place in two steps. Background material for the first consultation is enclosed.

The second consultation is planned to be carried out when the EIA and permit applications are submitted.

#### **Consultations - focus**

The consultations in accordance with the Convention on Environmental Impact Assessment in a Transboundary Context should focus on activities or measures that are likely to have a significant environmental impact in another country.

The main environmental impacts due to the Encapsulation plant and the Final repository for spent nuclear fuel will be non-radiological consequences related to increase in traffic, transportations (noise, light, vibrations) due to handling of rock spoil and impact on groundwater level. Noise is judged to be the aspect that can have an impact furthest away. Elevated sound levels will be noticed a few kilometres from the facilities and along the roads.

The only possible activities or measures that might have an impact in other countries are related to release of radionuclides from the final repository. The consultations will therefore *focus on the long-term safety for the final repository*.

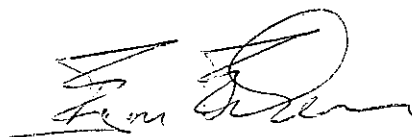
We hereby send the same information to your country that has been sent to the parties that has indicated that they want to participate in the consultation.

More information can be found at the web site of the developer Swedish Nuclear Fuel and Waste Management Co. [www.skb.se](http://www.skb.se) and the web site of the Swedish Nuclear Power Inspectorate [www.ski.se](http://www.ski.se).

On behalf of the Swedish Environmental Protection Agency



Martin Pålman  
Head of Section



Egon Enocksson  
Point of Contact

***Enclosure (on CD)***

Interim storage facility, encapsulation plant and final repository for spent nuclear fuel. Background information. Updated version. January 2008.

General structure of the EIS for the final repository system, to be submitted with the permit applications. December 2007.

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Long-term safety for KBS-3 repositories at Forsmark and Laxemar – a first evaluation, Summary of the SR-Can project. October 2006.

***More information:***

More information can be found at the web site of the developer Swedish Nuclear Fuel and Waste Management Co. [www.skb.se](http://www.skb.se) and at the web site of the Swedish Nuclear Power Inspectorate [www.ski.se](http://www.ski.se).

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[http://www.unece.org/env/eia/points\\_of\\_contact.htm](http://www.unece.org/env/eia/points_of_contact.htm)  
and others mentioned in answers from each country

**Denmark**

Ms Laila Weith-Knudsen  
Skov-og Naturstyrelsen  
Haraldsgade 53  
DK – 1200 København  
DANMARK  
E-mail: [lwk@sns.dk](mailto:lwk@sns.dk)

**Estonia**

Mr Harry Liiv  
Ministry of Environment  
Narva mnt 7 A  
Tallin - 15172  
ESTONIA  
E-mail: [harry.liiv@envir.ee](mailto:harry.liiv@envir.ee)

**Latvia**

Ms Sandija Snikere  
Ministry of Environmental  
25 Peldu street  
LV – 1494 Riga  
LATVIA  
E-mail: [sandija.snikerre@vidm.gov.lv](mailto:sandija.snikerre@vidm.gov.lv)  
and  
Mr Andrejs Salmins  
Director of the Radiation Safety Center  
Maskavas str 165 Riga  
LV – 1019  
E-mail: [a.salmins@rdc.gov.lv](mailto:a.salmins@rdc.gov.lv)

## Appendix 4A – Finland



YMPÄRISTÖMINISTERIÖ  
MILJÖMINISTERIET  
MINISTRY OF THE ENVIRONMENT

Päiväys  
Datum

Dnro  
Dnr

10.6.2008

YM3/5521/2005

Naturvårdsverket  
SE 106 48 Stockholm  
SVERIGE

Viite Er begäran om kommentarer, daterad 11 februari 2008, dnr 121-6695-05  
Hänvisning

Asia Finlands kommentarer gällande Sveriges MKB-förfarande för mellanlagring, inkapsling och  
Ärende slutförvaring av använt kärnbränsle

Miljöministeriet har enligt artikel 3 i Esbo-konventionen från Naturvårdsverket emottagit information om förfarandet för miljökonsekvensbedömning av en inkapslingsanläggning och ett slutförvar för använt kärnbränsle. Naturvårdsverket ber Finland om kommentarer gällande det framlagda materialet, särskilt om det föreslagna innehållet i miljökonsekvensbedömningen gällande gränsöverskridande konsekvenser och slutförvarets långsiktiga säkerhet.

Miljöministeriet har begärt utlåtanden av ett urval myndigheter och organisationer (se bilaga) om det material som Sverige har tillställt. Materialet har också gjorts tillgängligt för allmänheten genom kungörelse i pressen (se bilaga) och genom att materialet funnits till påseende i Helsingfors, Åbo och Mariehamn, samt på Internet. Remisstiden i Finland har varit från den 30 april till den 28 maj 2008.

Miljöministeriet har emottagit sammanlagt sju stycken utlåtanden. Utrikesministeriet har meddelat att de inte har några synpunkter. Utlåtanden har inkommit från arbets- och näringsministeriet, inrikesministeriet, Strålsäkerhetscentralen, Sydvästra Finlands miljöcentral, länsstyrelsen i Västra Finlands län samt Ålands landskapsregering. Samtliga utlåtanden bifogas.

Utgående från de utlåtanden som miljöministeriet har emottagit samt med hänvisning till miljöministeriets egna åsikter framför Finland att den projektansvariges plan för miljökonsekvensbeskrivning motsvarar de krav som ställs i Esbo-konventionen. Finland vill betona vikten av grundliga analyser av risk- och säkerhetsfrågorna och att dessa beskrivs utförligt och åskådligt i miljökonsekvensbeskrivningen. Väsentligt är att det ur resultaten av analyserna framgår hurdana gränsöverskridande miljökonsekvenser projektets långsiktiga säkerhet eventuellt kan medföra.


Miljöministeriet ber att den projektansvarige i tillräckligt utsträckning tar i beaktande även övriga aspekter som förs fram i de utlåtanden som inkommit. Bland annat framför inrikesministeriet i sitt utlåtande att man i miljökonsekvensbedömningen bör utvärdera möjliga effekter på räddningstjänstens arrangemang i området och regionala risker projektet medför både under bygg- och driftskedet. Behovet av befolkningsskydd och evakuering vid en

olycka samt beredskapens effekter bör också utvärderas. Inrikesministeriet betonar vikten av tätt samarbete mellan den lokala räddningstjänsten och den projektansvarige i dessa frågor.

Kanslichef

  
Sirkka Hautojärvi

Överinspektör

  
Miliza Malmelin

**Bilagor:**

Begäran om utlåtande inom Finland  
Kungörelse

**Bifogade utlåtanden från:**

Utrikesministeriet  
Arbets- och näringsministeriet  
Inrikesministeriet  
Strålsäkerhetscentralen  
Sydvästra Finlands miljöcentral  
Länsstyrelsen i Västra Finlands län  
Ålands landskapsregering



25.4.2008

YM3/5521/2005

Enligt distribution

(ÖVERSÄTTNING)

Vilte  
Hänvisning Konventionen om miljökonsekvensbeskrivningar i ett gränsöverskridande sammanhang  
(FördrS 67/1997), kommenteringsbegäran från Sveriges miljömyndighet

Asia  
Ärende Miljöministeriets begäran om utlåtande av det framlagda materialet som inlämnats av Sverige  
för MKB-förfaranden för en anläggning för inkapsling av kärnavfall samt med slutförvaring av  
använt kärnavfall

Naturvårdsverket i Sverige skickade år 2005 en underrättelse till Finland enligt  
Esbokonventionen (FN:s/ECE:s konvention om miljökonsekvensbeskrivningar i ett  
gränsöverskridande sammanhang, FördrS 67/1997) om förfaranden för  
miljökonsekvensbedömning i samband med en anläggning för inkapsling av kärnavfall och  
med slutförvaring av använt kärnavfall. Som ansvarig myndighet bad miljöministeriet olika  
aktörer om utlåtanden i ärendet, och svarade 15.2.2006 att Finland deltar i MKB-processen  
för båda projekten.

Miljöministeriet har tagit emot information av myndigheterna i Sverige (Naturvårdsverket)  
om förfaranden för miljökonsekvensbedömning (MKB) i samband med en anläggning för  
inkapsling av kärnavfall och slutförvaring av använt kärnavfall samt projektens  
säkerhetsfrågor. Sverige ber Finland om kommentarer om det framlagda materialet, särskilt  
om förslaget för miljökonsekvensbedömningens innehåll om gränsöverskridande påverkan  
och slutförvarets långsiktiga säkerhet. Projektansvarig är Svensk Kärnbränslehantering AB  
(SKB).

MKB-processen planeras vara färdig 2009 och bedömningsresultaten sänds då till Finland för  
kommentarer. Projektansvarig planeras även lämna tillståndsansökan för det utvalda  
alternativet år 2009.

Alternativa platser för slutförvaring av kärnavfall är Forsmark i Östhammars kommun och  
Laxemar i Oskarshamns kommun. Projektansvariga har meddelat att det främsta alternativet  
för inkapslingsanläggningen är Oskarshamns kommun. Att bygga den i närheten av  
kärnkraftverket i Forsmark är ett annat alternativ. Mer information om projektet finns i det  
bifogade materialet samt på projektansvarigas internetsidan [www.skb.se](http://www.skb.se), och på Svenska  
kärnkraftsmyndigheternas (Statens Kärnkraftsinspektion) internetsidan [www.ski.se](http://www.ski.se).

Miljöministeriet ber er ta ställning till det bifogade materialet, hellst på svenska eller på  
engelska, betonade på Sveriges begäran av ärenden som skall kommenteras. Ert utlåtande bör  
vara miljöministeriet tillhanda **senast den 28 maj 2008**. Besöksadress: Fabiansgatan 6, Hel-  
singfors; Postadress: Miljöministeriet, PB 35, 00023 Statsrådet.

Miljöministeriets svar till Sverige inväntas senast den 10 juni 2008.

#### Kontakt

- Seija Rantakallio, konsultativ tjänsteman, internationell miljökonsekvensbedömning, tfn 0400 143 937, e-post [seija.rantakallio@ymparisto.fi](mailto:seija.rantakallio@ymparisto.fi),
- Lars Birgersson, projektansvariga, Svensk Kärnbränslehantering AB (SKB), tfn +46 8 459 84 00, e-post [Lars.Birgersson.kem@skb.se](mailto:Lars.Birgersson.kem@skb.se),
- Egon Enocksson, Sveriges miljömyndighet Naturvårdsverket, +46 8 698 11 91, e-post [Egon.Enocksson@naturvardsverket.se](mailto:Egon.Enocksson@naturvardsverket.se),
- Sveriges kärnkraftsmyndighet (Statens Kärnkraftsinspektion), [www.ski.se](http://www.ski.se).

Materialet som inlämnats av Sverige är framlagt 30.4.- 28.5.2008 på följande platser:

- miljöministeriets registratorskontor, Fabiansgatan 6, Helsingfors
- Sydvästra Finlands miljöcentrals registratorskontor, Självständighetsplan 2, Åbo
- Ålands landskapsregerings registratorskontor, Självstyrelsegården, Mariehamn
- internet, på adressen [www.miljo.fi/internationalmkb](http://www.miljo.fi/internationalmkb).

Överdirektör

Pekka Kangas

Konsultativ tjänsteman

Seija Rantakallio

#### Materialet som inlämnats av Sverige

##### *Bifogade*

1. Kommenteringsbegäran från Sveriges miljömyndighet om miljökonsekvensbedömningsförfarandet för inkapsling av kärnvfall samt för slutförvaring av använt kärnavfall.
2. SKB AB: Inkapsling av kärnvfall samt med slutförvaring av kärnavfall. Underlag för samråd enligt Esbokonventionen. Uppdaterad januari 2008.
3. SKB AB: Översiktlig struktur av MKB-dokumentet för slutförvarssystemet. December 2007.

*Avläsbar på internetsidan [www.skb.se](http://www.skb.se) (In English>permits, EIA and consultations>consultations>Espoo Convention)*

1. Safety and radiation protection. May 2007. 31s.
2. Long-term safety for KBS-3 repositories at Forsmark and Laxemar – a first evaluation, Main report of the SR-Can project, October 2006. 620s.
3. Long-term safety for KBS-3 repositories at Forsmark and Laxemar – a first evaluation, Summary of the SR-Can project, October 2006. 16s.

#### Distribution

Arbets- och näringsministeriet  
Inrikesministeriet  
Social- och hälsovårdsministeriet  
Utrikesministeriet  
Strålsäkerhetscentralen

Länsstyrelsen i Västra Finland  
Sydvästra Finlands miljöcentral  
Ålands landskapsregering (på svenska)  
Finlands naturskyddsförbund  
Finlands WWF  
Natur och Miljö (på svenska)



## KUNGÖRELSE

### Sveriges MKB-förfaranden för en anläggning för inkapsling av kärnavfall samt för slutförvaring av använt kärnavfall

Miljöministeriet har tagit emot information av myndigheterna i Sverige (Naturvårdsverket) om förfaranden för miljökonsekvensbedömning (MKB) i samband med en anläggning för inkapsling av kärnavfall och slutförvaring av använt kärnavfall samt projektens säkerhetsfrågor. Sverige ber Finland om kommentarer om det framlagda materialet, särskilt om förslaget för miljökonsekvensbedömningens innehåll om gränsöverskridande påverkan och slutförvarets långsiktiga säkerhet. Projektansvarig är Svensk Kärnbränslehantering AB (SKB). MKB-processen planeras vara färdig 2009 och bedömningsresultaten sänds då till Finland för kommentarer.

#### Bakgrund

Naturvårdsverket i Sverige skickade år 2005 en underrättelse till Finland enligt Esbokkonventionen (FN:s/ECE:s konvention om miljökonsekvensbeskrivningar i ett gränsöverskridande sammanhang, FördrS 67/1997) om förfaranden för miljökonsekvensbedömning i samband med en anläggning för inkapsling av kärnavfall och med slutförvaring av använt kärnavfall. Som ansvarig myndighet bad miljöministeriet olika aktörer om utlåtanden i ärendet, och svarade 15.2.2006 att Finland deltar i MKB-processen för båda projekten.

#### Handlingar

Materialet som inlämnats av Sverige är framlagt 30.4- 28.5.2008 på följande platser

- miljöministeriets registratorskontor, Fabiansgatan 6, Helsingfors
- Sydvästra Finlands miljöcentrals registratorskontor, Självständighetsplan 2, Åbo
- Ålands landskapsregerings registratorskontor, Självstyrelsegården, Mariehamn
- internet, på adressen [www.miljo.fi/internationellmkb](http://www.miljo.fi/internationellmkb).

#### Mer information

- Seija Rantakallio, konsultativ tjänsteman, Esbokkonventionen, tfn 0400 143 937, e-post [seija.rantakallio@ymparisto.fi](mailto:seija.rantakallio@ymparisto.fi),
- Lars Birgersson, projektansvariga Svensk Kärnbränslehantering AB (SKB), tfn +46 8 459 84 00, e-post [Lars.Birgersson.kem@skb.se](mailto:Lars.Birgersson.kem@skb.se),
- Egon Enocksson, Sveriges miljömyndighet Naturvårdsverket, +46 8 698 11 91, e-post [Egon.Enocksson@naturvardsverket.se](mailto:Egon.Enocksson@naturvardsverket.se).

#### Framförande av åsikter

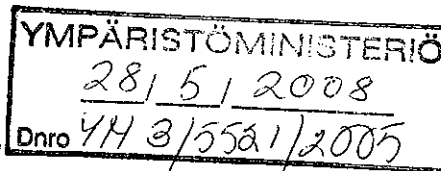
Åsikter och utlåtanden om det framlagda materialet ska lämnas in skriftligen till miljöministeriet senast 28.5.2008. Besöksadress: Kaserngatan 25, Helsingfors.  
Postadress: Miljöministeriet, PB 35, 00023 Statsrådet.  
E-post: [kirjaamo.ym\[at\]ymparisto.fi](mailto:kirjaamo.ym[at]ymparisto.fi)

Helsingfors den 29 april 2008

MILJÖMINISTERIET

## Ym Kirjaamo

Lähettiläjä: Pohjanpalo Maria [Maria.Pohjanpalo@formin.fi]  
Lähetetty: 28. toukokuuta 2008 12:03  
Vastaanottaja: Rantakallio Seija  
Kopio: UM Kirjaamo; Ym Kirjaamo; OIK-12  
Aihe: Lausuntopyyntö YM3/5521/2005 (UM SAAP-4246)



Hei,

viitaten YM:n lausuntopyyntöön koskien Ruotsin toimittamia tietoja käytetyn ydinpolttoaineen kapselointilaitoksen ja loppusijoituksen ympäristövaikutusten arviointimenettelystä, ulkoasiainministeriöllä ei ole lausuttavaa.

Ystävällisesti,

Maria

(UM/OIK-12)

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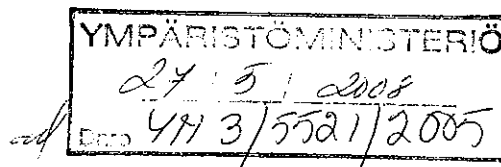
Maria Pohjanpalo  
Legal Officer  
Ministry for Foreign Affairs  
Legal Department, Unit for EU and Treaty Law  
P.O. Box 176, Laivastokatu 22 B  
00161 Helsinki, Finland  
Tel. +358 9 160 55722,  
Gsm +358 40 512 2766  
Fax +358 9 160 55707  
maria.pohjanpalo@formin.fi

Miljöministeriet  
PB 35  
00023 STATSRADET

Hänvisning  
Er begäran YM3/5521/2005

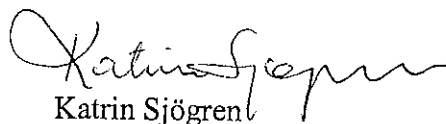
Kontaktperson  
Byråchef Helena Blomqvist

Ärende  
**UTLÅTANDE ÖVER DET FRAMLAGDA  
MATERIALET SOM INLÄMNATS AV SVERIGE  
FÖR MKB-FÖRFARANDE FÖR EN  
ANLÄGGNING FÖR INKAPSLING AV  
KÄRNAVFALL SAMT MED SLUTFÖRVAR AV  
ANVÄND KÄRNBRÄNSLE**



Landskapsregeringen beslöt att meddela miljöministeriet att landskapsregeringen inte har något att invända mot upplägget av MKB-dokumentet. Landskapsregeringen förutsätter att vi även fortsättningsvis hålls informerade om dokument och processer som meddelas Finland om Forsmarks-alternativet.

Landskapsregeringsledamot

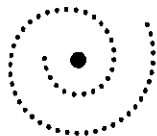


Katrin Sjögren

Byråchef



Helena Blomqvist



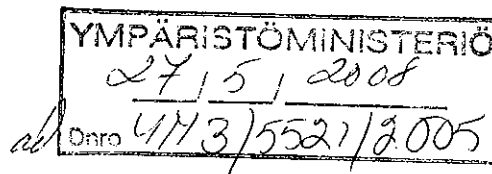
22.5.2008

LOS-2006-J-4-53

Ympäristöministeriö

PL 35

000230 Valtioneuvosto



Viite / Hänvisning

Lausuntopyyntö 25.4.2008 YM3/5521/2005

Asia / Ärende

Lausunto Ruotsin käytetyn ydinpolttoaineen kapselointilaitoksen ja loppusijoituksen ympäristövaikutusten arviointimenettelyyn liittyen

Ruotsin viranomaisten ilmoituksen mukaan Svensk Kärnbränslehantering AB:n ydinjätteen kapselointilaitoksen ja ydinjätteen loppusijoituksen vaihtoehtoina ovat Forsmarkin ydinvoimalaitosalue Österhammarin kunnassa ja Laxemar alueet ydinvoimalaitostoiminnan yhteydessä Oskarshamnin kunnassa. Ympäristöministeriö on vastaanottanut Ruotsin viranomaisilta tietoja Ruotsin käytetyn ydinpolttoaineen kapselointilaitoksen ja loppusijoituksen ympäristövaikutusten arviointimenettelyn laajuudesta ja hankkeen turvallisuuteen liittyvistä asioista ja pyytää lausuntoa asiassa.

Lounais-Suomen ympäristökeskus painottaa riski- ja turvallisuusselvitysten huolellista ja kattavaa sisällyttämistä arviointiselostukseen. Ympäristökeskuksella ei ole muuta huomautettavaa.

Ympäristökeskuksen johtaja

  
Risto Timonen

Ylitarkastaja

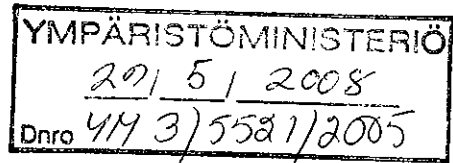
  
Seija Savo

26.5.2008

LSLH-2008-3744/Ym-11

Miljöministeriet  
PB 35  
00023 STATSRÅDET

Sveriges miljömyndighets begäran om kommentar



**UTLÅTANDE OM UPPGIFTER FRÅN SVERIGE GÄLLANDE BEDÖMNINGSFÖRFARANDET FÖR  
INKAPSLINGSANLÄGGNING FÖR ANVÄNT KÄRNBRÄNSLE OCH FÖRFARANDET MED  
MILJÖKONSEKVENSBEDÖMNING AV SLUTDEPONERINGEN**

Miljöministeriet har bitt om länsstyrelsen i Västra Finlands läns utlåtande om de uppgifter som Sverige har tillställt om inkapslingsanläggning för använt kärnbränsle och förfarandet med miljökonsekvensbedömning av slutdeponering. I utlåtandet önskas särskilt kommentarer om det föreslagna innehållet i miljökonsekvensbedömningen i fråga om gränsöverskridande konsekvenser och slutdeponeringens långsiktiga säkerhet.

I utlåtandet behandlas bedömning av hälso- och sociala effekter ifråga om projektet.

I materialet har framförts att den huvudsakliga miljöpåverkan som kommer att orsakas av inkapslingsanläggningen och slutdeponeringen för använt kärnbränsle är andra än radiologiska konsekvenser. De enda eventuella faktorer som kan ha gränsöverskridande effekter har att göra med radionuklidutsläpp från slutdeponeringen.

Vid bedömning av gränsöverskridande effekter bör man i fortsättningen för den finländska västkustens del utreda hur människorna upplever att projektet påverkar deras säkerhet och hälsa samt den med området förknippade identiteten och även beakta liknande planer i Finland.

Utlåtandet skrevs av länshälsoinspektör Erja Alanen, telefon +358 71 874 2140 och länssocialinspektör Lea Liukku, telefon +358 71 874 2712.

Chef för resultatgruppen, länsveterinär

Markku Tikkanen

Länshälsoinspektör

Erja Alanen

Verksamhetsstället i Åbo  
Självständighetsplan 2  
PB 22  
20801 Åbo  
fax 071 874 2113

Serviceenheten i Jyväskylä  
Cygnæuksenkatu 1  
PB 41  
40101 Jyväskylä  
fax 071 874 2842

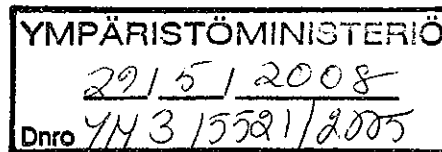
Serviceenheten i Tammerfors  
Uimalankatu 1  
PB 346  
33101 Tammerfors  
fax 071 874 2500

Serviceenheten i Vasa  
Wolffskavägen 35  
PB 200  
65101 Vasa  
fax 071 874 2703

27.5.2008

1/020/06

Ympäristöministeriö  
PL 32  
00023 VALTIONEUVOSTO



Kirjeenne YM3/5521/2005, 25.4.2008

*al*


**YMPÄRISTÖMINISTERIÖN LAUSUNTOPYYNTÖ KOSKIEN RUOTSIN TOIMITTAMIA  
TIETOJA KÄYTETYN YDINPOLTTOAINEEN KAPSELOINTILAITOKSEN JA LOPPU-  
SJOITUKSEN YMPÄRISTÖVAIKUTUSTEN ARVIOINTIMENETTELYSTÄ**

Ministeriön viitekirjeeseen viitaten Säteilyturvakeskus toimittaa liitteenä olevan lausunnon Ruotsin toimittamista tiedoista käytetyn ydinpolttoaineen kapselointilaitoksen ja loppusijoituksen ympäristövaikutusten arviointimenettelystä.

Johtajan sijainen,  
apulaisjohtaja

  
Arja Tanninen

Toimistopäällikkö

  
Risto Paltemaa

LIITE

TIEDOKSI JL, TVa, LR, OVi, AT, RP, ER, yj (sähköisesti)

**CONSULTATION ACCORDING TO ARTICLE 3 POINT 5 OF THE CONVENTION ON ENVIRONMENTAL IMPACT ASSESSMENT IN A TRANSBOUNDARY CONTEXT REGARDING THE ENCAPSULATION PLANT AND THE FINAL REPOSITORY FOR SPENT NUCLEAR FUEL IN SWEDEN**

The technical aspects of the Swedish and Finnish projects for the final disposal of spent nuclear fuel are similar. In both programs the intention is to put spent nuclear fuel in copper canisters with a cast iron insert, embedded in bentonite clay, at a depth of about 500 meters in granitic bedrock. The schedules of the programs are different in detail, due to differences in the licensing process, and due to the construction of a rock characterization facility in Finland, to be used as a part of the repository, but their planned starts of operation are nearly coincident.

Radiation and Nuclear Safety Authority (STUK) has assessed the radiation and nuclear safety aspects of the Finnish spent nuclear fuel disposal facility project as a part of the Environmental Impact Assessment (EIA) and the Decision in Principle processes. After the Decision in Principle by the Government in 2000, endorsed in 2001 by the Parliament, STUK has continued to review, evaluate and assess the disposal project. In addition to its own expertise, STUK has used prominent international experts to review and assess the scientific and technical aspects of the program.

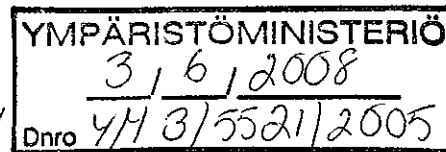
STUK has also acquainted itself with some of the main reports issued by the Swedish Nuclear Fuel and Waste Management Company, and also done comparative assessments on some of these documents. Due to the similarity of the programs and the tradition of co-operation between authorities, STUK has had frequent contacts with the Swedish authorities (SKI and SSI) with the possibility of participating as observer in meetings related to the assessment of SKB's work. STUK has thus adequate basis to comment the environmental impact assessment process in Sweden in the area of its competence in radiation and nuclear safety.

The regulatory requirements in Finland as well as in Sweden, based on the recommendations of international expert bodies, are such that, for a facility constructed to fulfil them, the possibility of any harmful transboundary effects within at least several thousands of years is utterly low.

Based on the material provided by the Swedish Environmental Protection Agency and other information STUK has gained so far on the Swedish spent fuel disposal program, STUK concludes that, concerning transboundary effects and long-term safety, the proposed content of the EIA program report is adequate.



TYÖ- JA ELINKEINOMINISTERIÖ  
ARBETS- OCH NÄRINGSMINISTERIET  
MINISTRY OF EMPLOYMENT AND THE ECONOMY



Miljöministeriet

UTLÅTANDE  
28.5.2008

1453/880/2008

MILJÖMINISTERIETS BEGÄRAN OM UTLÅTANDE OM DE UPPGIFTER SOM SVERIGE HAR  
LÄMNAT OM FÖRFARANDET FÖR MILJÖKONSEKVENSBEDÖMNING AV EN INKAPSLINGS-  
ANLÄGGNING OCH ETT SLUTFÖRVAR FÖR ANVÄNT KÄRNBRÄNSLE

Arbets- och näringsministeriet har av miljöministeriet tagit emot en begäran om utlåtande över det material som har lämnats in av de svenska myndigheterna. Dokumenten behandlar frågor som berör omfattningen av miljökonsekvensbedömningsförfarandet för en inkapslingsanläggning och ett slutförvar för använt kärnbränsle samt projektens säkerhet.

Arbets- och näringsministeriets deltagande i de projekt som pågår i Sverige baserar sig på konventionen om miljökonsekvensbeskrivningar i ett gränsöverskridande sammanhang (FördrS 67/1997). Ministeriet bedömde i sitt tidigare utlåtande (handels- och industriministeriet 1/818/2006 av den 26 januari 2006) att deltagandet var ändamålsenligt, även om dessa projekt enligt ministeriets uppfattning sannolikt inte har några betydande skadliga miljökonsekvenser i Finland.

Enligt bilaga II i konventionen ska i MKB-dokumenterna införas beskrivningar av projektet, dess ändamål, eventuella alternativ, miljön, miljökonsekvenser och om åtgärder för att begränsa skadliga konsekvenser. Materialet ska innehålla en utredning av metoder, bakgrundantaganden, material, brister och osäkerheter vid insamlingen av information. Dessutom ska vid behov finnas ett förslag till uppföljnings- och handlingsprogram samt planer för efterhandsbedömning och ett sammandrag.

Enligt arbets- och näringsministeriets bedömning motsvarar den projektansvariges plan för miljökonsekvensbeskrivning de krav på innehållet i bedömningsdokumenten som ställs i konventionen. Den projektansvarige kommer enligt ministeriets uppfattning att behandla konsekvenserna för andra länder i det separata kapitlet "Risk- och säkerhetsanalyser", som enligt dokumenten innehåller en beskrivning av genomförda analyser och metoder samt en analys av den långsiktiga säkerheten samt resultaten av analyserna.

Överdirektör  
Avdelningschef

Taisto Turunen

Överinspektör

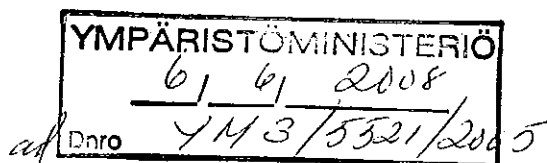
Jaana Avolahti



2008-06-05

SM-2008-1668/Ym-0

Ympäristöministeriö  
PL 35  
00023 Valtioneuvosto



Viite: YM3/5521/2005 Ympäristöministeriön lausuntopyyntö koskien Ruotsin toimittamia tietoja käytetyn ydinpolttoaineen kapselointilaitoksen ja loppusijoituksen ympäristövaikutusten arviointimenettelystä

## LAUSUNTO

Sisäasiainministeriö on vastaanottanut viitteenä olevan lausuntopyynnön ja perehdyttyään siihen, sisäasiainministeriön pelastusosaston käsityksen mukaan ympäristövaikutusten arviointiraportin ehdotettu sisältö rajojen yli ulottuvien vaikutusten ja loppusijoituslaitoksen turvallisuuden osalta on kattava eikä siihen ole merkittävästi huomautettavaa hankkeen tässä vaiheessa.

Pelastusosasto kehottaa kuitenkin arviointiohjelmassa huomioimaan sijoitushankkeen mahdolliset vaikutukset pelastustoimen järjestelyihin ja pitää tärkeänä tiivistä yhteistyötä paikallisen pelastustoimen ja ohjelman toteuttajien välillä. Ohjelmassa tulisi arvioida hankkeen mahdolliset vaikutukset pelastustoimen järjestelyihin ja alueellisiin riskeihin sekä rakennus- että käyttövaiheessa. Lisäksi, ohjelmassa tulee huomioida väestön suojaaminen tai evakuointi onnettomuustilanteessa sekä näihin varautumisen vaikutukset.

Valmiusjohtaja

Janne Koivukoski

Ylitarkastaja

Mikko Jääskeläinen



10.6.2008

YM3/5521/2005

Naturvårdsverket  
SE 106 48 Stockholm  
SVERIGE

Viite Er begäran om kommentarer, daterad 11 februari 2008, dnr 121-6695-05  
Hänvisning

Asia  
Ärende Finlands kommentarer gällande Sveriges MKB-förfarande för mellanlagring, inkapsling och  
slutförvaring av använt kärnbränsle

Här bifogas ännu ett utlåtande som inkommit till miljöministeriet från social- och hälso-  
vårdsministeriet. Social- och hälsovårdsministeriet upprepar i sitt utlåtande de aspekter som  
Strålsäkerhetscentralen har lyft fram i sitt utlåtande.

Överinspektör



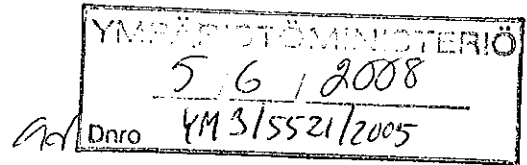
Miliza Malmelin

**Bifogat utlåtande från:**  
Social- och hälsovårdsministeriet

27.05.2008

Ympäristöministeriö  
PL 35, 00023 Valtioneuvosto

Viite



**VALTIOIDEN RAJAT YLITTÄVIEN YMPÄRISTÖVAIKUTUSTEN ARVIOINTIA  
KOSKEVA YLEISSOPIMUS (ESPOON SOPIMUS), RUOTSIN  
YMPÄRISTÖVIRANOMAISEN KOMMENTOINTIPYYNTÖ**

Ruotsin Naturvårdsverket on vuonna 2005 viitaten Espoon sopimukseen (YK:n Euroopan talouskomission sopimus valtioiden rajat ylittävien ympäristövaikutusten arvioinnista) ilmoittanut Suomen ympäristöministeriölle ympäristövaikutusten arviointimenettelyn (YVA) käynnistämisestä Ruotsiin kaavaillusta ydinpolttoainelaitos- ja loppusijoitushankkeesta ja tiedustellut Suomen Ympäristöministeriön halukkuutta osallistua YVA-menettelyyn Espoon sopimuksen puitteissa. Suomen Ympäristöministeriö vastasi 15.2.2006, että se osallistuu toimivaltaisena viranomaisena hankkeen YVA-menettelyyn.


Ympäristöministeriö on nyt pyytänyt Sosiaali- ja terveysministeriön lausuntoa Ruotsin ydinpolttoainelaitos- ja loppusijoitushankkeen YVA-menettelyn laajuudesta ja sen sisällöstä erityisesti hankkeen yli rajojen mahdollisesti ulottuviin pitkäaikaisvaikutuksiin ja turvallisuuteen liittyen.

Sosiaali- ja terveysministeriö viitaten 27.5.2008 Säteilyturvakeskuksen asiassa antamaan lausuntoon toteaa, että Ruotsin ja Suomen ydinpolttoaineiden loppusijoitusratkaisut ovat hyvin samankaltaisia. Sosiaali- ja terveysministeriö piti Suomen vastaavan hankkeen periaatepäätöshakemuksesta lausuessaan 29.11.1999 sitä ympäristöterveydenhuollon ja työsuojelun edellytykset täyttävänä. Viitaten em. Säteilyturvakeskuksen lausuntoon Sosiaali- ja terveysministeriö pitää Ruotsin Naturvårdsverketin arviointiraportin ehdotettua sisältöä po. Ruotsin hankkeesta riittävänä rajojen yli ulottuvien vaikutusten ja loppusijoituslaitoksen pitkäaikaisturvallisuuden osalta. Edelleen viitaten em. Säteilyturvakeskuksen lausuntoon Sosiaali- ja terveysministeriö toteaa, että Suomen ja Ruotsin kansainvälisiin suosituksiin perustuvat turvallisuusvaatimukset ovat sellaiset, että ne täyttävän laitoksen säteilyhaittoja aiheuttavat vaikutukset naapurimaahan edes tuhansien vuosien kuluttua eivät ole todennäköiset.

peruspalveluministeri

  
Paula Risikko

ylilääkäri

  
Mikko Paunio

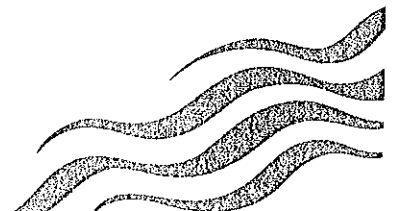
LIITTEET

JAKELU

Ympäristöministeriö, Länsi-Suomen lääninhallitus

TIEDOKSI

Säteilyturvakeskus



## Appendix 4B – Lithuania



NATURVÅRDSVERKET	
Ink. 2008 -04- 18	
Sak.nr. 121	Löp. nr. 6695-05
Handl. enhet	

TII

RV

**LIETUVOS RESPUBLIKOS APLINKOS MINISTERIJA**  
**THE MINISTRY OF ENVIRONMENT OF THE REPUBLIC OF LITHUANIA**

A. Jakšto St 4/9, LT-01105 Vilnius, tel.: (+370 5) 266 36 61, fax: (+370 5) 266 36 63, e-mail: info@am.lt URL: http://www.am.lt

Swedish Environmental Protection Agency  
SE 106 48 Stockholm  
SWEDEN

16 April 2008 No. (1-15)-D8-3292

**REGARDING TRANSBOUNDARY ENVIRONMENTAL IMPACT ASSESSMENT FOR  
ENCAPSULATION PLANT AND THE FINAL REPOSITORY FOR SPENT NUCLEAR FUEL  
IN SWEDEN**

Thank you for your letter dated 2008-02-11 No. Dnr 121-6695-05 regarding consultation in accordance with article 3 point 5 of the Convention on Environmental Impact Assessment (EIA) in a Transboundary Context regarding the Encapsulation plant and the Final repository for spent nuclear fuel in Sweden and additional documentation.

The Ministry of Environment of Lithuania circulated the received documents to relevant Lithuanian authorities and received their comments. Lithuanian public was informed about the prepared EIA program and additional documents via ministry's website.

The main expressed concerns are related to emissions of radionuclides into the air and water. Therefore the EIA report of Encapsulation plant and Final repository for the spent nuclear fuel should contain detailed assessment of possible their impacts on the Baltic Sea and possible long-range transportation of radioactive emissions.

We are interested in a consultation meeting regarding possible impacts of the proposed activities on the environment, but in our view it would be more useful to organise such meeting in a later stage, after the examination of EIA report by Lithuanian public and authorities.

Yours faithfully,  
Undersecretary of the Ministry

Dr. Aleksandras Spruogis

M. Masaityte, (+370 5) 2663654, e-mail: m.masaityte@am.lt

## Appendix 4C – Poland



Warszawa, dnia 16.04. 2008 r.

## MINISTER ŚRODOWISKA

*Maciej Nowicki*

DOOS-082/2518/08/AO

**Agencja Ochrony Środowiska**

**SE 106 48 Sztokholm**

**Szwecja**

W odpowiedzi na pismo Dnr 121-6695-05, z dnia 11 lutego 2008r., dotyczące postępowania w sprawie oceny oddziaływania na środowisko w kontekście transgranicznym, prowadzonego dla planowanego w miejscowości Oskarshamm, na południu Szwecji przedsięwzięcia, polegającego na budowie i eksploatacji zakładu kapsułkowania wypalonego paliwa jądrowego oraz składowaniu go w głębokich warstwach skalnych, uprzejmie informuję, iż z przedstawionych przez stronę szwedzką materiałów wynika, że proponowany proces postępowania z wypalonym paliwem jądrowym nie będzie powodował znaczących skutków transgranicznych. Biorąc powyższe pod uwagę, bezpośredni udział strony polskiej w postępowaniu w sprawie oceny oddziaływania na środowisko nie jest konieczny.

Jednakże, strona polska jest zainteresowana otrzymywaniem dalszych informacji o planowanym przedsięwzięciu, w tym wyników spotkań konsultacyjnych. Strona polska zwraca się również z uprzejmą prośbą o możliwość uczestniczenia, w zależności od tematyki, w niektórych z przewidzianych spotkań, ponieważ Polska będzie również, w dalszej przyszłości, przechodzić proces legitymizacji składowisk głębokich.

## Appendix 4D – Germany



Swedish Environmental Protection Agency  
SE 106 48 Stockholm

**SWEDEN**

Schwerin, 14 . April 2008

- in advance by e-mail -

**Consultation according to Article 3 point 5 of the Convention on Environmental Impact Assessment in a Transboundary Context regarding the Encapsulation plant and the Final repository for spent nuclear fuel in Sweden  
(Dnr 121 – 6695-05)**

Dear Mr Enocksson,

Thank you for sending the consultation documents.

After reviewing the papers, I have the following questions:

1. I need statements about a possible release of radioactive substances when accidents during transportation and storage of fuel (for example when a plane crash). Which ocean currents in the Baltic Sea are there between Sweden (Forsmark and Oskarshamn) and Germany (in particular the coast of Mecklenburg-Vorpommern)? To which extent could radioactive substances affect us? Are the main wind directions, between the areas concerned, definable? To which extent could radioactive substances affect us, in that case?
2. Is the Encapsulation plant of a plane crash designed?
3. How strong is the run through of water in the bedrock? Resulting paths of water to the Baltic Sea that?

I would appreciate for an answer of our questions in German language. Or I kindly ask for translation in to German of the EIA documents, especially the parts, which refers to my questions.

A consultation meeting could be helpfully.

Yours sincerely

By order

A handwritten signature in black ink, appearing to read 'A. Birkholz' with a stylized flourish at the end.

Dr. Wolfgang Birkholz

## Appendix 5A – Finland

MINISTRY OF THE ENVIRONMENT

Date

Doc. No.

10.06.2008 YM3/5521/2005

Swedish Environmental Protection Agency  
SE-106 48 Stockholm  
SWEDEN

#### Reference

Your request for comments, dated 11 February 2008,  
Doc. No. 121-6695-05

#### Case

Finland's comments regarding Sweden's EIA procedure for interim storage, encapsulation and final storage of spent nuclear fuel.

In accordance with Article 3 of the Espoo Convention the Ministry of the Environment has received information from the Swedish Environmental Protection Agency on the procedure for assessment of the environmental impact of an encapsulation plant and a final repository for spent nuclear fuel. The Swedish Environmental Protection Agency is asking Finland for comments regarding the presented material, in particular regarding the proposed content of the environmental impact assessment in connection with transboundary impact and the long-term safety of the final repository.

The Ministry of the Environment has requested reports from a number of authorities and organisations (see appendix) regarding the material Sweden has issued. The material has also been made available to the general public through an announcement in the press (see appendix) and through the material has been available for inspection in Helsinki, Turku and Mariehamn, as well as on the Internet. The referral period in Finland was 30 April to 28 May 2008.

The Ministry of the Environment has received a total of seven reports. The Ministry for Foreign Affairs has stated that it does not have any opinions on the matter. Reports were received from the Ministry of Employment and the Economy, the Ministry of the Interior, the Radiation and Nuclear Safety Authority, Southwest Finland Regional Environment Centre, the State Provincial Office of Western Finland and the Government of Åland. All the reports are attached.

On the basis of the reports received by the Ministry of the Environment and with reference to the Ministry of the Environment's own opinions, Finland states that the project

manager's plan for the EIA meets the requirements set at the Espoo Convention. Finland wishes to emphasise the importance of thorough analyses of risk and safety issues, as well as clear and thorough descriptions of them in the EIA. It is important that the results of the analyses show what kind of transboundary environment impact the project's long-term safety situation may entail.

The Ministry of the Environment requests that the project manager sufficiently take into consideration other factors raised by the reports received. The Ministry of the Interior states in its report that the EIA should evaluate possible effects on the emergency services' arrangements in the area and the regional risks the project entails during both the construction and the operational stages. The need for protection of the population and evacuation in the event of an accident should also be evaluated, as should the effects of contingency arrangements. The Minister of the Interior emphasises the importance of close collaboration between the local rescue services and the project manager regarding these issues.

Permanent Secretary	<i>(signature)</i> Sirkka Hautojärvi
---------------------	---

Senior Inspector	<i>(signature)</i> Miliza Malmelin
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Appendices:  
Request for report within Finland  
Announcement

Attached reports from:  
Ministry for Foreign Affairs  
Ministry of Employment and the Economy  
Ministry of the Interior  
Radiation and Nuclear Safety Authority  
Southwest Finland Regional Environment Centre  
State Provincial Office of Western Finland  
Government of Åland



MINISTRY OF THE ENVIRONMENT

Date 25.04.2008

Doc. No. YM3/5521/2005

In accordance with distribution list

(TRANSLATION)

Reference

Convention on Environmental Impact Assessment in a Transboundary Context (67/1997), request for comments from Sweden's Environmental Protection Agency

Case

The Ministry of the Environment's request for a report on the material presented, which has been submitted by Sweden for EIA (Environmental Impact Assessment) procedures regarding a plant for encapsulation of nuclear waste and regarding final disposal of spent nuclear fuel.

In 2005 the Swedish Environmental Protection Agency sent a notification to Finland in accordance with the Espoo Convention (the UN's/ECE's Convention on Environmental Impact Assessment in a Transboundary Context, 67/1997) on procedures for environmental impact assessment regarding a plant for encapsulation of nuclear waste and regarding final disposal of spent nuclear fuel. As the authority in charge, the Ministry of the Environment asked various parties for reports in connection with the case, and on 15.02.2006 replied that Finland is taking part in the EIA process for both of the projects.

The Ministry of the Environment has received information from the authorities in Sweden (Swedish Environmental Protection Agency) on procedures for environmental impact assessment (EIA) in conjunction with a plant for encapsulation of nuclear waste and final disposal of spent nuclear fuel and project-safety issues. Sweden is asking Finland for comments on the material presented, especially on the proposed content of the environmental impact assessment regarding transboundary impact and the final repository's long-term safety. The Swedish Nuclear Fuel and Waste Management Co. (SKB) is the project manager.

The completion date for the EIA process is 2009, and the assessment results will then be sent to Finland for comments. The project manager also plans to submit a permit application regarding the selected alternative in 2009.

Alternative sites for final disposal of nuclear waste are Forsmark in Östhammar municipality and Laxemar in Oskarshamn municipality. The project managers have stated that the frontrunner for the encapsulation plant is Oskarshamn municipality. Building it near to the nuclear power station in Forsmark is another option. Further information on the project is available in the attached material, on the project managers' website [www.skb.se](http://www.skb.se), and on the website of the Swedish nuclear power authorities (Swedish Nuclear Power Inspectorate) [www.ski.se](http://www.ski.se).

The Ministry of the Environment requests that you respond to the attached material, preferably in Swedish or English – the emphasis, at Sweden's request, being on matters to be commented on. The Ministry of the Environment should be in receipt of your report by **28 May 2008 at the latest**.

Replies from the Ministry of the Environment to Sweden are expected by 10 June 2008 at the latest.

#### Contacts

– Seija Rantakallio, consultant official, international environmental impact assessment

Tel. 0400 143 937

e-mail [seija.rantakallio@ymparisto.fi](mailto:seija.rantakallio@ymparisto.fi),

– Lars Birgersson, project manager

Swedish Nuclear Fuel and Waste Management Co. (SKB)

Tel. +46 (0)8-459 84 00

e-mail [Lars.Birgersson.kem@skb.se](mailto:Lars.Birgersson.kem@skb.se).

– Egon Enocksson

Swedish Environmental Protection Agency (Sweden's environmental authority)

Tel. +46 (0)8-698 11 91

e-mail [Egon.Enocksson@naturvardsverket.se](mailto:Egon.Enocksson@naturvardsverket.se).

– Sweden's nuclear-power authority (Swedish Nuclear Power Inspectorate), [www.ski.se](http://www.ski.se).

The material submitted by Sweden was presented at the following locations between 30.04.2008 and 28.05.2008:

– The Ministry of the Environment's registration office

Fabiansgatan 6, Helsinki

– The Southwest Finland Regional Environment Centre, registration office, Självständighetsplan 2, Turku

– The Government of Åland's registration office, Självstyrelsegården, Mariehamn

– On the Internet, at [www.milio.fi/internattonellmkb](http://www.milio.fi/internattonellmkb).

Director-General

Pekka Kängas

Consultant

Seija Rantakallio

## Material submitted by Sweden

### *Attached*

1. The request for comments from Sweden's Environmental Protection Agency on the Environmental Impact Assessment procedure regarding encapsulation of nuclear waste and regarding final disposal of spent nuclear fuel.
2. SKB: Interim storage facility, encapsulation plant and final repository for spent nuclear fuel. Background material for consultations according to the Espoo (EIA) Convention. Updated January 2008.
3. SKB: General structure of the EIS for the final repository system. December 2007.

*Can be read on the website [www.skb.se](http://www.skb.se) (In English>permits, EIA and consultations>consultations>Espoo Convention)*

1. Safety and radiation protection. May 2007, 31 pp.
2. Long-term safety for KBS-3 repositories at Forsmark and Laxemar – a first evaluation, Main report of the SR-Can project, October 2006, 620 pp.
3. Long-term safety for KBS-3 repositories at Forsmark and Laxemar – a first evaluation, Summary of the SR-Can project, October 2006, 16 pp.

### Distribution

Ministry of Employment and the Economy  
Ministry of the Interior  
Ministry of Social Affairs and Health  
Ministry for Foreign Affairs  
Radiation and Nuclear Safety Authority

State Provincial Office of Western Finland  
Southwest Finland Regional Environment Centre  
Government of Åland (in Swedish)  
Finnish Association for Nature Conservation  
Finland WWF  
Finnish Society for Nature and the Environment (in Swedish)

## **ANNOUNCEMENT**

### **Sweden's EIA procedures regarding a plant for encapsulation of nuclear waste and for final disposal of spent nuclear fuel**

The Ministry of the Environment has received information from the authorities in Sweden (the Swedish Environmental Protection Agency) on procedures for environmental impact assessment (EIA) in conjunction with a plant for encapsulation of nuclear waste and final disposal of spent nuclear fuel and safety issues in connection with the projects. Sweden is asking Finland for comments on the material presented, in particular on the proposed content of the environmental impact statement regarding transboundary impact and the long-term safety of the final repository. The project manager is the Swedish Nuclear Fuel and Waste Management Co. (SKB). Completion of the EIA process is planned for 2009, and the results of the assessment will then be sent to Finland for comments.

### **Background**

In 2005 the Swedish Environmental Protection Agency in Sweden sent a notification to Finland in accordance with the Espoo Convention (the UN's/ECE's Convention on Environmental Impact Assessments in a transboundary context, 67/1997) regarding procedures for environmental impact assessment in conjunction with a plant for encapsulation of nuclear waste and with final disposal of spent nuclear fuel. As the authority in charge, the Ministry of the Environment asked various parties for reports regarding the case, and replied on 15.02.2006 that Finland is taking part in the EIA process for both the projects.

### **Documents**

The material submitted by Sweden was presented at the following locations between 30.04.2008 and 28.05.2008:

- The Ministry of the Environment's registration office  
Fabiansgatan 6, Helsinki
- The Southwest Finland Environment Centre, registration office,  
Självtändighetsplan 2, Turku
- The Government of Åland's registration office,  
Självtystrelsegården, Mariehamn
- On the Internet, at [www.milio.fi/internattonellmkb](http://www.milio.fi/internattonellmkb).

### **Further information**

- Seija Rantakallio, consultant official, Espoo Convention  
Tel. 0400 143 937, e-mail [seija.rantakallio@vmpparisto.fi](mailto:seija.rantakallio@vmpparisto.fi),
- Lars Birgersson, project managers Swedish Nuclear Fuel and Waste Management Co. (SKB)  
Tel. +46 8 459 84 00, e-mail [Lars.Birgersson.kem@skb.se](mailto:Lars.Birgersson.kem@skb.se),
- Egon Enocksson, Swedish Environmental Protection Agency  
(Sweden's environmental authority)

+46 8 698 11 91, e-mail [Egon.Enocksson@naturvardsverket.se](mailto:Egon.Enocksson@naturvardsverket.se).

**Submission of opinions**

Opinions and reports on the material presented must be submitted in writing to the Ministry of the Environment by 28.05.2008 at the latest. Visitors' address: Kasemgatan 25, Helsinki

Postal address: Ministry of the Environment

PB 35, 00023 Statsrådet

E-mail: [kirjaamo.ym\[at\]ymparisto.fi](mailto:kirjaamo.ym[at]ymparisto.fi)

Helsinki, 29 April 2008

MINISTRY OF THE ENVIRONMENT

Ministry of the Environment Registry Office

Sender: Pohjanpalo, Maria (Maria.Pohjanpalo@formin.fi)

Sent: 28 May 2008 12:03 PM

Recipient: Rantakallio, Seija

CC: Registry Office of Ministry of Foreign Affairs of Finland, Registry Office of Ministry of Environment, OIK-12

Subject: Statement Request YM3/5521/2005 (UM SAAP-4246)

Hi,

In reference to the consultation request from the Ministry of the Environment regarding the information delivered by Sweden on the environmental impact assessment procedures of the spent nuclear fuel encapsulating facility and the final repository of the material, the Ministry of Foreign Affairs does not have a statement regarding the issue.

Sincerely,

Maria

(UM/OIK-12)

Maria Pohjanpalo

Legal Officer

Ministry of Foreign Affairs

Legal Department, Unit for EU and Treaty Law

P.O. Box 176, Laivastonkatu 22 B

00161 Helsinki, Finland

Tel. +358 9 160 55722

Cell.+358 40 512 2766

Fax. +358 9 160 55707

maria.pohjanpalo@formin.fi

Document name	No.	Pag
DECISION	23 S40	K D
Date	Doc. No.	
20.05.2008	S40/08/1/13	

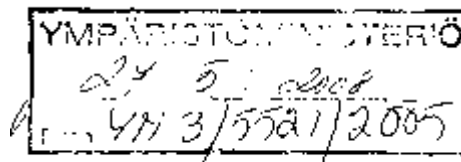
Ministry of the Environment  
PB35  
00023 STATSRÅDET

*Reference*

Your request YM3/5521/2005

*Contact*

Helena Blomqvist, office manager

*Case*

**REPORT ON THE MATERIAL SUBMITTED BY SWEDEN  
REGARDING EIA PROCEDURES FOR A PLANT FOR  
ENCAPSULATION OF NUCLEAR WASTE AND WITH FINAL  
DISPOSAL OF SPENT NUCLEAR FUEL**

The Government of Åland resolved to inform the Ministry of the Environment that they have nothing against the structure of the EIS document. The Government of Åland presupposes that we will also continue to be kept informed regarding documents and processes of which Finland is notified regarding the Forsmark option.

Member of the Government of Åland

Katrin Sjögren

Office manager

Helena Blomqvist

Postal address	Tel.	Fax	E-mail
PB 1060	+46 (0)18-25000	+46 (0)18-19582	<a href="mailto:registrator@regeringen.ax">registrator@regeringen.ax</a> URL
AX-22111 MARIEHAMN, Åland			<a href="http://www.regeringen.ax">www.regeringen.ax</a>

Official letters should be addressed to the Government of Åland, not to individual officials

Southwest Finland Regional  
Environment Centre

Date  
22 May, 2008

No.  
LOS-2006-J-4-53

Ministry of Environment  
PL 35  
00230 Finnish Government

Reference: Consultation Request 25 April 2008 YM3/5521/2005

Issue:

Consultation regarding Sweden's environmental impact assessment procedures of the spent nuclear fuel encapsulating facility and the final repository of the material.

According to the statements issued by the officials in Sweden, Svensk Kärnbränslehantering AB's nuclear waste encapsulating facility and the final repository location alternatives are the nuclear power plant area in Österhammar Municipality and the Laxemar areas associated with nuclear energy operations in Oskarshamn Municipality. The Ministry of Environment has received information from officials in Sweden regarding the scope of the environmental impact assessments of the spent nuclear fuel encapsulating facility and the final repository of the material and safety issues of the project, and requests consultation regarding the issue.

Southwest Finland Regional Environment Centre emphasises the importance of the inclusion of detailed and extensive risk and safety evaluations with the assessment report. The Environment Centre has no other remarks.

Director of Environment Centre

Risto Timonen

Chief Inspector

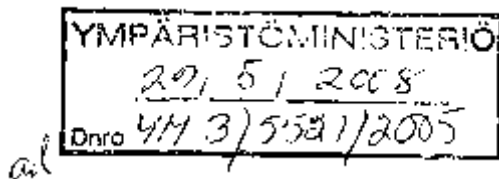
Seija Savo

**STATE PROVINCIAL OFFICE  
OF WESTERN FINLAND**

**Health and Welfare Department**

**REPORT**  
26.05.2008

1 (1)  
LSLH-2008-3744/Ym-11



Ministry of the Environment PB 35  
00023 STATSRÅDET

Sweden's environmental authority's request for comments

**REPORT ON INFORMATION FROM SWEDEN REGARDING ASSESSMENT  
PROCEDURE FOR ENCAPSULATION PLANTS FOR SPENT NUCLEAR FUEL  
AND THE ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURE  
REGARDING THE FINAL REPOSITORY**

The Ministry of the Environment has requested a report from the State Provincial Office of Western Finland on the information issued by Sweden regarding encapsulation plants for spent nuclear fuel and the environmental impact assessment procedure regarding the final repository. It is in particular requested that the report include comments on the proposed content of the environmental impact assessment regarding transboundary impact and the final repository's long-term safety.

The report deals with assessment of health and social effects regarding the project.

The material states that the main environmental impact of the encapsulation plant and final disposal of spent nuclear fuel is not the radiological impact. The only possible transboundary effects are to do with radionuclide emission from the final repository.

When assessing the transboundary effects, as far as the Finnish west coast is concerned one should in future investigate people's perception of how the project affects their safety and health and the identity associated with the area, and should also take into consideration similar plans in Finland.

The report was written by the County Health Inspector Erja Alanen,  
Tel. +46 (0)358 71 874 2140 and the County Social Inspector Lea Liukku,  
Tel. +46 (0)358 71 874 2712.

Manager of the Results Group, County Veterinary Surgeon Markku Tikkanen

County Health Inspector

Erja Alanen

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Business Unit in Turku Självständighetsplan 2 PB 22 FI-20801 Turku Fax 071 874 2113	Service Unit in Jyväskylä Cygnæuksenkatu 1 PB 41 FI-40101 Jyväskylä Fax 071 874 2842	Service Unit in Tampere Uimalankatu 1 PB 346 FI-33101 Tampere Fax 071 874 2500	Service Unit in Vaasa Wolffskavägen 35 PB 200 FI-65101 Vaasa Fax 071 874 2703
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Tel. 071 874 0531  
[registratur.vastra@laaninhallitus.fi](mailto:registratur.vastra@laaninhallitus.fi)  
[www.lansstyrelsen.fi/vastra](http://www.lansstyrelsen.fi/vastra)

Radiation and Nuclear Safety Authority, Finland

STATEMENT 1(2)  
27 May 2008 1/020/06

Ministry of Environment  
PL 32  
00023 FINNISH GOVERNMENT

Your letter dating 25 April 2008 YM3/5521/2005

MINISTRY OF ENVIRONMENT REQUEST FOR CONSULTATION PERTAINING  
TO THE INFORMATION DELIVERED BY SWEDEN REGARDING  
ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURES OF THE SPENT  
NUCLEAR FUEL ENCAPSULATING FACILITY AND THE FINAL REPOSITORY  
OF THE MATERIAL

Referring to your reference letter, the Radiation and Nuclear Safety Authority is delivering the attached consultation regarding the information delivered by Sweden regarding environmental impact assessment procedures of the spent nuclear fuel encapsulating facility and the final repository of the material.

Acting Director,  
Assistant Director

Arja Tanninen

Office Manager

Risto Paltemaa

ATTACHMENT  
CC

JL, TVa, LR, OVi, AT, RP, ET, yjä (electronically)

MINISTRY OF EMPLOYMENT AND THE ECONOMY

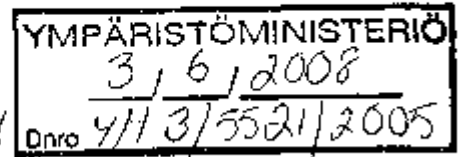
Ministry of the  
Environment

REPORT  
28.05.2008

1453/880/2008



TYÖ- JA ELINKEINMINISTERIÖ  
ARBETS- OCH NÄRINGSMINISTERIET  
MINISTRY OF EMPLOYMENT AND THE ECONOMY



Miljöministeriet

UTLÅTANDE  
28.5.2008

1453/880/2008

THE MINISTRY OF THE ENVIRONMENT'S REQUEST FOR A REPORT ON THE INFORMATION SUBMITTED BY SWEDEN REGARDING THE PROCEDURE FOR ENVIRONMENTAL IMPACT ASSESSMENT OF AN ENCAPSULATION PLANT AND A FINAL REPOSITORY FOR SPENT NUCLEAR FUEL

The Ministry of Employment and the Economy has received from the Ministry of the Environment a request for a report on the material submitted by the Swedish authorities. The documents deal with issues concerning the scope of the EIA procedure for an encapsulation plant and a final repository for spent nuclear fuel and the projects' safety.

The Ministry of Employment and the Economy's participation in the projects in progress in Sweden is based on the Convention on Environmental Impact Assessments in a transboundary context (67/1997). The Ministry assessed in its previous report (Ministry of Trade and Industry 1/818/2006, dated 26 January 2006) that the participation was appropriate, even though in the Ministry's opinion these projects will probably not have any significant harmful environmental impact in Finland.

In accordance with Annexe II of the Convention, descriptions of the project, its purpose, any alternatives, the environment, environmental impact and measures to restrict harmful consequences must be inserted in the EIA documents. The material must include an investigation of methods, background assumptions, materials, deficiencies and uncertainties in the collection of information. If necessary there must also be a proposed follow-up and action programme and plans for subsequent assessment and a summary.

In the Ministry of Employment and the Economy's assessment the project manager's plan for Environmental Impact Assessment meets the content requirements for the assessment documents set at the Convention. In the Ministry's opinion the project manager will deal with the consequences for other countries in the separate chapter 'Analyses of Risk and safety' which in accordance with the documents includes a description of analyses and methods implemented plus an analysis of the long-term safety and the results of the analyses.

Director-General  
Departmental Manager

Taisto Turunen

Senior Inspector

Jaana Avolahti

Ministry of the Interior  
Rescue Services

5 June 2008

SM-2008-1668/YM-0

Ministry of Environment  
PO Box 35  
00023 FINNISH GOVERNMENT

Reference: YM3/5521/2005 Statement request regarding the information delivered by Sweden regarding environmental impact assessment procedures of the spent nuclear fuel encapsulating facility and the final repository of the material.

#### CONSULTATION

The Ministry of Interior has received the attached consultation request and, following review of the material, it is the understanding of the Rescue Services department of the Ministry of Interior that the proposed content of the assessment report is extensive regarding the impacts extending across borders and the safety of the final repository. At this time, there is no significant remarks to be made pertaining to the report.

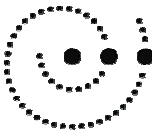
The Rescue Services department, however, recommends that the potential impacts on rescue services' arrangements are considered in the assessment programme and it feels it is important to engage in close co-operation between local rescue authorities and the programme implementers. The programme should assess the potential effects on the rescue authority arrangements and regional risks, during both construction and use. In addition, the programme should take into account protecting or evacuating the population in event of an accident, and the effects of preparing for such an incident.

Director of Readiness

Janne Koivukoski

Chief Inspector

Mikko Jääskeläinen



Naturvårdsverket  
SE-106 48 Stockholm  
SWEDEN

Viitefinska!  
Reference

Asia  
Case

A further report received by the Ministry of the Environment from the Ministry of Social Affairs and Health is appended here. In its report the Ministry of Social Affairs and Health repeats the factors emphasised by the Radiation and Nuclear Safety Authority in its report.

Senior Inspector

Miliza Malmelin

**Attached report from:**  
Ministry of Social Affairs and Health

27 May 2008

STM/1675/2008

Ministry of Environment

PO Box 35, 00023 FINNISH GOVERNMENT

Reference

**GENERAL AGREEMENT REGARDING ASSESSING ENVIRONMENTAL IMPACTS  
EXTENDING ACROSS NATIONAL BORDERS (ESPOO TREATY), CONSULTATION  
REQUEST FROM SWEDEN'S ENVIRONMENT AUTHRORITES**

During 2005, Naturvårdsverket of Sweden, referring to the Espoo Treaty (United Nations Economic Commission for Europe treaty regarding environmental impact assessments extending across national borders), has notified the Ministry of the Environment of Finland of initiating the environmental impact assessment (EIA) regarding the nuclear fuel facility and final repository planned in Sweden and inquired of the willingness of the Ministry of the Environment of Finland in participating in the EIA procedure within the framework of the Espoo Treaty. The Ministry of the Environment of Finland responded on 15 February 2006 stating that it will participate as the authority with jurisdiction in the project's EIA procedure.

The Ministry of the Environment has now requested consultation from the Ministry of Social Affairs and Health regarding the scope of the EIA procedure pertaining to Sweden's nuclear fuel encapsulating facility and repository and, in particular, the project's safety and potential long-term impacts that extend across national borders.

Referring to the consultation by the Radiation and Nuclear Safety Authority of Finland on 27 May 2008, The Ministry of Social Affairs and Health concludes that the final disposal methods of nuclear fuel in Finland and Sweden are highly similar. The Ministry of Social Affairs and Health concluded when stating of a decision-in-principle application of a similar project in Finland on 29 November 1999 that it fulfilled the requirements of environmental healthcare and occupational health and safety. Referring to the aforementioned statement by the Radiation and Nuclear Safety Authority of Finland, the Ministry of Social Affairs and Health concludes that the safety requirements in Finland and Sweden, which are based on international recommendations, are sufficient that radiation effects to neighboring countries from facilities complying with them are unlikely, even in thousands of years.

Minister of Health and Social Services

Paula Risikko

Senior Medical Officer

Mikko Paunio

DISTRIBUTION Ministry of the Environment, State Provincial Office of Western Finland

CC Radiation and Nuclear Safety Authority of Finland

## Appendix 5B – Poland



Warsaw, 16.04.2008

# MINISTER OF THE ENVIRONMENT

*Maciej Nowicki*

DOOS-082/2518/08/AO

**Environmental Protection Agency**

**SE 106 48 Stockholm**

**Sweden**

In reply to the letter Dnr 121-6695-05, dated 11 February 2008, in relation to the evaluation of transboundary environmental effects being carried out for the planned construction and operation of an encapsulation plant for spent nuclear fuel and its storage in deep rock layers in Oskarshamn in the south of Sweden, please be informed that according to the materials presented by the Swedish party, the proposed processing of spent nuclear fuel will not cause significant cross-border effects. Bearing the above in mind, the direct participation of Poland in the proceedings to evaluate the environmental effects will not be necessary.

However, Poland is interested in receiving further information about the planned venture, including the results of consultative meetings. We would also like to ask whether it is possible to participate, depending on the subject, in some of the planned meetings as Poland will also go through the process of legitimising deep landfill sites in the future.