

Participation in Sweden with focus on the process for a repository for spent nuclear fuel (SNF)

1977–2090 (?) History and thoughts forward

Presentation by Johanna Swedin, scientific secretary in the secretariat for The Swedish National Council for Nuclear Waste
Forum for Nuclear Cooperation in Asia (FNCA)
March 9th, 2022

Participation in Sweden – an overview from 1977 – 2090 (?)

1977 – 2009 Site selection process in Sweden

2011 – 2022 Parallel licensing processes according to two laws

2022 January 27 The government's decisions to approve a repository for SNF

2022 – 2090 (?) Participation after the decision? A project for at least 70 years

SKB – the Swedish Nuclear Fuel and Waste Management Company

SKB is the implementer of the repository in Sweden. It is a private company owned by the nuclear power companies.

Site selection process – in three phases

1977–1985 Study site investigations

1992–2000 Feasibility studies

2002–2007 Site investigations



Phase 1. 1977–1985 Study site investigations

2 (3)

Geological screening – protests! SKB had to reconsider the siting strategy.



Foto Bengt Backström, Uppsala Nya Tidning.

Almunge 1985. Så här såg det ut när lokalbefolkningen i februari 1985 satte stopp för provborringar i Almunge i Uppland. Borringarna genomfördes aldrig.



FOTO: SKB AB

Kynnefjäll vaktades i över 20 år mot SKB:s försök att undersöka om platsen var lämplig för ett slutförvar för använt kärnavfall.

Protests in Almunge and Kynnefjäll in the 80s



Phase 2. 1992–2000 Feasibility studies

New approach: local acceptability was introduced as an important principle.

Geological studies were made only on existing data – no drilling.

All 286 municipalities in Sweden got an invitation, only a few answered and was stopped by local referendums etc. Instead SKB turned to nuclear power municipalities and two accepted to continue the process.

Phase 3. 2002–2007 Site investigations in the two "super nuclear power municipalities"

Investigations, with drilling, was made in:

-*Östhammar* with a NPP and SFR (a repository for short lived, low and intermediate level waste)

-*Oskarshamn* with a NPP and Clab (central interim storage for SNF)

In 2009 – In Östhammar, Forsmark was chosen for the repository

Oskarshamn was chosen for the encapsulation plant, in connection with Clab.

(Where the SNF is to be placed in copper canisters).



2011 – 2022 Parallel licensing processes according to two laws 1 (3)

2011 March: SKB submitted applications for a final repository for SNF in Forsmark and an encapsulation plant in Oskarshamn. A parallel review process followed under the *Environmental Code* and the *Nuclear Activities Act*.

In the *Environmental Code* process, SKB's application was first prepared and reviewed by the Land and Environment Court.

In the *Nuclear Activities Act* process, applications were first prepared and reviewed by The Swedish Radiation Safety Authority (SSM).

An environmental impact statement (EIS) was included in the applications 2011 according to both processes. The EIS require early consultations, which started 2002 during the site investigations.



Participation 2011 – 2022 in parallel separated processes

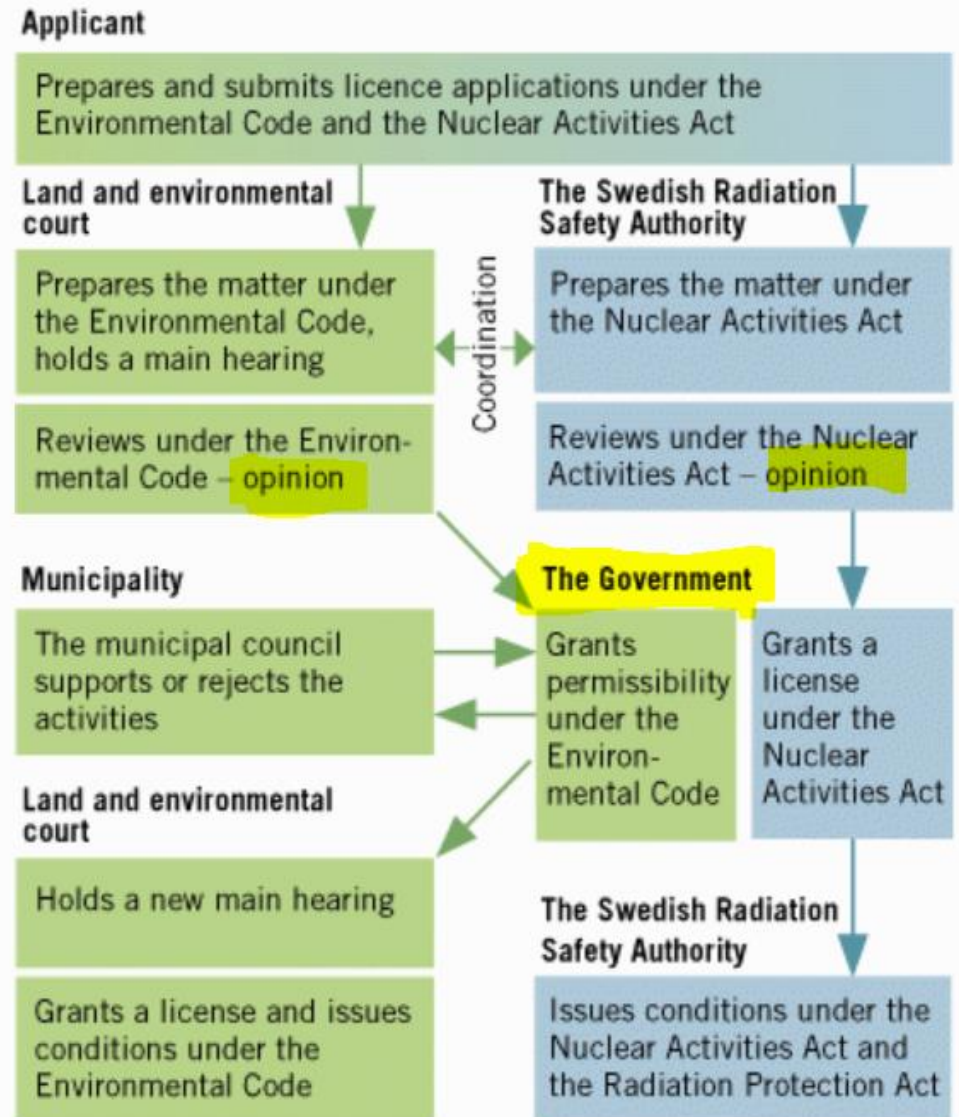
Both review processes have been rather open. The applications have been circulated for review and comments from different actors and the general public several times.

In the process according to the Environmental code, an open main hearing for five weeks was held in the autumn 2017.

2018 on January 23

The applications and opinions were given to the Government by the Land and Environment Court and SSM.

(OK from SSM and the court asked for some more material).



Veto right – municipality

According to the Environmental Code the municipality has to approve of the repository or encapsulation plant before the Government can make a decision. (Approved by Östhammar 2020 and Oskarshamn 2018)

2018 – 2022 The Government's review

The applications were reviewed by the Government in both processes. On a request SKB supplemented the applications in April 2019. (The supplements was first circulated for review and comments from different authorities and organizations).

The supplemented application were also announced for comments from the general public in June 2020. Before the Government's decision, the applications were announced for the public once more in December 2021.

Esbo consultations – with other countries

Consultations with other countries were also made, coordinated by the Swedish Environmental Protection Agency in 2008, 2016 and 2021.

The Government's two decisions about the repository 2022 on January 27

Permissibility according to the Environmental Code

With one condition about annual meetings between the municipalities and SKB about environmental questions. (Next step is that The Land and Environment Court will have another main hearing, give permission and set more conditions).

Permission/license under the Nuclear Activities Act

With conditions about a stepwise process. But no condition about participation in this process. In the decision it was stated that the regulator, SSM, intends to cooperate with the municipality. – *But we don't know how?*

Important factors for the process

- the relatively high amount of trust in the authorities the Swedes have
- SKB publishes its RD&D programme every third year
- SKB has worked with dialogue with the general public. One director at SKB pointed out in 2012, that: “... you can never relax when it comes to issues of acceptance. Building trust takes a long time, but you can lose it almost overnight.”

From siting to hosting

Östhammar will now go from siting to hosting – how will participation work in a project for at least 70 years?

A team from the Nuclear Energy Agency (NEA, OECD) made an international peer review of parts of SKB’s application in 2012. A couple of conclusions were that:

- SKB was a “world leader” in community involvement.
- The team encouraged SKB to involve stakeholders *at all future stages* of the project. And not only at the local level, but also at the regional and national levels.

The Swedish National Council also considers that broad participation in the long process even after a decision is important, and that it must be more clarified.

Participation – for a better project

Participation is important to keep confidence in the implementer and to “Building public trust on nuclear science and technology with stakeholder involvement”.

The Swedish National Council also believes that participation is important for the implementer, because it can provide more perspectives and views. Which can make the project better – and in the end safer.

Websites:

The Swedish National Council for Nuclear Waste:

<https://www.karnavfallsradet.se/en>

The Swedish Nuclear Fuel and Waste Management Company, SKB:

<https://www.skb.com/>

The Swedish Radiation Safety Authority (SSM)

<https://www.stralsakerhetsmyndigheten.se/en/>