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# **The Future of Consent Based Siting SNF/HLW Disposal Siting and Discussion of the Alternatives – FINLAND**

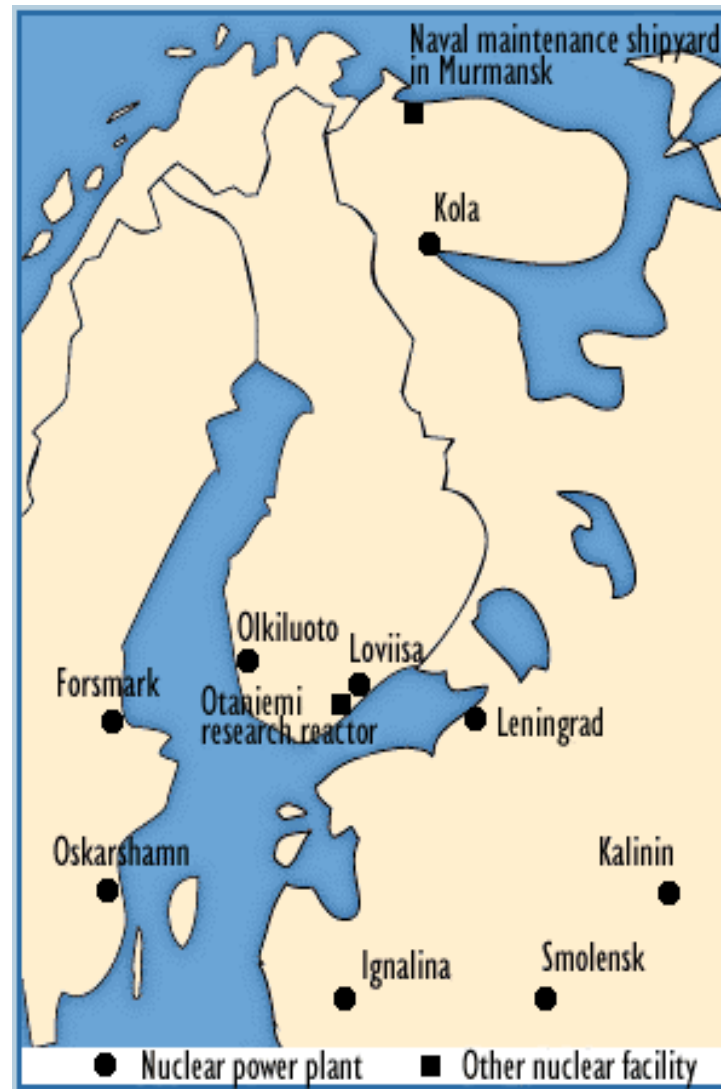
**Session 102**

**WM 2013, Phoenix, Arizona, USA**

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# The consent-based approach

*“Experience in other countries and from the WIPP facility in the United States suggests that an adaptive, phased, and ultimately consent-based process should start by encouraging expressions of interest from a large variety of communities that can offer a potentially suitable environment for the type of facility under consideration. The waste management organization should also be able to approach communities that it believes can meet the siting requirements.” (BRC, 2012, p.54.)*



# How to determine consent?

*“The Commission takes the view that the question of how to determine consent ultimately has to be answered by a potential host jurisdiction, using whatever means and timing it sees fit.*

*We believe that a good gauge of consent would be the willingness of the host state (and other affected units of government, as appropriate) to enter into legally binding agreements with the facility operator, where these agreements enable states, tribes, or communities to have confidence that they can protect the interests of their citizens.” (BRC, 2012, p.57.)*



# Site selection process in Finland

- A countrywide screening study was undertaken between 1983 and 1985.
- Preliminary site investigations from 1986 to 1992.
- Detailed site investigations from 1993 through 2000.
- Environmental impact assessment procedure was conducted for four sites between 1998 and 1999.
- The Government issued decisions-in-principle (DiP) concerning the construction of the encapsulation and final disposal facility on
  - 21 December 2000 > total capacity 4000 tU
  - 17 January 2002 > total capacity 6500 tU
  - 6 May 2010 > total capacity 9000 tU



# The evolution of the consent (1)

- In 1973 the municipal council of Eurajoki approved the plan for a NPP. The prerequisite was that SNF should not be buried in Eurajoki's bedrock.
  - In 1987 TVO sent an announcement letter to the municipality of Eurajoki that the Olkiluoto site would be one of 5–10 sites for bedrock investigations.
  - The municipal board decided that it was informed about the issue, but it did not take a stance on the TVO investigations.
  - Olkiluoto was not disqualified by TVO, only permission from the owner of the land was legally required.
- Eurajoki did not volunteer for site investigations.



## The evolution of the consent (2)

- In 1993 the municipal council decided that "*The council must act in such a way that no final disposal of high-level nuclear waste take place in Eurajoki municipality*".
- In 1995 a cooperation agreement between the municipality and TVO was signed to ensure the interests of the contracting parties.
  - Eurajoki: to maintain the financial stability regarding the tax revenue
  - TVO: to safeguard smooth local decision making
- In 1998 a long-term vision of the municipality (incl. a repository and nuclear new build) was established.
- Between 1998 and 2000 Eurajoki, Posiva and TVO negotiated on a compensation package.
- In January 2000 the municipal council issued a positive statement on Posiva's DiP application, approving it by 20 votes to 7.  
→ Only then did Eurajoki volunteer to host a repository for SNF.



# Compensation package for the municipality of Eurajoki by Posiva and TVO

The Municipality leased the Vuojoki Mansion estate to Posiva

- Posiva's loan to the Municipality 6.39 + 0.5 M €
- TVO's loan for construction of the ice stadium 0.5 M €
- TVO's loan to the Municipality 2.35 M €
- The Municipality sold some water areas to TVO 0.84 M €
- TVO and Posiva paid into the Business Development Fund of Eurajoki in 2000-2004 0.25 M €





## Current status

- Posiva submitted on 28 December 2012 to the Ministry of Employment and the Economy, addressed to the Government, an application for a construction licence for an encapsulation and final disposal facility for the final disposal of SNF.
- The hearing procedure is under way (15 Feb – 30 Sept 2013).
- It is estimated that the construction licence application and the related materials will be submitted for consideration by the Government towards the end of 2014.
- The operation of the completed facility will require an operating licence granted by the Government (advised by STUK).



# The Future (1)

- New power utility Fennovoima Oy, a competitor of TVO and Fortum Consortium, was established in 2007.
- Fennovoima was issued a DiP for a new NPP unit in 2010.
- The Government set the options for Fennovoima SNF management:
  - Agreement with Posiva on SNF disposal at Olkiluoto or
  - Start a site selection process for **a separate repository**.
- Fennovoima would like to join the Posiva final disposal project at Olkiluoto, but Posiva has repeatedly rejected this.

*”Posiva has no need and, for safety reasons, no possibility to expand the repository. The capacity was designed and defined for the use of the four power plant units on Olkiluoto and the current units in Loviisa plus the third replacement unit.” (TVO press release, 7 March 2012.)*



## The Future (2)

- The Ministry of Employment and the Economics appointed a working group to steer nuclear power companies' joint investigation of the alternatives available for final disposal of nuclear fuel in March 2012.
- The final report of this group was released in January 2013. The group compared two options:
  - the expansion of Posiva's final disposal facility in Olkiluoto, and
  - construction of a separate final disposal facility for Fennovoima
- The Ministry: *"When implemented in an optimal and timely manner, the difference in costs between different options would be insignificant compared to the life cycle costs of nuclear power production. (...) As regards the overall interests of society, the social acceptability of final disposal is the key issue."*
- STUK: *"on the basis of the available information, there are no significant differences in safety between the options."*



## The Future (3)

- According to the minutes of the working group Fennovoima started preparations of a site selection process in 2012.
- Pyhäjoki, the host municipality of the Fennovoima NPP, is one possible site.
- Open questions:
  - Will the Government force Posiva to cooperate with Fennovoima in final disposal of SNF (in line the Nuclear Energy Act §29)?
  - How much Fennovoima and Posiva will cooperate?
  - What kind of siting criteria will Fennovoima apply?
  - How and when will Fennovoima approach the candidate sites?
  - Is Finland going to get a second repository for SNF?



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**EXTRA**



## Added value as part of siting approach

Criteria to assess the added value approaches

### Institutional mitigation:

- Local decision-making power
- Partnership with the nuclear industry
- Stakeholder involvement / Capacity building

### Compensation:

- Compensation strategy

### Incentives:

- Funding instruments
- Public monetary instruments
- Employment
- Development Projects



# Comparing two cases: Östhammar vs. Eurajoki

Similarities	Differences
Municipalities vested with right of veto	Competition between the municipalities in Finland, cooperation in Sweden
Local institutionalized relationship with nuclear industry, 'partnership'	Funding (Nuclear Waste Fund) for stakeholder involvement and capacity building in Sweden
Governments not directly involved	Finnish municipalities did not consult independent experts
Initiatives by the municipalities	Real estate tax from the SNF facility as a public incentive in Finland
No lump sums given to the municipalities	



# Comparing two cases: Östhammar vs. Eurajoki

- The increasing use of some form of community benefits in resitory siting processes.
- No clear 'Nordic' added value approach although some similarities found:
  - Community driven approaches
  - Characterized by
    - close local cooperation with nuclear waste management company and
    - aimed at identifying the reciprocal interests of the contractinig parties.