NGO Participation in the Swedish EIA Process to Establish a Nuclear Waste Disposal

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1. About the Author

The author is a civil engineer with a Ph D in engineering geology, working as a researcher and consultant since the late 1960s. Many tasks have concerned hydrogeology and siting, for instance sanitary landfills. Simultaneously the author has been engaged in several NGOs, among others the Waste Network since the early 1980s. This engagement has included numerous visits to local groups, participation in meetings and seminars, writing statements etc. The author has presented papers reflecting NGO viewpoints on nuclear waste management in Sweden at the VALDOR conferences in 1999 [1] and 2003 [2].

The Waste Network co-ordinates local groups at sites considered for localizing a nuclear waste disposal. The Waste Network was established in 1981 as a consequence of the test drillings being planned or carried out at that time in many parts of Sweden.

2. Overview of Swedish Nuclear Waste Management

Simplified, nuclear waste management in Sweden might be described in the following steps.

1. Up to 1970 no waste problem was acknowledged. Spent fuel was considered to be a resource for further power production or bombs.

2. 1972-1976. The AKA state investigation [3] presented a first outline of the KBS method (canisters deposited in the bedrock).

3. 1977. The Stipulation Act stated that no more reactors should get operation permits until a completely safe method had been developed for waste disposal. In 1978 the Government approved the KBS1 method (disposal after reprocessing) according to the Stipulation Act. However, in reality this was a political and not a technical solution.

4. 1984. The Nuclear Technology Act replaced the Stipulation Act and demanded an approval of the Government based on a statement of ongoing activities every 3 years. In 1984 KBS 3 (direct disposal without reprocessing) was approved according to the Nuclear Technology Act.

5. 1980-1985. Test drillings were performed in "type areas" with the purpose to find the best bedrock conditions for a disposal.

6. 1992-2000. Preliminary studies were performed in 8 municipalities after an inquiry for voluntaries to all municipalities in Sweden. Now the purpose had changed to find municipal acceptability. The validity of bedrock conditions was openly declared less important.

7. 2003. Test drillings were started in Oskarshamn and Östhammar, both municipalities depending on the nuclear industry because of hosting nuclear power plants. The EIA (Environmental Impact Assessment) process for an application started separately in both municipalities.

It is obvious that no serious selection process based on presentation of alternative methods in accordance with a real EIA process has been performed. The chosen KBS method is based on the proposed idea of rock disposal originally presented by the AKA committee [3] in the beginning of the 1970s. After that SKB has never seriously confronted the KBS method with other alternatives. The historical nuclear waste management in Sweden is described much more in detail by Sundqvist [4]. The view of the Waste Network on the management is described by Holmstrand [5] in a booklet.

3. Financing Nuclear Waste Management in Sweden

Nuclear waste management in Sweden is financed by a tax on nuclear energy. The money is collected in the Nuclear Waste Fund, founded in 1981 in accordance with the Financing Act [6].

Money from the Fund is transferred to SKB for financing its research and development work. This reimbursement is decided by SKI (the Nuclear Power Inspectorate). SKI may also transfer some money to municipalities concerned by SKB activities. Some local NGOs have secondly got limited grants by the municipalities. However, up to 2005 the Financing Act did not allow grants to be given directly to NGOs.

4. Nuclear Waste Management in Sweden at Present

SKB, the company owned by the nuclear industry, is at present preparing a proposal for a final disposal either at the nuclear power plants in Oskarshamn or in Östhammar. According to present planning the proposal following the Environmental Code will be handed over to the Environmental Court in 2008.

The proposal worked out by SKB is expected to implement the KBS 3 method. The spent fuel should be encapsulated and put in the bedrock at a depth of about

500 meters. As mentioned above this is the only method seriously considered and developed since the early 1970s. Until the final disposal is in operation the spent fuel is kept in water basins in a rock cavern at 50 meters depth near the power plant in Oskarshamn. This interim storage is named CLAB and is claimed to be safe for at least about 100 years.

From 1984 the Nuclear Technology Act demands that the nuclear industry shall account for its development of nuclear waste management every third year to the Government as a condition for nuclear power plant operation. The nuclear industry, through SKB, has presented research and development reports, which have been examined and agreed, sometimes with critical remarks, but never been rejected. The Government demands on development of alternative methods have been weak and thus in the opinion of SKB the KBS 3 method is in reality approved. Based solely on the Nuclear Technology Act this might perhaps be a reasonable conclusion. But now the disposal should also be tested according to the Environmental Code stating considerably more specific prescriptions on e. g. the precautionary principle, alternatives, BAT (best available technology) and resource economizing.

The newly considered proposal to increase the capacity at the nuclear power plant in Ringhals was the first nuclear energy project to be examined according to the Environmental Code. In April 2005 the regional Environmental Court denied permission on the following grounds:

1. No disposal for final disposal of spent fuel exists.
2. The risk for serious radiological accidents is too high with respect to what is stated in the Environmental Code.
3. The amount of energy released by the cooling water is an unlawful misuse of resources.

The Court decision illustrates clearly the difference between the Nuclear Technology Act and the Environmental Code. However, according to the Code, the Environmental Court had to pass the final decision to the Government, which approved the increase of capacity at the power plant because of its alleged significance for the society as a whole.

In the fall of 2005 Prime Minister Persson suddenly and unexpectedly declared that he felt the KBS 3 method to be “un-modern”. This caused a general sense of uncertainty concerning the further work on nuclear waste management in Sweden.

5. EIA in Swedish Environmental Legislation

The first Environmental Protection Act in Sweden was established in 1969 and stated that environmentally harmful activities should have permits. However, nuclear activities were not to be treated fully by the law.

Even if the Environmental Protection Act did not stipulate an EIA, the proposals according to the Act tended to include descriptions of environmental consequences and sometimes also alternatives. EIA became a formal part of the environmental legislation in 1991. Alternatives should be presented and consultations carried out

with the parties concerned. But the rules were vague and often the EIA was only a document shortly describing environmental consequences of a project.

In 1999 the Environmental Code finally and more seriously introduced EIA into the environmental legislation and also expanded its validity into several more laws on environmentally influencing activities. Nuclear activities such as a waste disposal should be approved according to the Environmental Code.

The preparation of an EIA is an important part of the proposal planning. The working out of an EIA should include consultations with authorities, organisations and the public. According to Swedish environmental legislation EIA is both a process and a document. The Environmental Code specially points out environmental NGOs to be consulted in the process.

Swedish environmental NGOs claim that the Environmental Code puts harder demands on an application than the Nuclear Technology Act. This opinion is supported by the decision of the Environmental Court on the case of the Ringhals power plant as described above. Thus the work carried out by SKB so far on choosing method and site might be insufficient according to the law.

6. Earlier Conditions for NGO Participation

In the beginning of the 1980s test drillings were initiated to find the most suitable bedrock for a disposal. The first drillings were planned in Kynnefjäll and Voxnadalen by PRAV, a state committee, working from 1975 to 1981. It was not thought to be necessary to inform the local population and consequently the reactions were strong. In Kynnefjäll a 24 hours watch started, which prevented drilling. The vigil then went on for 20 years. In Voxnadalen the drilling started, but was temporarily stopped by the local people. They were lifted away by the police, accused and sentenced to pay fines. Succeeding drillings were then carried out at several sites by the company SKBF (now SKB), owned by the nuclear industry. But still no information was given to the local population at the sites and the protests continued.

Late in 1985 drillings should be performed in Almunge near Uppsala. This time the drilling was stopped by the local people. SKB called the police to move away the protesters, but SKB was asked by the regional authority to stop temporarily. As a consequence environmental minister Birgitta Dahl invited representatives of the Waste Network to discuss the situation. At two meetings lasting together 6 hours the minister tried to convince the NGO representatives that everything was decided in due order and the NGO representatives tried to demand a fair decision process. There was no consensus, but as a result SKB could not go on with test drillings protected by the police and had to change its tactics.

In 1990 SKI (The Swedish Nuclear Inspectorate) initiated the Dialog project [7]. The purpose was to create a dialog between different actors and stakeholders. However, SKB refused to participate. Several environmental NGOs including the Waste Network participated in the project. A part of the project was carried out as

a game on reviewing a fictitious application for a disposal. Some of the common conclusions of the project were:

- The EIA process should be open and allow active participation of other actors than the applicant.
- Other actors as municipalities, environmental NGOs and local populations must be given resources e. g. for engaging experts for serious participation in the EIA process.
- It should be considered to have an independent coordinator of the EIA process.
- Alternative methods compared to KBS 3 should be developed and valuated.
- The choice of site should be carried out in a systematic way according to a procedure presented in advance.

Within the Waste network it was expected that environmental NGOs should be given the opportunity to get grants from the waste fund as a consequence of the Dialog project. This became even more important when SKB during the 1990s claimed to have started the working out of an EIA.

In order to change the economic conditions for NGOs a formal association was formed within the Waste Network with the main purpose to be able to handle money in a formally proper way. In 1998 the Waste Network Association applied to the Government for funding to participate in the EIA process. The application was rejected on formal grounds by the Ministry of the Environment, due to the rules of the Financing Act. The NGOs concluded that the rules had to be changed if it would be possible to fulfil the intentions of the environmental legislation on the EIA process in a matter as vast and complicated as the nuclear waste management.

Until the end of the 1990s most national Swedish environmental NGOs except the Waste Network generally were not deeper engaged in the nuclear waste issue. Thus most of the activity took place in the local groups of the Waste Network. But the weakness of a network is the absence of a common board or administration. The Waste Network Association was captured by people with an extremely hostile opinion on the nuclear industry and the SKB and later the Association went into inactivity.

7. Present Conditions for NGO Participation

As described above the demand for economic resources to environmental NGOs for participating in the EIA process was identified and acknowledged already by the Dialog project in 1993 [7]. During the 1990s SKB claimed to have started the EIA process. But still in 1998 the Government rejected the application for

resources referring to what was stated in the Financing Act and showing no intention to change the rules. Finally in 2003 things started to change.

In October 2003 several environmental NGOs were invited to a meeting on the issue of economic resources for participating in the EIA process concerning a nuclear waste disposal. Earlier in 2003 a state investigation had been initiated to revise the Financing Act and one of the revisions in question was the possibility to give grants to NGOs. Before the meeting some NGO representatives coordinated a proposal to be presented to the investigator.

It was obvious both to the investigator and most of the NGOs that it would be unpractical to administer a lot of grants to many NGOs. Therefore at the meeting the NGO group proposed a coordinated NGO secretariat to manage the EIA participation. The investigator agreed on this idea and proposed the Government to change the Act in this way. Grants should be given to NGOs or groups of NGOs fulfilling the same conditions (formal organization, at least 2000 members and at least 3 years of activity) stated by the Environmental Code for appealing against a permit. The Government proposed the change of the law in March 2004 and the parliament later came to the decision. From 2005 it would be possible for NGOs to apply for grants from the Nuclear Waste Fond, 3 million SEK per year during 4 years.

In the course of the process it became obvious that the environmental NGOs had somewhat differing opinions on what to think and how to act. Three general standpoints could be identified:

The majority group means that NGOs must participate in the ongoing EIA process now, otherwise the possibility of influence is lost. The rules for EIA give the opportunity of participation, but not any obligation. Absence can be interpreted as acceptance. This group has the opinion that alternative methods and sites must be seriously investigated and that the KBS 3 method probably not fulfils reasonable functional conditions. The work is concentrated on participation in the EIA process. This group has established MKG.

A smaller group also accepts participation in the EIA process, but means that information to the public is more important than the EIA process. This group tends to reject every bedrock disposal in connection with ground water. Consequently the group advocates dry disposal, preferably as a more long-term intermediate storage than CLAB. This Group has established Milkas.

One very small group means that any receiving of grants and any participation in the EIA process would mean accepting the work done by SKB and the KBS 3 method. Consequently this group did not cooperate with the other NGOs at any stage of the process towards establishing the secretariats. This group generally means that the nuclear waste should not be finally disposed, but put under guard until a better solution may be found. This group is not involved in any secretariat.

The following grants were given in 2005 and 2006.

The Swedish NGO Office for Nuclear Waste Review (MKG) was founded by the Swedish Society for Nature Protection (by far the biggest environmental NGO in Sweden), Fältbiologerna (the Field Biologists, a youth organisation) and OSS (the local group in Östhammar associated to the Waste Network). MKG got 1 950 000 SEK in 2005 and 1 925 000 SEK in 2006.

The Nuclear Waste Secretariat of the Swedish Environment Movement (Milkas) was founded by the Swedish Anti Nuclear Movement (FMKK) and Friends of the Earth Sweden (MJV). Milkas got 1 000 000 SEK in 2005 and 1050 000 SEK in 2006.

MFK (Environmentalists for Nuclear Power), a pro-nuclear organisation mostly engaging people employed by the nuclear industry, got 50 000 SEK in 2005. The grant was not used to participate in the EIA process, but was given as a scholarship to a student at a technical university. No application was made for 2006.

SERO (Swedish Renewable Energies Association), an organisation mainly active in supporting renewable energy, got 25 000 SEK in 2006. SERO has not earlier been actively engaged in the nuclear waste issue or cooperated with other NGOs on this issue.

8. Present NGO Demands on the EIA Process

As explained above Swedish environmental NGOs have no complete consensus on the issue of nuclear waste management. However, concerning the demands on the EIA process most of the opinions coincide. The following standpoints generally reflect those represented by MKG as interpreted by the author:

- Continuation of nuclear waste production, also in connection with uranium mining, is inconsistent with sustainable development.

- The problems of nuclear waste management must be dealt with now and not left to an undecided future. However, this does not automatically mean that any final solution needs be implemented within a short period of time.

- Irrespective of storage or disposal method nuclear waste is a possible source for nuclear weapons for a very long time and must therefore be subject to long-term safeguards.

- Any storage or disposal must be designed considering the risk of intentional or unintentional intrusion.

- The management of nuclear waste is a national task. The EIA process should thus be performed on a national scale, not as now in the municipal and to some extent regional scale.

- The choice of method should precede the choice of site.

- The choice of method should be made according to a systematic process and considering functional conditions set up in advance. Different alternatives should be evaluated and compared according to strict long-term environmental standards that comply with sustainable development. This demands extensive information on more than one possible method.

- The choice of site should also be made according to a systematic process and considering functional conditions set up in advance. A clear and understandable sieving process at a national scale should be performed to find the best possible site considering environmental conditions.

- Changes have to be made so that an independent body supervises the EIA process instead of the nuclear industry. This increases the chance that the choice of method and site gain legitimacy and acceptance in the eyes of ordinary citizens.

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