

# Delegated Democracy The Siting of Swedish Nuclear Waste

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## 1. Background

The use of nuclear power is not only beneficial – by providing cheap energy – it also produces radioactive waste. The waste must be isolated from human beings and the environment for approximately 100 000 years. According to the law, the Swedish Nuclear Fuel and Waste Management Co (SKB), is responsible for the nuclear waste disposal. SKB has spent 30 years developing a method for final disposal and looking for a site for the repository. SKB has developed the KBS-method as a solution on the waste problem. This method involves encapsulating the waste in containers of copper and steel and depositing it at 500-700 meters depth in the bedrock.

Before SKB can receive a permit to construct a final repository, the proposed method and site must be approved by the government. SKB's producer-responsibility means that the government has delegated the nuclear waste issue to the industry. This delegation has resulted in the arising of a mutual dependence between a corporation and the State. In addition to the division of labour and responsibility between the government and SKB, there is a great deal of scope for negotiations about the roles of other involved parties.

In 1992, SKB adopted a new siting strategy based on "voluntariness", i.e. that studies only are carried out in municipalities that have expressed interest. Since 1992, SKB has not only investigated the geological requirements for a final repository, but has put significant resources into information campaigns and cultivating good relations with the municipalities. In all, SKB has carried out feasibility studies in eight municipalities with the goal of determining their suitability to host a final repository. The feasibility studies also involved the setting up of committees in the municipalities to work with the nuclear waste issue, a question that was often unfamiliar to the politicians and local population. Since 2002, site investigations have been under way in the municipalities of Oskarshamn and Östhammar. During the site investigations, SKB puts a great deal of resources into communicating with politicians, the public, and opinion groups. According to the Environmental Code SKB has to consult with concerned parties. SKB includes both public consultation meetings and study visits within its consultation process.

## 2. Research Aim and Questions

The premise of the study is that the nuclear waste issue has both political, and scientific and technical aspects, and also concerns the interface between them. Some actors argue that nuclear waste is primarily a technical issue that should be decided by experts. Other actors view it as a political question that should be decided in political bodies open to varying degrees of influence from the citizens. How actors define the nuclear waste issue, as well as their own roles and those of others in the process of siting a repository can be seen in relation to how the actors view the interplay between the technical and political aspects of the issue.

This paper aims to characterise Swedish democracy in connection with the disposal of Swedish nuclear waste. To this end, an analysis is performed to discern which democratic ideals that can be found within the nuclear waste issue. The study analyses various actors' views on democracy and expertise as well as their definitions of the nuclear waste issue, and discusses this from the perspective of democracy theory. Which definitions that become influential has democratic implications. In addition, various actors' possible attempts to help or hinder other actors from gaining influence over the nuclear waste issue in the four municipalities are studied.

In connection with the case studies the aim of the paper can be narrowed to comprise the following questions:

- *Which democratic ideals can be found within SKB's siting process during the feasibility studies and in the consultation process during the site investigations?*
- *Which democratic ideals were influential during the feasibility studies and in the consultation process?*

### **3. Description of the Cases**

This paper contains four case studies that in various ways reflect the siting of Swedish nuclear waste. The first two case studies consist of an analysis of the feasibility study in Nyköping 1995-2001 and the feasibility study in Tierp 1998-2001. Here, the analysis focuses on the groups that participated in the feasibility studies. The work of the municipalities is analysed, not least in terms of how different actors attempt to influence the preparatory and decision-making processes. In addition, there is an investigation of which different interpretations of nuclear waste, the feasibility study, and the political procedures that were in force, and which of these interpretations that were influential. Also studied are the democratic implications of these definitions for the handling of the feasibility studies and the nuclear waste issue. Finally, the ways that the municipalities justified saying "no" to a feasibility study are looked at.

The third case study consists of an analysis of SKB's three public consultation meetings with conservationist and environmentalist organisations during the site investigations in Oskarshamn and Östhammar. Here the public consultation meetings are described, as well as how SKB organised its consultations in line with the requirements of the Environment Code and the company's own desire for dialogue. In addition, a description of how other participants in the consultations interpret the Environment Code's demand for consultations is provided. The main question for the analysis is whether there are mechanisms at work in the public consultations that promote or obstruct democratic deliberation. First to be discussed is whether or not the public consultations were an arena for deliberation. Then the limits and preconditions for democratic deliberations are analysed.

The fourth case study consists of a description of two study visits to nuclear facilities in Oskarshamn and Östhammar respectively. A follow-up meeting held in Oskarshamn is also described. SKB's information efforts and other activities during the visits and follow-ups are also analysed. The attendees' participation and dialogue with SKB are also studied. The chapter concludes with a discussion of any connection that might exist between SKB's study visits and the public consultation process.

### **4. Methods and Materials**

The collected source materials is based consist of documents, interviews, and participant observations. In the description of the feasibility study in Nyköping, the written materials consist of documents generated by the municipal committees and by SKB. Finally, reports from public reviews are studied, along with other materials produced by opinion groups and the general public. The written source materials in the Tierp study have a similar character with the addition of two consultant reports commissioned by the municipality.

The interview materials are made up of two parts. In total, 19 people were interviewed in Nyköping and 12 in Tierp. All the subjects interviewed were clearly committed to the work surrounding the feasibility study, and several of them were appointed to be the spokesperson for their group on the issue of nuclear waste.

The studies of the public consultations contain less written materials. The first part of the material is my notes and observations from the meetings. The second part is SKB's documentation of the public consultations and comments submitted by environmental and conservationist groups that took part in the consultations. No documentation exists about the study visits except for the invitations, so here the source materials consist of personal observations and notes.

The study also consists of observations. The first observation consists of a hidden observation of a municipal council meeting in Tierp concerning possible participation in a site investigation. The observation is supplemented with personal notes and the official minutes of the meeting. In addition three public consultation meetings, two study visits, and one follow-up visit arranged by SKB have been observed. All the observations of SKB's activities have been open. The materials used consist of my notes and impressions from the three public consultation meetings. These notes have been checked against SKB's notes and SKB's report from the consultations. The materials from the study visits consist of participant observations and notes from a study visit for residents of Misterhult (in Oskarshamn Municipality) to Forsmark Nuclear Power Plant in Östhammar and a subsequent follow-up, as well as a participant observation of a study visit for the general public and school pupils in Östhammar and Oskarshamn.

### **5. Theory**

In the 30 years during which the Swedish nuclear waste program has been underway, actors such as politicians, officials, researchers, opinion groups, and industry representatives have discussed and worked with the question of safe final disposal. Since there are no fixed rules for political participation outside the parliamentary system, there arises a situation of negotiations about which roles various actors will have. The division of responsibilities among actors, and their various roles in the nuclear waste issue, involves not only SKB and politicians, but also experts, public authorities, municipalities, environmental and opinion groups, and the general public. In technological issues like the nuclear waste issue, experts can exert a great deal of influence. At the same time expert knowledge can often be called into question. In short, techno-political issues mean that politicians must share the influence over politics, and more arenas than parliament become political centres. Two examples of

such arenas are SKB's public consultation meetings and study visits, as these activities are undertaken by a corporation, involve a wide spectrum of actors, and comprise a foundation for future political decisions on the final disposal of nuclear waste. In this study, four models of democracy are employed to enhance the understanding the management of the nuclear waste issue.

The first model, *representative democracy*, is characterised by political decisions being taken by publicly elected representatives who are chosen by citizens who have reached lawful age. Furthermore the freedoms of opinion and to form organisations are guaranteed, as is the possibility for citizens to influence political issues. Finally, the model presupposes that involved parties receive access to information about political issues and to the arenas where political activity is conducted. One variety of representative democracy is "elite democracy", which has points in common with technocracy. In an elite democracy, the representatives are accorded the right to take decisions in all types of political questions because they have won the most votes from the public in an election. The primary task of the public is to choose or reject representatives, and not to take part in the ongoing political work. [1]

In the second model, *participatory democracy*, the citizens are the most important actors, and their right to take part in political discussions is emphasised. In addition, more arenas than the parliamentary ones are viewed as central. Furthermore, the importance of transparency is emphasised – that citizens should have access to information about the policies being pursued and to public and political debates and decision-making processes. Participatory democracy also includes a belief that argumentation and dialogue are the method to reach reasonable solutions to collective problems. Finally, it is emphasised that it is the duty of the citizens to get involved in political issues (the criteria of responsibility). [2]

The distinguishing characteristic of *deliberative democracy* is public and open discussion in which concerned parties can participate on equal terms. Furthermore, access must be granted to arenas where actors can meet and deliberate. Deliberation also presupposes that citizens wish to participate in discussions and conversations. To be able to do so, they must have access to information about the question under discussion. Finally, deliberative democracy presupposes feedback between deliberation and decision. There are different varieties of deliberative democracy. The first can be called "participatory deliberative democracy". This type of deliberation requires that a discussion arises between different actors impacted by an issue, and that the discussion influences the final decision. Additionally, a number of different forms of contributions are welcomed even if they are emotionally based arguments are accepted or sceptical towards the arguments and credibility of experts. Finally, no arguments can be ruled out in advance from a participatory deliberative discussion. The second variety is called "rational deliberative democracy". Here, the ability of the actors to formulate rational arguments is emphasised, i.e. arguments that are based on expert knowledge and/or scientific arguments. In addition, previous knowledge or training related to the question to be decided are considered important qualifications for participation. [3]

*Technocracy*, the fourth model, is a form of government where experts control the decision-making, the definitions of problems, and the important values. Decision makers should be selected from among those with technical expertise. Technocracy is therefore based on drawing a boundary between those actors who are presumed to understand an issue (experts) and those who are not considered competent. In this way experts become the legitimate decision makers. From this general description of technocracy, a stronger and a weaker version can be derived. The strong version treats experts as possessing necessary and decisive competence in certain areas, and citizens and politicians as lacking this competence. This makes experts the legitimate decision makers, and science-based knowledge becomes the standard for democratic discussion. A weaker form of technocracy considers expert knowledge to be of great importance, but despite this considers non-expert citizens and politicians to have something of value to add. Here, expert knowledge is not supreme as the people retain the final authority to evaluate the worth of expert knowledge and make the final decisions. In order to be able to evaluate different knowledge-claims the citizens should be granted some access to scientific and technical information. In summary, technocracy can be viewed as a form of government where politicians (and the public) have relinquished the right to define the political agenda and take decisions, and have granted it to experts. This means that the legitimate decision makers are those actors who possess the right knowledge, even if they are not democratically elected. [4]

Since a number of experts are involved in the nuclear waste issue, and because actors' roles are open to negotiation, the models of democracy are supplemented by the concepts of *boundary-work* and the *expert*.

The concept of *boundary-work* is employed to study how actors go about defining an issue as either scientific or non-scientific, and either scientific or political respectively. The concept is further used to study how actors attribute the status of experts or laymen to themselves and others. [5]

Some interesting questions that arise in the intersection of technical, scientific and political issues are how an actor achieves the status of *expert*, and how an issue becomes an issue for experts. This can be studied in terms of boundary work. In this case an "expert" is defined as a person who has acquired knowledge and experience about a specific question or area, rather than a person with a particular academic degree or belonging to a certain institution. This results in two categories of experts: traditional experts and lay experts. The first group consists of people with documented knowledge. The other category contains experience-based experts. These experts,

like the traditional experts, have acquired their knowledge thorough long and relevant experience or deep commitment within a field. [6] By combining the study of expertise and the drawing of boundaries it becomes possible to empirically study the boundaries of expertise, that is to say, how certain nuclear waste actors achieve expert status. The combination of the two concepts also enables the study of whether the nuclear waste issue is defined as an expert issue and/or a political issue. This makes it possible to study which actors gain influence over the work with the nuclear waste issue and which are excluded. Ultimately, the way these boundaries are drawn is a question of democracy. In order to be able to study the democratic implications of different conceptions of expertise and boundary work, these concepts are combined with the concept of sub-politics and the four models of democracy.

## 6. Results

The aim of this study is to analyse the Swedish management of nuclear waste in the light of questions of democracy. On the basis of the case studies, six central democratic factors are discerned. The first concerns *how the people, opinion groups, elected representatives, and experts are viewed*. The second concerns *how the preparatory work and decision-making are viewed*, and the third *feedback* between preparations and decision-making. The fourth concerns the *arena* in which the preparatory work and decision-making takes place. The fifth concerns the involved parties' *right to information*, and the sixth *how decisions are taken*. In addition to the description of the model of nuclear waste democracy, which is termed *delegated democracy*, there is a discussion of the implications that this leads to as well as some suggestions for further research. In the following, the six factors are accounted for in turn.

The *people* is taken as comprising first the residents of the municipalities participating in SKB's siting work, and second those living in neighbouring municipalities. Residents of the rest of the country are afforded little scope to participate in the democracy of nuclear waste, despite the fact that they can feel affected by the issue. Another aspect of who is reckoned to the *people* is the view on general participation. A large portion of the participation in the nuclear waste democracy consists of the public participating in another actor's arena (SKB) and primarily receiving information rather than organising its own activities with the goal of influencing the nuclear waste issue. *Opinion groups* receive some economic support within the nuclear waste democracy and are invited to participate in municipal committees, and are therefore viewed as important actors. The nuclear waste democracy draws a sharp boundary between local and national *politicians'* involvement and roles. While the government is involved every third year during the examination of SKB's research-and-development program, and in connection with SKB's application for a permit to construct a final repository, the local politicians are involved in the issue on an ongoing basis. The division of labour between politicians leads to the question being delegated from the national to the local level. A similar division of labour can also be found between local politicians. The municipal councils in Nyköping and Tierp delegated the political work to a small number of politicians in committees appointed by the municipalities. A further example of delegation is that a number of local officials were involved in the feasibility studies at the same time as the municipal council and executive board were not represented in the feasibility studies. Another important actor in the nuclear waste democracy consists of *experts*. However in the nuclear waste democracy there are no guarantees that the experts who participate in the preparatory work actually will gain influence over the political decisions.

Another important factor is *how decision-makers and actors involved in preparations are viewed*. Within the nuclear waste democracy there is a division between actors involved in the preparatory work and in decision-making. The actors involved in the preparations during the feasibility study phase consist for the most part of a few local politicians, SKB, opinion groups, and a few concerned private individuals. These actors can be viewed as nuclear waste experts. Admittedly, during the site investigation phase the municipal council and executive board participate in the municipality's preparations, but since they participate in neither the public consultation meetings nor the study visits, even these activities can be seen as examples of delegated preparatory work in non-parliamentary arenas. When SKB's application for a permit to construct a repository has been submitted, the government and the Environmental Court will comprise the decision-makers. The division between actors involved in preparatory activities and in decision-making means that the issue of nuclear waste to a large degree is handled by actors whom the public can not select, but who are knowledgeable about the issue, while decisions are taken by elected representatives who often are laymen concerning the issue, because they are not involved with it on an ongoing basis. The division of labour between different actors during different phases of the nuclear waste issue results in the *feedback* between preparatory work and decision-making becoming unclear in the nuclear waste democracy.

A third factor concerns in which *arenas* that nuclear waste democracy takes place, and the importance that is accorded to these arenas. Here it is clear that the nuclear waste issue shuttles between non-parliamentary arenas (municipal committees, SKB's activities, and the activities of opinion groups) and parliamentary arenas (municipal council and the government) depending on whether the issue was in the preparatory or decision-making phase. This leads to a struggle over which arenas should be viewed as important ahead of municipal council decisions during the feasibility studies, and ahead of the government decision concerning the application

for a permit to construct a repository. It is not certain that the actors who have been active during the preparatory work will have influence over the decisions of the parliamentary democracy.

A fourth factor is the concerned parties' *right to information*. A great deal of resources are devoted to providing information in the nuclear waste democracy. This is done by SKB, as well as the involved municipalities and concerned opinion groups. Even if there are different senders of information, one actor, SKB, has considerably greater resources in the form of time, money, and knowledge than the others. SKB's communication activities can be described as having the goal of convincing the receivers that SKB's opinion about site and method is the right one. This makes it important to maintain the boundary between sender and receiver. The ability to formulate arguments, convince, support the message with expert knowledge, and present one's activities in a positive light, as well as the possibility to reach out to as many actors as possible therefore become important aspects of the information requirement. SKB's communication activities are conducted in such a way that they can be described as an attempt to portray the company's activities in a positive light in order to win support for them rather than to provide information to involved actors. The opinion groups are similar, however they reach significantly fewer people and have much less resources. Since the greatest amount of information is provided by SKB, much information is offered in non-parliamentary arenas. Briefly put, this means that the information gets a non-political sender at the same time as the final decision is taken by a parliamentary actor, namely the government.

A fifth democracy issue is *how decisions are taken*. In the nuclear waste democracy this factor is widened to include how actors work during the preparatory activities. A great deal of the preparatory work during the site-investigation phase consists of various types of discussions between SKB and invited consultation actors. These discussions can be described as participatory *and* rational deliberation. Participatory deliberation is common in connection with the study visits, while rational deliberation is common during the public consultation meetings. Since the deliberations connected with the nuclear waste issue primarily take place without the participation of parliamentary actors, a situation arises where the preparatory work largely consists of deliberations with no clear connective *feedback* to coming decisions. Put differently, the preparatory work can be seen as a form of deliberative democracy, while the decision-making follows the ideals of representative democracy.

To sum up, the nuclear waste democracy can be described as *delegated democracy* because a large portion of the political preparations are delegated from parliamentary actors and arenas to non-political actors and arenas. At the same time, the model is characterised by decisions being taken by elected representatives in the parliamentary arena. Similarly, most of the information is provided by a non-political actor in non-parliamentary arenas, which is a result of the delegation of the preparatory work to SKB. During the preparatory work large amounts of influence are granted to various sorts of expertise, while elected politicians, many of whom are laymen, have the final say in the decision-making. Even the experts' influence is a result of the politicians' delegation of the question. Lastly, the nuclear waste democracy is characterised by deliberation between non-political actors during the preparatory phase, and representative democracy in connection with decision-making. The large degree of delegation of the preparation work to sub-political actors and arenas, and the marginal degree of political decision making and parliamentary arenas and actors make it possible to call the democratic model of the nuclear waste issue *delegated democracy*.

The handling of the nuclear waste issue can contribute to the understanding of other contemporary political issues that are characterised by a large degree of the preparatory work being carried out by sub-political actors. Some examples of such issues are genetically modified organisms (GMO) and climate change. Like the nuclear waste issue, these are complex, technical issues concerning risks. What all of these have in common is that they raise questions about how the involvement of the general public and organisations can be put to use within the representative democracy, how expert knowledge and experience should be coordinated with the preferences and possible worries of laymen, and how involvement that takes places outside of parliamentary politics should be taken into account in decision-making. The question of how to incorporate political involvement, especially within civil society, into the decision-making process is important not least because ever fewer people get involved through traditional political channels such as by voting or joining political parties. At the same time both organisations and younger citizens often participate in various networks and express political views through new channels. [6]

## References

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[6] This paper is based on my PhD-thesis *Demokrati på delegation. Lokaliseringen av det svenska kärnavfallet* (2008), Göteborg: Section for Science and Technology Studies, Gothenburg University, STS Research Reports No 16