

Transparency, Consent, and Democracy

TRANSPARENCY, CONSENT, AND
DEMOCRACY - 14640

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ABSTRACT

SKB (Swedish Nuclear Fuel and Waste)
construction of a geological repository in the municipality of Östhammar in March 2011. A
decision of the Swedish government is expected in 2016, but there are several hurdles for SKB to
overcome before that, namely a positive decision from (1) the Land and Environmental Court
(under the Environmental Code), (2) the Swedish Radiation Safety Authority (under the Nuclear
Activities Act), (3) the municipality of Oskarshamn (for an encapsulation plant) and (4) the
municipality of Östhammar (for the geological repository).

According to Swedish law, municipalities have a right to veto the construction and operation of
repositories for spent nuclear fuel within their territory. This right to veto can be regarded as a
vital part of a consent based decision-making process for NWN (described by the Blue Ribbon
Commission in their report 2012) and can also be regarded as vital part of participatory
democracy. Voluntary consent by local communities and municipalities is central in this strategy.
Rational decision-making not only requires consent, but also adequate knowledge about the
construction and operation of the repository.

The veto right of the municipality is an expression on the strong Swedish emphasis on the self-
governance of municipalities and can also be constructed as an element of Swedish democracy.
This was also an important element in the feasibility studies that SKB initiated in 1992. These
studies were announced as an adjustment towards more democracy in the siting process and can
be described as the starting-point of “voluntarism” in siting-thought. Twelve Swedish
municipalities responded positively to this invitation and eight were selected. Municipal
referendums in two Northern municipalities, Malå and Storuman, were arranged in 1995 and
1997. Both communities voted against a feasibility study with their borders. In consequence,
SKB abstained from feasibility studies in these municipalities. Other municipalities responded
more positively, the outcome of which was that feasibility studies were conducted in these areas

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and sites within two municipalities were chosen (Oskarshamn and Östhammar). A new phase of site investigation was initiated in 2002. In 2009 Östhammar was chosen as the site for the repository (and Oskarshamn as the site for the encapsulation plant).¹

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Transparency in siting process 20 years ago may inform the transparency required in the present licensing process, but it does not come to the same thing. Not only does the public in the municipality of Östhammar face an application of about 10 000 pages. A large part of it consists of a detailed, highly technical and scientifically informed safety case. This raises several questions from the perspective of transparency and democracy. *Given the detailed, highly technical and scientifically informed application of about 10 000 pages, how far is it possible to expect local politicians, let alone the public, to make an informed consent to such an application?* The presentation is an effort to contribute to an answer to this question.

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First, the place of (voluntary) consent and transparency in consent based decision-making process will be explained (with reference to the report from the Blues ribbon Commission in 2012). Secondly, the nature of voluntary consent and transparency will be elucidated. Thirdly, these concepts will be further clarified through a comparison with the idea of informed consent in medical ethics. And, fourthly, these insights will be applied to the Swedish licensing process interpreted as a consent based licensing process. Is it possible that this process will fulfill the requirements of transparency and informed consent?

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The BRC disposal subcommittee recommends a new decision process for the siting of a HLW SNF repository in USA. Two vital elements of this approach are voluntary consent and transparency. This is further explained in the report, but requires more conceptual and ethical analysis. One way to conduct such an analysis is by comparison to the principle of informed consent in medical ethics. Four elements of informed consent in medical practice are identified and described. An application to the case of NWM reveals how these elements can clarify and how moral requirements can be met. Such an application has also made use of specific experiences from the Swedish decision process for siting of a repository for HLW SNF.

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INTRODUCTION

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SKB (Swedish Nuclear Fuel and Waste Management) started the construction of a geological repository in the municipality of Östhammar in March 2011. A decision of the Swedish government is expected in 2016, but there are several hurdles for SKB to overcome before that, namely a positive decision from (1) the Land and Environmental Court (under the Environmental Code), (2) the Swedish Radiation Safety Authority (under the Nuclear Activities Act), (3) the municipality of Oskarshamn (for an encapsulation plant) and (4) the municipality of Östhammar (for the geological repository).

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SKB's application is presently (March 2014) under review by the Land and Environmental Court at Nacka District Court (LEC) and the Swedish Radiation Safety Authority (SSM). As a preliminary step LEC and SSM and has asked different public authorities, decision-makers and

¹ See the report from SKB (R-11-07). For an extensive and critical overview of the Swedish siting process, see Johansson 2008 (with an English summary).

organizations to express their opinion concerning the need of SKB to supplement its application. About 35 referral bodies have responded with different statements.² In April 2013 SKB responded to these requests extensively in a special document and has delivered several of the required supplementations to LEC and SSM. LEC has in turn invited referral bodies to respond to these supplementations. The process will be reiterated until LEC decides that sufficient clarification has been reached.

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The municipalities of Östhammar and Oskarshamn are two of the most important referral bodies in the present phase at LEC. According to Swedish law municipalities have the right to veto certain environmentally hazardous installations, for example nuclear plants and repositories for nuclear waste. In certain circumstances of national interest, the government has the right to override this veto, but in the case of the proposed repository in Östhammar, SKB has publicly announced that a repository will not be built if the municipality of Östhammar says no.

The veto right of the municipality is an expression on the strong Swedish emphasis on the self-governance of municipalities and can also be constructed as an element of Swedish democracy. This was also an important element in the feasibility studies that SKB initiated in 1992. These studies were announced as an adjustment towards more democracy in the siting process and can be described as the starting-point of “voluntarism” in siting-thought. Twelve Swedish municipalities responded positively to this invitation and eight were selected. Municipal referendums in two Northern municipalities, Malå and Storuman, were arranged in 1995 and 1997. Both communities voted against a feasibility study with their borders. Other municipalities responded more positively, the outcome of which was that sites within two municipalities were chosen (Oskarshamn and Östhammar). A new phase of site investigation was initiated in 2002. In 2009 Östhammar was chosen as the site for the repository (and Oskarshamn as the site for the encapsulation plant).³

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Göran Sundqvist has analyzed SKB:s siting strategy 1992-2000 from the perspective of democratic theory (see Sundqvist 2002). He concludes that SKB:s strategy is informed by an idea of “technocratic democracy”, where the democratic process is reduced to lubrication oil, “when already defined and decided projects have to be accepted by the wider society” (Sundqvist 2002, p. 212). In contrast he advances the idea of substantial or participatory democracy. This idea is inspired by Jürgen Habermas theory of communicative action and has by more fully developed by Kjell Andersson, Raul Espejo and Clas-Otto Wene in the so-called RISCOM model for transparency (see Andersson 2008, p- 135-138). Transparency requires particular *transparency arenas* “in which decision-makers and the public can validate claims to truth, legitimacy and authenticity” (Andersson 2008, p. 136). The RISCOM model has been used for the design of hearings about site selection and in the fall of 2006 a transparency programme was launched by the Swedish National Council for Nuclear Waste (Andersson 2008, p. 219).

Transparency in the present licensing process may inform the transparency required in the siting

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² See *Nuclear Waste, State of the Art Report 2013* from the Swedish National Council for Nuclear Waste for an overview of the statements (chapter 3).

³ See the report from SKB (R-11-07). For an extensive and critical overview of the Swedish siting process, see Johansson 2008 (with an English summary).

process 20 years ago, but it does not come to the same thing. Not only does the public in the municipality of Östhammar face an application of about 10 000 pages. A large part of it consists of a detailed, highly technical and scientifically informed safety case (SR-Site, 497 pages). A summary of 40 pages notwithstanding, several questions emerge from the perspective of transparency and democracy. Crudely speaking, how far is it possible to expect local politicians, let alone the public, to make an informed consent to such an application? This presentation is an effort to contribute to an answer to this question. First, the place of (voluntary) consent and transparency in consent based decision-making process will be explained (with reference to the report from the Blues ribbon Commission in 2012). Secondly, the nature of voluntary consent and transparency will be elucidated. Thirdly, these concepts will be further clarified through a comparison with the idea of informed consent in medical ethics. And, fourthly, these insights will be applied to the Swedish licensing process as a consent based licensing process. Is it possible that this process will fulfill the requirements of transparency and informed consent?

1. CONSENT BASED DECISION-MAKING

Informed consent and transparency are vital elements of NWM as a consent based decision-making process. This process is clarified in the full

The Blue Ribbon Commission submitted its full report of the Blue Ribbon Commission on the disposal of nuclear waste in January 2012. The main points are were summarized in the form of seven recommendations, among which the fourth formulated a new approach to site and develop nuclear waste facilities in the United States in the future. It was argued that these processes were most likely to succeed if they were

- (1) *Adaptive—in the sense that process itself is flexible and produces decisions that are responsive to new information and new technical, social, or political developments.*
- (2) *Staged—in the sense that key decisions are revisited and modified as necessary along the way rather than being pre-determined in advance.*
- (3) *Consent-based—in the sense that affected communities have an opportunity to decide whether to accept facility siting decisions and retain significant local control.*
- (4) *Transparent—in the sense that all stakeholders have an opportunity to understand key decisions and engage in the process in a meaningful way.*
- (5) *Standards- and science-based—in the sense that the public can have confidence that all facilities meet rigorous, objective, and consistently-applied standards of safety and environmental protection.*
- (6) *Governed by partnership arrangements or legally-enforceable agreements with host states, tribes and local communities.*⁴

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⁴ Disposal Subcommittee Report to the Full Commission, 2012, p. v.

These conclusions are – among other things – based on an analysis of DOE's management program, "that too often failed to operate in a transparent manner, and that ultimately lost the trust of the public and key stakeholders"⁵. But frequent reference is also made to the success of siting processes in other countries, such as Finland and Sweden.⁶

~~I will now~~ ~~In the present context I will~~ concentrate my attention on two of these conditions for a siting process, namely that such a process should be (1) consent-based and (2) transparent. These two requirements are closely connected. Without transparency, consent is empty. And without consent, transparency is without purpose.

2.1 CONSENT

First, there are several statements in the BRC-document about the significance of a *consent-based decision-making process*. One use appears to be of special importance. It is in the sense "that affected communities have an opportunity to decide whether to accept facility siting decisions and retain significant local control"⁷. The BRC-document highlights many examples of consent-based decision-making process in other countries such as Sweden and Finland. As already described Swedish municipalities have a legal right to veto an implementer's decision to choose a site within the boundaries of the community.⁸ But under what conditions is it possible for a municipality to exercise consent/dissent in a rational and autonomous way?

~~In connection with this it is argued that the decision about the Yucca Mountain site was not consent-based in this sense.~~ The BRC-document argues that a consent-based process faces several challenges. Important questions will need to be answered, including the following:

- (1) How to define the boundaries of "the host community?" – Political boundaries that are often used can be inequitable to neighbors.
- (2) How to determine the use of consent? – In the US, evidence suggests that local officials may not always represent the diverse views within a community about hosting a controversial facility.
- (3) How to handle the ethical argument that disadvantaged or underdeveloped communities will be driven to volunteer out of a sense of desperation?
- (4) How much will safety be compromised if it needs to be over-engineered due to less-than ideal physical conditions? – In a consent-based process the site will almost certainly not be the technologically best site and therefore most likely will require more engineering and design work to meet safety standards.⁹

Questions (2) and (3) highlights challenges to the local autonomy. If local officials do not represent diverse views within the community (or represent them to an insufficient degree), the

⁵ Disposal Subcommittee Report to the Full Commission, 2012, p.108.

⁶ Disposal Subcommittee Report to the Full Commission, 2012, p. 69.

⁷ Disposal Subcommittee Report to the Full Commission, 2012, p. v

⁸ "The Swedish Act on the Management of Natural Resources gives municipalities a veto over siting permits. While the government has the right, under certain circumstances, to disregard such vetoes, neither SKB nor the Swedish Parliament favored siting a repository without the consent of the selected municipality." See BRC-document, p.

⁹ In this context special reference is made to Thomas Webber, Seth P. Tuller and Eugene A. Rosa, *Options for Developing Public and Stakeholder Engagement*, pp.9-10.

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autonomy of the municipality is lost or impeded. Furthermore, autonomy is diminished or clouded in a disadvantaged and underdeveloped municipality driven by a sense of desperation. How are these challenges to the local autonomy to be managed in a representative democracy? In a different context Kjell Andersson has formulated an *Awareness Principle* as a response to a situations (1) where politicians do not have enough insight into the issues and are subject to market forces and lobbying by a large variety of interest groups and (2) where citizens are insufficiently informed:

Society should be organized in such a way that decisions on its future development are based on the will of the people being, to the greatest possible extent, aware of all the factual and value-laden elements of alternative directions. In a representative democracy this implies that elected representatives and the arms of government have the resources to create the necessary awareness, and that citizens have the insight to gain the same level of awareness, thereby being able to hold the elected representatives accountable for their decisions. (Andersson 2008, p. 131)

Kjell Andersson argues that there are three elements which are required for the realization of this principle: transparency, public participation and arenas for public discourse.

The BRC document highlights many examples of consent based decision making process in other countries such as Sweden and Finland. In these countries the local community has a legal right to veto an implementer's decision to choose a site within the boundaries of the community.¹⁰ The subcommittee emphasizes that such a consent based process in USA requires new legislation.

2.2 TRANSPARENCY

Secondly, *Transparence/ transparency* is term with a strong positive emotive content. In everyday language it is more or less synonymous with openness. s explained slightly differently throughout the BRC document. For example, the BRC document argues it is argued that transparency means a "clear, open and transparent decision-making process".¹¹ Elsewhere it is argued that transparency means "the decision-making process and the basis for decisions are documented and accessible in real-time and plain language to all stakeholders".¹² In another context it is argued that it is of significance that "commitment to transparency and communication about how decisions are being made and how competing values and interests are being balanced".¹³

In sum there seems to be not only one, but at least four different concepts of transparence used interchangeably:

Transparence 1: decisions in plain language

Transparence 2: accessible information about the basis for decisions

¹⁰ "The Swedish Act on the Management of Natural Resources gives municipalities a veto over siting permits. While the government has the right, under certain circumstances, to disregard such vetoes, neither SKB nor the Swedish Parliament favored siting a repository without the consent of the selected municipality." See BRC document, p.

¹¹ Disposal Subcommittee Report to the Full Commission, 2012, p. 37.

¹² Disposal Subcommittee Report to the Full Commission, 2012, p. 76.

¹³ Disposal Subcommittee Report to the Full Commission, 2012, p. 36.

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Transparency 3: information about how values and interests are being balanced, and
Transparency 4: information about the decisions-making process

The subcommittee clarifies the nature of a consent-based decision-process in the following terms:

To support the consent-based siting process we have recommended, the safety case should (1) be easily accessible to all concerned stakeholders and to local, tribal, and state government representatives, and (2) should strive to make clear and explicit all the assumptions and evidence that have been considered as part of building the case for confidence in the long-term performance of the proposed facility at the proposed site. In addition, the safety case should be updated as needed to provide an input to decisions throughout the facility development process. It should also be updated periodically after the facility begins operation if agreements with local communities, tribes, or states require a periodic revalidation of the facility's ability to meet safety requirements.¹⁴

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The plea for a consent-based decision process for the siting a nuclear waste facility (for HLW SNF) in the USA raises a number of interesting issues. Some of these issues have to do with the legal consequences and the need for new legislation. These issues will not be discussed in the present context. ~~Nor will I discuss how far the positive experiences of such a decision process in the Nordic countries can be transported from that context to the American scene.~~ Rather, I would like to highlight some of the conceptual and ethical issues that this new approach to siting and development may give rise to. And I will do this by drawing attention to an analogy between the consent-based approach in NWM and the idea of informed consent in medical ethics. I will give a short standard description of this idea¹⁵ and then suggest how this model might be used to highlight some conceptual and ethical problems in NWM. In conclusion, I will summarize how these problems might be solved.

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3 INFORMED CONSENT IN MEDICAL ETHICS

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The voluntary consent of the human subject is absolutely essential. This means that the person involved should have legal capacity to give consent; should be so situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, overreaching, or other ulterior form of constraint or coercion; and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision.

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These words are taken from the Nuremberg Code, which played a central role during the trials in Nuremberg after the end of the Second World War. The horrible stories of human experimentation in German concentration camps during the Second World War led to the serious concern about the use of non-consenting subjects in brutal experiments. Biomedical practice and research has been influenced by these experiences and the principle of informed consent that subsequently has been formulated, refined and implemented. At present, physicians are required

¹⁴ Disposal Subcommittee Report to the Full Commission, 2012, p. 75

¹⁵ The description will taken from a well-known textbook in medical ethics, namely Tom L. Beauchamp & James F. Childress, *Principles of Biomedical Ethics* (1979, 7th Edition 2013). See esp. P. 62-82.

to obtain the informed consent of patients before undertaking significant therapeutic or research initiatives. Primarily, the function of informed consent has been to protect the autonomy of patients even if the principle also has served other functions. This function of the principles coincides with its moral justification. But it could be further justified by utility and non-maleficence arguments. Furthermore, these arguments are embedded in the ideals of a democratic society, because a democratic society is essentially a society where the human autonomy and human rights are protected.

The elements of informed consent have been summarized in the following way:

- I. Information elements
 - a. Disclosure of information
 - b. Comprehension of information
- II. Consent elements
 - a. Voluntary consent
 - b. Competence to consent

What are the requirements for these different elements? When it comes to the *disclosure of information* (1.a.) the standard of disclosure was traditionally (1) the standard operative in the biomedical professions. The obligation to disclose information was subservient to medical judgment and what was in the patient's best interest. This standard of disclosure has for various reasons been declining, one of them being that the amount of information a patient needs to make a decision is not a technical medical judgment but the judgment of a reasonable citizen in general. In recent decades (2) the standard of the reasonable person has been gathering momentum. This standard implies – among other things – that all material information should be disclosed that is needed for an average juror (rather than an average physician) to make responsible decision. Needless to say known risks of significant bodily harm and death must be disclosed.

Disclosure of adequate information is necessary, but not sufficient, for an informed consent to obtain. The disclosed information must also be comprehended. But what are the moral criteria for the *comprehension of information* (1.b.)? Addressing this issue, members of the medical profession have sometimes succumbed to an exaggerated pessimism. But if the reasonable-person standard is applied, this pessimism can be dissolved. Beauchamp & Childress writes:

Apprehending one's medical situation is not substantially different from apprehending one's financial situation when consulting with a CPA, or one's legal situation when consulting with a lawyer, or even one's marital situation consulting with a marriage counselor. The shades of understanding are manifold, but various degrees of apprehension may nonetheless be adequate for an informed judgment.¹⁶

One might take a further example. The apprehension of non-professionals of technical information poses similar problems, but most house owners are able to make informed judgments about the renovation of their homes or taking stand on different options of car repair. Complaints of deficiencies in these areas notwithstanding, it is not unrealistic for reasonable persons to make rational decisions – providing they are given the opportunity to make a choice between different alternatives and have their pros and cons clearly presented. [Readability in](#)

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¹⁶ Beauchamp & Childress 1979, p. 78.

these areas may also be enhanced by structural clarity, definition of terms and the avoidance of unnecessary repetition.

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This brings us to the consent elements. What are the conditions for *voluntary* consent (2.a.)? Clearly that the subject is not unduly influenced or coerced to any of the alternatives presented. Coercion occurs when the subject is confronted with a threat of harm or forceful manipulation. And undue influence when excessive rewards or irrationally persuasive techniques are used. This should not be confused with the display of risks with a certain treatment or inducements to make – for example – a blood donation.

Competence to consent (2.b.) could, perhaps, more adequately be described as a presupposition of informed consent. It may be especially acute in medical practice, where children, elderly and mentally impaired patients are involved. But the problem is that even more “normal” patients may not raise doubt about adequate competence to make informed judgments about their medical treatment. A person may be deemed competent if and only if he or she can make decisions based on rational reasons. Still, this does not remove the greyish area between full competence and obvious incompetence. Medical professionals are confronted with the unavoidable need to make a *moral* judgment what to do with persons in this area.

4. APPLICATION TO NWM

This summary of the requirements for informed consent is incomplete, but hopefully still sufficient to make a reasonable application to the field of NWM. A consent-based approach needs to take into consideration all the four elements of informed consent.

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When it comes to disclosure of information (1.a.) , the consent-based approach need to proceed from standard of reasonable persons. All material information should be disclosed that is needed for an average juror make responsible decision. Needless to say known risks of significant bodily harm and death must be disclosed. This does not guarantee full and deep understanding (1.b.), but it might still fulfill the requirements of adequate comprehension in analogue with how we are confronted with different solutions to technical choices in everyday life. As in the case in medical matters a comprehension might be facilitated by a clear display of alternatives and their pros and cons. Furthermore, readability is enhanced by a clear structure, definition of terms and avoidance of repetition.

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How far does SKB:s application fulfill these criteria? And what are the requirements for the upcoming review of SKB:s application by the Swedish Radiation Safety Authority? Needless to say, these are difficult questions to answer in a fully – in this context a reference to the analysis of The Swedish national Council for Nuclear Waste in their response to the Land and Environemntal Court will suffice. Under the headline “Accessability”, the Concil writes.

One of the most important functions of the application is to serve as a basis for decisions by decision-makers at the national and municipal level. Responsibility for the decision to build or not to build a proposed repository ultimately rests with the country’s political bodies, in the last instance the Government. Municipal decision-makers also play an important role in the process. In this

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way, the application and the material presented in support of the application serve an important democratic function, namely to provide politicians with comprehensive information on the matter that can be understood by a layman. Even though review requires complex analyses, the actual review process must be clear and transparent and be possible for concerned citizens to follow. The safety assessment must also be described in a way that can be understood by laymen, since it is included in the material which the politicians must consider. It is the Council's considered opinion that the supporting material is not sufficiently transparent as regards structure, readability and accessibility, which undermines the role of the application as a decision-making basis. As examples, let us consider the main report for the project SR-Site and report R-10-42 (English version R-11-07). These reports are very large, and virtually the same issues or phenomena are mentioned at several different places and under different headings. Readability would therefore be greatly improved by an introductory overview. An index at the end of report III for SR-Site would also be valuable, where definitions of terms could also be included.¹⁷

Within the area of consent elements (2.) a distinction was made between 2.a. the requirement of voluntary consent and 2.b. competence to consent. BRC's new approach to siting and development clearly acknowledges the first requirement of voluntary consent. This implies that the subject – the local region chosen being a candidate for siting – is not coerced nor unduly influenced by excessive rewards or irrationally persuasive technique. Here the Swedish experience may be of significance. The benefits for the final two sites suggested for siting of the HLW SNF candidates were confined to specific restriction. The BRC subcommittee describes the situation in the following way:

A unique feature in the Swedish approach is that, before the final site decision was made, there was an agreement that the community not selected would receive a larger amount of compensation than the community that was selected. The rationale was that the community selected to host the repository would realize additional economic benefits, in the form of construction activity, infrastructure investments, permanent jobs to operate the repository, and ancillary development (e.g., research and fabrication facilities, etc.) The value of these benefits to the local economy was estimated at about \$300 million.¹³¹ Ultimately, the community near Forsmark will receive approximately 25% of this estimated value for hosting the repository, while the community at Oskarshamn, which was not selected, will receive the remainder—approximately 75% of the estimated benefits—for participating in the siting process. At this point, the anticipated start date for repository operations is 2025.¹⁸

¹⁷ State of the Art Report 2013, p. 133.

¹⁸ Disposal Subcommittee Report to the Full Commission, p. 72.

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It could be argued that this management of benefits fulfilled the requirements for a voluntary consent by not unduly influencing the community with excessive rewards. Needless to say, the other proviso of not using excessive irrationally persuasive techniques is thereby not ascertained. Nevertheless, verification that the inducements were used in a restrictive way by the implementer could be gathered from the extensive procedure of impact assessment required by Swedish law.

Competence (2.b.) is the second consent element required for informed consent. The Swedish site selection process may serve as an another illustration. The community of Oskarshamn developed special measures to build up its competence in the area of NWM more than a decade before the actual site decision was taken by SKB. An EIA forum was established in 1994. The participants in the forum were the implementer (SKB), the regulator (SSM), the Kalmar county Council and the Oskarshamn municipality. In 1997 the EIA forum was adjusted to deal also with final phase of SKB:s site selection, the siting programme for a final repository and celebrated its 50th meeting in March 2005.¹⁹ An independent review of the process concludes with a positive evaluation (even if the value-laden issues could have been dealt with more explicitly²⁰). All this is relevant when evaluating the general question whether an adequate level of competence was reached in the Swedish siting process. And there are significant lessons to be learned for the municipalities in the licencing process.

CONCLUSION

In March 2011 SKB submitted an application for the construction and operation of a repository for high-level SNF in the municipality of Östhammar. The licencing process is now under way and in a first step the Land and Environmental Court has called different actor to propose supplementations to the application. At a later stage the court will issue a verdict and the Radiation Safety Authority will submit a statement to the Swedish government. A consent from the municipality is also required. Given the detailed, highly technical and scientifically informed application of about 10 000 pages, how far is it possible to expect local politicians, let alone the public, to make an informed consent to such an application?

Voluntary. The BRC disposal subcommittee recommends a new decision process for the siting of a HLW SNF repository in USA. Two vital elements of this approach are voluntary consent and transparent information are vital elements for informed consent. But how far is it possible to realize these values in the Swedish licensing process? An answer to this question. This is further explained in the report, but requires more conceptual and ethical analysis. One way to conduct such an analysis is by comparison to the principle of informed consent in medical ethics. Four elements of informed consent in medical practice have been identified and described. An application to the Swedish licensing process, case of NWM, reveals how these elements can be clarified, clarify and how moral requirements can be met. Comparing alternatives may enhance comprehension of a detailed, highly technical and scientifically informed application. Competence to consent requires a longer process of consolidation of local resources as

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¹⁹ Andersson 2008, p. 159

²⁰ Andersson 2008, p. 61 and Bråkenhielm 2001.

exemplified in the Swedish site selection process. Such an application has also made use of specific experiences from the Swedish decision process for siting of a repository for HLW SNF.

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