

Considerations on stakeholder involvement during decommissioning of nuclear facilities

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1. Introduction

During decommissioning of nuclear facilities around the world, nearly every national nuclear waste program have faced many difficulties. There may have been awareness that nuclear waste management was more than a technical issue, but there was little experience in how to deal with the social aspects in general and the local opposition in particular. Local communities were typically involved in the last stage of the decision making process when almost all components of the decision were already fixed and local opposition was mainly seen as something that had to be overcome by information. Waste management is now recognized as a complex decision making process involving technical, ethical, social, political and economic dimensions where no solution can be reached solely on the basis of technical considerations. While this issue is acknowledged for the community as a whole, a major dimension of radioactive waste remains the fact that its management is a global problem looking for a local solution. For any solution, a sound contract between the national community and a local community is a prerequisite. Over time it has become clear that the range of stakeholders was wider than initially expected and proper identification of the parties involved is not easy. One might ask why community involvement in decommissioning/environmental remediation projects is an issue since the contaminated site is a 'done deal' and cleanup of that contamination is a good thing, so the public should just be happy about it. However, in many countries public involvement in cleanup projects is a regulatory requirement.

It is important to keep in mind that at any phase in the project, the community can call for a 'change of course' if they are dissatisfied with the site's cleanup process. This possibility may also concern far-off stakeholders who may feel impacted by the decommissioning project. In addition, at the site closure, the site will have to be turned over, often to the community. It is therefore important to get community buy-in throughout the cleanup process, so that there are no unexpected complaints at the end that would prevent this change of control from going through smoothly.

2. Stakeholders relevant to the decommissioning of nuclear facilities

The categories are economic, environmental, social, and technical of stakeholder are shown in Table 1.

Table 1. Categorization of stakeholder during decommissioning of nuclear facilities

Categories	Primary interest or concern	Secondary interest or concern
Economic	Facility owner, Real estate owners, Government, Funding entities, Institutions, Local authorities, Elected officials, Trade Unions, Managers, Waste managers, Nuclear industry, Non-nuclear industry, Partners	Regulators, Local communities, General public, Tribal nations, Media, International parties, Pressure groups, Operations staff, Future generations, Security organizations
Social	General public, Local communities, Tribal nations, Archaeologists, Historians, Museums, archives Media	Government, Institutions, Local authorities, Teachers, students and , universities, Visitors, Elected officials, Trade unions, Operations staff, Managers
Environmental	Regulators (environmental), Visitors, International partners, Pressure groups, Neighboring countries, Future generations	Government, General public, Tribal nations, Researchers and scientists, Institutions, Local authorities, Teachers, students and universities, Archaeologists, historians, museums, archives, Media, Elected officials, Trade unions, Managers, Emergency services
Technical	Regulators (nuclear safety), Managers, Researchers and scientists, Teachers, students and universities, Operations staff, Waste managers, Security organizations, Emergency services	Institutions, Teachers, students and universities, Visitors, Trade unions, Nuclear industry, Non-nuclear industry, Partners

Within each category the areas of interest and concern specific for stakeholders involved can be identified, as shown in Table 1. Stakeholders include national bodies and committees of national relevance,

local groups, groups having a more limited interest in specific features and functions of the facility/site being decommissioned, and NGOs. This approach also identifies stakeholders that are not physically close to, or directly involved in, the decommissioning process, but can feel indirect impacts. It should be noted that under any of these schemes, a given group of stakeholders can be assigned to several categories involving some measure of subjectivity. For example, local communities can be represented by their elected officials or be driven by self-established pressure groups. Similarly, local universities could decide to merge their interests with local communities or act on their own. The following description of typical stakeholders should be viewed with this caution in mind.

Table 2 lists stakeholders who have been identified as being relevant from a general point of view. The sequence in the table does not suggest any ranking or priority.

Table 2. Possible stakeholder for decommissioning projects

Categories	Stakeholder
Implementers of the decommissioning project	Facility owner, Funding entities, Operations staff, Managers
Regulators	Government, Regulators, Institutions, Local authorities, Elected officials
Cooperating or co-interested	Trade unions, Waste managers, Real estate owners, Local enterprises, International parties, Contractors, Nuclear industry, Non-nuclear industry, Security organizations, Emergency organizations
Affected by the decommissioning project	Local communities, General public, Neighboring countries, tribal nations, Researchers and scientists, Teachers and students, universities, Visitors, Archaeologists, historians, museums, archives, Media, Pressure groups, Future generations

3. Considerations on stakeholder involvement during decommissioning of nuclear facilities

The impacts of closure at the end of a nuclear facility's design life are both national and local, and open dialogue and communication should be established between the operator, regulator and local stakeholders early in the process. Decisions regarding closure of nuclear facilities, particularly reactors, are usually taken as part of national energy policy. In most countries, local communities have a role in the decision to choose a site for a new facility and in several

countries, municipalities have a formal right of veto. Local communities typically have less power in the case of a decision to close a facility, and don't have the right of veto. However, the impact upon the host community can be such that subordinate decisions regarding site reuse, decommissioning and cleanup processes and local economic diversification can assume major importance. Involvement of all stakeholders is therefore essential.

The trust and confidence developed between all parties during facility operation needs to be maintained during the decommissioning process. Shared decision making on site reuse and economic impact mitigation is an excellent way of encouraging maintaining this trust. It is also important for local communities to be able to depend on the regulatory authorities for providing information in addition to and independent of that from the owner/operator. Closure of a facility results in decisions regarding waste management that may be beyond the influence of local stakeholders. What to do with accumulated wastes and those resulting from decommissioning is an integral part of a national strategy and in some cases sufficient storage or disposal facilities may not exist at the time of closure. The site may then become an interim storage facility, which may be a cause for concern by the local population. Although continued use of the site will offer some employment opportunities, this is likely to be on a smaller scale than was the case during facility operations. Open and honest communication between the government, the waste owner and the local community about the developing situation will be crucial. Decisions that can be made locally are likely to include participation in monitoring of potential health impacts from decommissioning activities and of the socio-economic impacts from reduction in employment and local purchasing, together with agreement on future use of the site.

4. Acknowledgement

This work was supported by the Nuclear Research and Development Program through the National Research Foundation of Korea funded by the Ministry of Science and ICT.