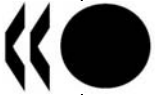


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**NUCLEAR ENERGY AGENCY
RADIOACTIVE WASTE MANAGEMENT COMMITTEE**

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Working Party on Decommissioning and Dismantling (WPDD)

STAKEHOLDER ISSUES AND INVOLVEMENT IN DECOMMISSIONING NUCLEAR FACILITIES

Lessons learnt from WPDD and FSC activities and documentation

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FOREWORD

Set up by the Radioactive Waste Management Committee, the Working Party on Decommissioning and Dismantling (WPDD) brings together senior representatives of national organisations who have a broad overview of decommissioning and dismantling issues through their work as regulators, implementers, R&D experts or policy makers. These include representatives from regulatory authorities, industrial decommissioners from the NEA Co-operative Programme on Exchange of Scientific and Technical Information on Nuclear Installation Decommissioning Projects (CPD), and cross-representation from the other NEA Committees. The EC is a member of the WPDD and the IAEA participates as an observer. This broad participation provides good support for the co-ordination amongst activities in the international programmes.

At its sixth meeting, in Paris, 14-16 November 2005, the WPDD held a topical session on Stakeholder Involvement in Decommissioning Projects. The topical session was jointly planned and run with members of the NEA Forum on Stakeholder Confidence (FSC). The Topical Session is documented and publicly available [NEA/RWM/WPDD(2006)5, see also NEA webpage: <http://www.nea.fr/html/rwm/docs/2006/rwm-wpdd2006-5.pdf>]. The Topical Session provided a stimulus to review the contributions in the area of stakeholder involvement that the WPDD has received since its inception. This report contains the result of such a review, focussing on lessons to be learnt, and including examples of key statements by representatives from different NEA member states involved in or affected by decommissioning projects. The FSC also contributed to and endorses this report.

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INTRODUCTION

Decommissioning and dismantling (D&D) are the last elements of the life cycle of any industrial facility. Issues of public concern during this phase are partly the same and partly different from those of the preceding phases (planning, construction and operation). For instance, public concerns about the nuclear industry and radioactive waste are present in every phase. In the course of construction and operation the main challenges include meeting expectations for greater quality of life, accommodating a growing population, mitigating construction nuisances, and assuring the safe operation of the facility, while in contrast the main concerns in the D&D phase are decreasing employment rate, the eventual reduction of revenues for the municipality, the future use of the affected land and negative social impacts (e.g. out-migration). Although the tensions arising in connection with D&D differ from the conflicts of the earlier phases, this phase too is characterised by heterogeneity of stakeholder interests and values and the difficulties of reaching consensus or compromise. Difficulties arising in connection with the harmonisation of energy production, environmental protection and sustainable socio-economic development considerations, as well as tensions between local and regional decisions are also typical. As in other phases, the building of trust between stakeholders is crucial from the point of view of conflict management, and social lessons learnt from the siting and development of nuclear facilities are widely applicable in the field of D&D as well.

The national dimension

Link to national energy policy

The choice to decommission a nuclear facility may reflect the end of its lifetime, an unexpected event (e.g. accident), or a political decision. In all these cases, decommissioning entails environmental, economic and social impacts on both the region directly involved and on the whole country (stemming, for example, from a likely change in energy prices or from measures to compensate for a shortage in energy supply). Hence, the phasing out — just like the opening — of nuclear facilities should be preceded by impact studies and should include public debate and dialogue. While in most countries it is prescribed by law that the affected stakeholders should be heard during the decommissioning phase, local stakeholder involvement is not required in decisions on stopping plant operations or redirecting energy policy.

Extending to the close-out phase the experience from the siting of nuclear power plants, one may observe that when the decision to close down nuclear facilities is part of a widely accepted national energy policy framework, decommissioning activities are more likely to find support. That acceptance is favoured through open and fair national debates on the preferable mix of various energy sources, where environmental, economic, social and political impacts are addressed. Stakeholders will be particularly interested in “how and from where the diminished electricity supply is to be replaced”, since this may affect local, regional, national, and also international interests.

Local stakeholders’ views may be like those of other citizens, or they may have heightened interest in national energy policy. In either case, the decision to decommission ought to benefit from a timely dialogue with affected communities. Lack of such a dialogue is one of the reasons for conflicts related

to the shutdown of several nuclear power plants, as exemplified by the Barsebäck nuclear power plant (NPP):

“As a mayor I often meet people that are aware that the closure of Barsebäck is contributing to the higher energy prices. They would like to see a better dialogue between the national politicians and the community. ... We and most citizens living close to the NPP Barsebäck wanted to know why it was closed and above all how and where its production would be replaced! So far we know that we probably will buy more dirty electricity from the old Danish and German coal fired power plants, causing severe airborne emissions to our ... lakes and forests in southern Sweden. We also know that the Government is approving upgrading the capacity at Ringhals NPP, already a fact, and at Forsmark and at Oskarshamn. This was too inconvenient to be explained by a Government officially favouring the total phasing out of nuclear production in Sweden.” (Palmqvist, 2005)

Link to the national radioactive waste management policy

Decisions on decommissioning are linked to national radioactive waste management policies in a number of ways. For instance, while the primary decision to phase out a given facility may best be taken, as discussed above, in the context of an overall national energy plan, the focus from that point on may shift to how dismantling wastes are to be handled. Decisions are made easier if there exists a facility for the storage or disposal of the waste, or at least a radioactive waste management programme that holds out the promise of the establishment of such a facility in the foreseeable future. When these conditions are not met, the current installation may be seen to operate as a de facto waste storage facility. Moreover, without a transparent national policy, the decommissioned site may appear to be pre-destined to become a waste management site whereas the host community may look forward to other uses:

“We have to demonstrate [to regional stakeholders] that new [industrial] developments are possible when decommissioning is over. [...] Nuclear territories are open to accept other kinds of power plants. They are willing to defend their activity as a power production site. This goal makes necessary some proceedings which ensure that the land will be suitable for production when decommissioning is over. As a definitive solution for high level radioactive waste has not been set yet, the local populations are afraid of the possibility that the site be transformed into a radioactive waste storage. This could prevent the site from being used for other industrial activities.” (Vila d’Abadal, 2001)

At the same time, the problems arising in the course of decommissioning may have an impact on energy policy decisions:

“All decommissioning proceedings, including both treatment and storage of radioactive waste, are the main subjects of the debate in relation to the future of nuclear energy. So, decommissioning is fully involved in the general debate about a solution to radioactive waste.” (Vila d’Abadal, 2001)

All these issues point to the importance of the interactions between national policies and local/regional decisions.

NEA member countries may wish to look into whether a forum and opportunities have been organized for local stakeholders to provide input to national debates and consider in what ways local decisions need national involvement. It is of note that federations of local stakeholder representatives increasingly take an active role on the national or international scene, voicing their views on energy

and waste management policy. Examples include Spain's AMAC or Association of Municipalities Affected by Nuclear Power Plants, France's ANCLI or National Association of Local Information Commissions, Canada's CANHC or Canadian Association for Nuclear Host Communities and GMF, the Group of European Municipalities with Nuclear Facilities.

The local dimension

Local acceptance and compensation

Decisions concerning the phasing out of certain facilities are similar to facility siting decisions in the sense that concrete geographic locations are affected. In addition, the closing of certain facilities may be accompanied by the expansion of others. The population of candidate sites, the affected local and regional authorities, the operator and the employees of the affected facilities should be involved early in making these decisions (Moding, 2002; Palmqvist, 2005). In such debates there will be special interest in the following questions: 'What environmental and socio-economic gains and losses will accompany the planned shutdown (expansion)?' and 'How and when will the affected communities be compensated and by whom?' NEA Member countries may seek how best to engage affected communities in assessing appropriate compensation, in terms of both the types and magnitude of compensation.

Although decisions on closing down or expansion are similar to the ones associated with choosing a site for a facility, there are some differences as well. While in most countries local communities have a say when it comes to the decision of siting a new facility (in several countries municipalities have even the informal or formal right of veto), they have less power in case of a decision to close a facility (and no municipality has the right of veto). Consequently, it is more difficult for the affected municipalities to negotiate compensation for e.g. the loss of facility-related revenues when it is decommissioned than for the immobilisation of land when a new facility is sited. Nevertheless, the operator should initiate a dialogue with the affected municipalities and try to find mutually acceptable solutions. These solutions are likely to pertain to public information and local monitoring and control of dismantling activities, as well as the mitigation and compensation of negative socio-economic impacts.

Municipalities want to maintain a suitable level of economic activity and are ready to enter into negotiations on socio-economic benefits on behalf of the communities. Decommissioning in itself can provide some boost to the local economy for at least a few years, especially if negotiations between the operator and the local community are aimed at maximising local benefits:

In the course of the Vandellós-I decommissioning process the implementer Enresa tried to mitigate the negative socio-economic impacts of NPP shut-down by hiring local and provincial companies to participate in dismantling activities. As a result of these policies, about 65% of the personnel was composed of local and provincial workers. A total of 1 800 people was involved during the period 1998-2001. Other significant contributions to the local economy included revenues from licenses and permits, compensation in the form of a fee for waste storage, and payments to the administrations of the area to promote economic, cultural, and other activities. (Castellnou, 2003; Lang Lenton, 2005).

Assurance of stability can also be offered to the employees of the affected nuclear facilities. For example, in case of decommissioning the Barsebäck NPP, its former owner, Sydkraft Co., gave employees a five-year job guarantee after the decision was taken to close the facility (Moding, 2002). In general, employees of the affected nuclear facilities are amongst the most important stakeholders when planning decommissioning. They may also constitute an important human resource during the dismantling phase.

Involving local and regional actors in decisions

The decisions on decommissioning concern the activities to be conducted in the area of the nuclear installation (e.g. the demolition or transformation of buildings, the treatment and storage of radioactive waste), the timing of these activities, and the future use of the land. Generally, the communities demand the earliest possible restoration to the original state. An example for the speedy execution of D&D operations and the involvement of regional and local actors is the case of the Lubmin nuclear power plant:

At the site of the Lubmin NPP in Greifswald (Germany) decommissioning and dismantling activities were carried out expeditiously. Decisions were based on a broad stakeholder dialogue, involving federal, regional (Mecklenburg/Western-Pomerania) and local government organisations, affected communities and the general public. New facilities, including a gas terminal and harbour infrastructure have been established around the site (Bäcker, 2005; Palmqvist, 2005).

The interests of different stakeholders may diverge at the end of useful facility life, requiring at times third party mediation or significant actions by national players:

The Whiteshell Laboratories were established in Pinawa (Manitoba, Canada) by Atomic Energy of Canada Limited (AECL) in the early 1960s. Since AECL provided half of the revenue for the local government, the community strongly depended on their operation. In the mid-1990s AECL decided to close the facility and defer decommissioning to decades later. Negotiations between the operator, regional and local actors, and the federal government were started to address decommissioning and creating new business opportunities for the area but made slow progress. Local stakeholders perceived that the main reason for deferment was the lack of necessary radioactive waste management facilities in Canada, and objected to what they saw as a freeze on local development (Simpson, 2002). The Canadian government took action on June 2, 2006 announcing a five-year, \$520-million commitment to begin cleanup of “nuclear legacy liabilities” resulting from research and development activities that date back to the beginning of nuclear technologies and medicine in Canada. The overall strategy contains a concrete action plan to clean up contaminated lands and nuclear waste, and to decommission outdated infrastructure, among them the Whiteshell Laboratories.¹

Site operators or responsible parties are not always government-owned organisations. In North America, for instance, and particularly in the U.S., private companies own and operate nuclear power plants and fuel cycle facilities. While private sector operators will of course need to address all regulatory, safety and environmental requirements in decommissioning a facility, they may not feel obligated to address a host community’s socio-economic issues. For example, it is not common practice for North American operators of industrial plants (e.g. automotive or other industrial plants) to compensate a community if they decide to shut down a plant. While this has sometimes resulted in scarred communities, there is very little leverage for them to redress the situation. Societal expectations and demands for the D&D of nuclear facilities however are much higher. Central government may step in when original owners or operators fail to meet these standards.

Theoretically, various possibilities may arise in connection with future land use: industrial vs. non-industrial use and, in the former case, establishing nuclear vs. non-nuclear facilities. Typically,

1. Reference: http://www.nrcan-rncan.gc.ca/media/newsreleases/2006/200614_e.htm

municipal governments are ready to consider new energy-type installations, since the necessary infrastructure is largely available. Examples of non-nuclear land use also exist. With respect to land use, local municipalities typically have a certain degree of legal control:

“UK land use legislation (contained in the Town and Country Planning Act 1990) in general terms requires an application to be made to the local planning authority for permission to execute any works that involve construction of new buildings or a change to the appearance of existing buildings. No consent is required for total demolition.” (Woollam, 2003)

In Sweden, municipalities have the right to veto any proposal to establish new installations. This may become relevant, for example, for the Kävlinge community, which plans to establish a green field and a new, seaside housing area at the place where the Barsebäck NPP is currently located (Palmqvist, 2005):

“..the municipality does not appreciate the views of the governmental authorities, especially Energimyndigheten, to maintain the Barsebäck site as a possible location for alternative energy production (i.e. not nuclear power) in the future. Their argument is that the power lines and infrastructure are already in place. The State’s present declaration concerning “Barsebäck after Barsebäck” thus clashes head on with the municipality’s declared intentions as expressed, for example, in its latest Municipal Comprehensive Plan. A Swedish municipality has a very strong position in questions of future land use as it has a so-called municipal planning monopoly. Each municipality, according to Swedish law, has the right, in most cases, to decide over the future use of the land within its own boundaries, even in a case such as this.” (Moding, 2002)

The main question is: “How is an area to be made suitable for siting other facilities?” This is especially relevant when no storage facility exists for the disposal of radioactive waste.

“There is a requirement to assess the alternative options in detail to answer questions about what would happen in the event that planning consent [for proposed new infrastructure] was not granted. In the case of, say, a proposal to build a supermarket this is straightforward: if no consent is granted no store is built. But when no disposal route exists for the waste from decommissioning, as in the UK, the options for dismantling a nuclear power station are limited.” (Woollam, 2003)

At the site of Dounreay NPP in Scotland, the process of setting decontamination priorities and radiological target levels will take some years. UKAEA (United Kingdom Atomic Energy Authority) and local stakeholders are currently working to find agreement on which surface buildings should be maintained, which areas should be accessible to visitors, and which new uses should be created. An iterative process focuses in turn on local wishes and assessment and evaluation of the costs associated with bringing each building and area to acceptable radiological levels. (Love, 2006)

Trust building

Involving local/regional actors in monitoring activities

Affected communities usually demand safety and security guarantees. Many stakeholders find that a most adequate and transparent system consists of involving the local actors in monitoring D&D activities:

During the decommissioning period of the Vandellós-I NPP (Spain), a Municipal Monitoring Commission was created, made up of representatives of affected municipalities, the regional government, a local business association, trade-unions, the local university, the NPP management and the implementer, to monitor the dismantling process and regularly inform the local public. Attention was paid to issues primarily of work progress, safety, waste management, environmental surveillance, and contracted personnel. (Castellnou, 2005)

In Canada, a Legal Agreement concerning the safety and financial aspects of cleaning up historic LLRW sites was signed between the Federal Government and the affected municipalities in the Port Hope area. To monitor the cleanup process, the Agreement Monitoring Group was established, which consists of representatives of the implementer, some federal government agencies, and the affected municipalities. (Austin and Stevenson, 2005)

Transparency and proactive information

Transparency and providing proactive information to the public are key factors in communicating safety and building confidence. Accurate and accessible information should be provided on a regular basis, and operators/communicators should maintain a continued presence in the community also during the decommissioning phase.

A broad range of community involvement techniques may be applied in the field of decommissioning, including, for example, newsletters, web sites, press releases, fact sheets, community workshops, public meetings, the opportunity for site tours, interviews and surveys in the community, as well as tools providing access to official documents. (Keyes, 2004)

During the Vandellós-I dismantling project, a number of communication tools and channels were used, e.g. public information meetings, an information centre, the municipal magazine, the municipal radio station, and meetings with representatives of the local press. Academics from the local university helped with 'translating' technical information to facilitate public access. (Castellnou, 2005)

In 2002 the UKAEA launched their stakeholder engagement programme associated with the decommissioning of the nuclear reactors at Dounreay. Tools applied in course of the programme included a newsletter, a bulletin, a web site, stakeholder panels, an independent stakeholder group, and a consultation steering group. (Harrison et al., 2005)

Within the framework of the Superfund programme, the U.S. EPA conducts stakeholder interviews to help the authority determine major concerns and needs of the affected community. These are taken into consideration when choosing the preferred remedial action. EPA also creates an information repository and an administrative record and makes it available to residents. In addition, funding is provided to the community so they may obtain technical assistance. (Walker, 2005)

Regarding public information, it is suggested that facts rather than partisan arguments should be communicated, and communicators should avoid using technical jargon. Transparency requirements should be balanced by sensitivity to commercial and security interests. Meeting these contradictory requirements is, however, not without problems:

“Nuclear matters are complex and the nuclear community tends to suggest [that] decommissioning is technically straightforward. Hence we may assume others have understood the technical evidence, even if they dispute it. This is often not the case.

“Every strategic decision should have a robust rationale and should have resulted from a detailed options analysis. Anti-nuclear groups [as well as others] want this analysis to be visible and transparent. In some cases commercial considerations make this difficult: public domain reports should be prepared that present as much information as practicable. In some cases, this will never satisfy all objectors”. (Woollam, 2003)

Partnership between institutions and host communities

Research indicates that when a partnership has been developed between the affected communities, the operator and the authorities during the planning, construction and operation of a facility, it is more likely that cooperative rather than contentious approaches will dominate in the decommissioning phase. In order to build trust in the institutional actors, the affected stakeholders (including the public) must be involved in decision making as early as possible in the decommissioning process as well (Keyes, 2004).

According to local leaders, the three main pillars of trust are “Safety, Participation and Local Development”. Therefore, it is crucial that representatives of local governments participate in the decommissioning process in order to defend local interests; control decommissioning activities as far as general local responsibilities are concerned; and be involved in the preparation and management of socio-economic plans (Vila d’Abadal, 2001).

The participation of local/regional authorities is of key importance, since they are in charge of public information and they are also the ones facing the local population and the media. With regard to local responsibilities, although environmental protection may be within the powers of local/regional authorities, nuclear safety and security, radioactive waste management, and emergency plans are typically not within their domains. The latter issues are, however, central to decommissioning debates, and the question arises as to which organisation should “carry” such debates. One possible answer is for local and regional actors to develop their own competence and enter into partnership (and thereby share responsibility) with the national-level decision makers:

“Signing the Legal Agreement has made us partners in the process and provided us with greater influence over the outcome of EA. We learned that, along with this partnership, comes the responsibility of balancing our interests with those of the federal government. Some may observe that the two municipalities of Clarington and Port Hope are now managing federal-scale responsibilities. Indeed, few if any other cities in Canada require their Councillors to be conversant in matters of nuclear engineering, epidemiology, health physics and the social sciences.” (Austin and Stevenson, 2005)

Another possible mechanism for the collaboration of national and regional/local actors is for the regulator to play an active role in D&D activities not only by overseeing the process, but also by acting as the expert of the affected communities.

During the decommissioning of the Vandellós-I NPP a Dismantling Information Committee was created, in which representatives of the regulator (CSN), other national government agencies, and affected regional and municipal governments took part. Within the framework of this Committee, the CSN appointed a Resident Inspector to oversee ongoing activities and provide for public information. By reporting to the Parliament and informing the general public and the media about its oversight activity, CSN played the role of a “guarantor” of safety in this project. (Revilla, 2005)

Sustainability and foresight²

In essence, any facility is meant to move off the active register and be decommissioned one day. While the active period of construction and operation may generate palpable economic benefits for the host region, this will not always be the case later. Building a sustainable host relationship implies addressing the entire life cycle of a facility and site. Where diminishing economic returns are to be expected, attention must be given to creating added cultural and amenity value for the host region.

NEA Member countries will likely be brought to examine what must be created to maintain high socio-economic potential and quality of life in the host community. A valuable example may be drawn from the field of long-term radioactive waste management. Partnership initiatives in Belgium and Spain have called for community sustainability funds as part of the siting “package”. This may become a preferred strategy in the future. Such funds target not only the integration of the radioactive waste management project in the life of the community, but also, increasing community capacity to play a future guardianship role.

The multi-stakeholder research programme Cowam España has investigated the role of financial support to host communities in ensuring sustainable development. Moving beyond the concept of short-term compensation or incentives, future instruments should enable local and regional development, help the community assume responsibility for waste generated in the benefit of society at large, and serve to create and maintain local knowledge and competence to monitor management over the coming decades and generations. Cowam España suggests that stakeholders including local and regional authorities should focus on devising mechanisms for social learning, economic development and environmental protection over the long term; these would be supported by the grant funds. The Vandellós-I decommissioning has paved the way, and Spain’s planned national interim storage facility could serve in this connection as a tool for research, training and social learning³.

Important sustainability lessons may be drawn from the mining industry in which there is experience with declining activity and decommissioning.

In the far north of Canada where uranium is mined, the traditional aboriginal culture is still dominant locally. It is important to organize sustainable modern economic activity in harmony with ongoing traditional activities. A miner gets more community respect and satisfaction from being a skilled and experienced trapper. Cogema has recognised that

2. This text is adapted from an upcoming publication by the FSC dealing with building a relationship between a facility and the host communities (OECD/NEA FSC, 2006).

3. “The Role of Compensation in Siting Radioactive Waste management Facilities”. Presentation by Ms Meritxell Martell, Enviro et al. at the ICEM’05, September 4-8, 2005, Glasgow, Scotland and also “Estudio comparativo de la eficiencia de los fondos de ENRESA y las ayudas económicas al sector energético” Presentation by Ms Meritxell Martell, Enviro, at the COWAM España seminar in Madrid, April 27-28, 2005. See website: http://www.cowam.org/dav/esp/Casos%20estudio/compensaciones_v0.ppt

miners should enjoy working conditions (time schedules, geographic placement) such that they can still devote themselves meaningfully to traditional skills. Sustainability here implies provision of resources enabling people to preserve their environment and perpetuate the traditional culture despite modern economic pressures. Furthermore the uranium industry has committed to the long-term goal of offsetting diminishing mineral resources by the creation of other economic opportunities. Specialized academic and technical training allow greater numbers of northern people to move up into the mining management ranks. As their economic and educational level rises, the work force is becoming more flexible and competent. Successful northern-owned as well as joint-owned service industries have taken root⁴.

An existing European regulation⁵ relative to mining in general stipulates that host compensation funds must not all be ear-marked for short-term needs, but must be directed in part to generating economic and cultural resources that will sustain the community over the duration.

NEA Member countries may also consider how foresight at the outset of facility development can ensure, later, a graceful transition of the inactive facility and site to new uses. When creating a new facility, it is necessary to foresee the end of its useful life. If future needs are not anticipated, there is a risk that the facility will become a liability for the community. Proper foresight – on the end use of the facility and site, or technical provisions for quick transitions to other types of facilities – provides better assurance to the host community that there will be flexibility in future planning capacity.

In Kävlinge, the town hosting Sweden's Barsebäck nuclear power plant, the municipality views that the operating reactor is a valuable asset and should go on running for economic and environmental reasons. If Government decides to decommission the community does not want to be tied to a restricted, unproductive site for 30 years. As mentioned earlier, municipal preference would be to turn the site very quickly into a new seaside housing area. The choice of land use reflects both the changing demography of the region and the municipal need to generate revenue. If the older type of reactor had been built with design provisions that favour a prompt dismantling – as current plants do – or if the plant had other uses than just producing energy, there would be shorter lead time to dismantle or reconvert it and there would be a smoother transition to a final and accepted new condition. (Palmquist, 2005)

When mines are closed they have been transformed at times into mining museums, offering a new tourism industry while memorialising the activity that meant so much to the region and shaped it. In France, a tumulus formed of mining waste has been transformed into a ski site. In the Nord Pas de Calais, France, a mining museum also contains a cultural centre—where conferences and concerts also take place. Disused nuclear power plants or facilities are also being considered as tourist sites, e.g. the Dounreay site in the UK.

Discussion and Conclusions

Implementing the three Pillars of Trust —“safety, participation, local development”— is key to successful decommissioning and dismantling projects.

4 . Development Opportunities for Northern Aboriginal Communities from Saskatchewan's Uranium Mining Industry, A. Richards, Cogema, Presentation at the FSC workshop “Public confidence in the Management of Radioactive Waste: The Canadian Context” held in Ottawa, Canada, 14-18 October 2002.

5. Regulation CE 1407/2002 of the European Council 23 July 2002.

Each pillar has particular meaning for the individuals making up the communities affected by D&D, as well as for the institutions involved in this activity. *Safety* is necessary for any individual to be able to act, take decisions and make use of his/her freedom. Safety during the whole lifetime of a project is paramount and should constitute as small a burden as possible on both current stakeholders and those who will enter the scene at a later time — including future generations. The municipalities hosting nuclear facilities on their territory tend to concentrate not on debate about the relative merits or demerits of nuclear power but instead, on dealing with the day-to-day issues arising from plant operation and with plans for its future. Assurance of safety, e.g., through the provision of adequate information, including plans for dealing with emergencies, is essential for communities in the locality of a nuclear facility.

A decide-announce-defend policy is not conducive to sustained progress. *Participation* in decisions is the effective and best way forward for site operators closely to involve local politicians or community leaders, and to co-operate with any local committees set up to oversee the community interests. This means providing them with transparently valid information about plans and programmes, living up to commitments, and being constantly available to answer questions and hear comments. It also means providing valid information on safety and environmental matters including waste management and giving full consideration to concerns about the effects on society such as loss of employment, the need for alternative economic activity, future use of the site and about compensatory benefits for the community. At the same time, because decommissioning of nuclear facilities, and nuclear power plants especially, has more than just local dimensions, questions should be expected on links to the national energy and radioactive waste management policies. A communicated, clear structure of actors and their roles is helpful to situate national and local responsibilities.

All techniques for communication have their place: conventional meetings, seminars, debates and provision of information packages for local discussions to television programmes and websites, supported with "chat-rooms" if appropriate. Timeliness is a key factor. Communities where facilities are shut down have additional special communication needs as a result of termination of local employment. The employees of the phased-out facility are special stakeholders who may become a resource in the subsequent dismantling phase.

Local development is the final pillar. While the sustainability of the host community has not always been a priority for traditional industrial operators closing down an automotive or manufacturing plant, there are demands on the nuclear sector to ensure high socio-economic potential and quality of life in the host community. Communities are eager to take part in deliberations about the suitability of decommissioning, to see the land restored to open and productive usage if the plant is dismantled, and to receive assurances of different natures that their economic viability will not falter. An example may be drawn from the "sister" area of long-term radioactive waste management, in which stakeholders see community sustainability funds as an important instrument.

Many examples of nuclear decommissioning projects can be noted that show an increasing attention to stakeholder involvement and are leading to successful outcomes. It is important to take these lessons on board as the nuclear age moves into large-scale decommissioning tasks. More than 500 nuclear power plants have now been constructed and operated worldwide. The NEA Member countries account for more than 80% of the total number of plants and most of these will need to be decommissioned in the next few decades. Decommissioning and dismantling constitute a test on which the nuclear sector will be judged. Operators and authorities who will seek to undertake new build have an interest in demonstrating that existing sites can be wiped from the register quickly and neatly. They will be judged not only on the technical quality of their action, but also and perhaps especially, on how well they respect and uphold the pillars of safety, participation and local development on which stakeholder relations rely.

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