

A new profile for regulators in radioactive waste management

Institutions involved in the long-term management of radioactive waste are facing a rapidly evolving environment stemming from such influences as societal changes, new information technology and new roles for the media. This is taking place at the same time as some national programmes evolve from research and development to site selection and implementation of a repository, whilst others are reviewing and defining their policies in the waste management area. As in many environmental areas, a demand for public participation in decision making leads to a need for new approaches to involving stakeholders. The NEA Forum on Stakeholder Confidence (FSC) examines the societal and decision-making context of long-term radioactive waste management, notably as regards solid waste disposal. Several features of this context have particular significance for regulatory authorities.

Generally speaking, the regulator's responsibilities are to (a) define radiation protection and nuclear safety requirements; (b) issue guidance on safety assessment methodology and documentation; (c) review the implementer's safety analysis as a basis for licensing waste management and disposal

activities and facilities; and (d) inspect and review construction, operation and closure of nuclear facilities to ensure compliance with licensing conditions.

The FSC observes that amongst all the institutional actors in the field of long-term radioactive waste management, it is perhaps the regulatory authorities that have restyled their roles most significantly. In particular, modern societal demands on risk governance and the widespread adoption of stepwise decision-making processes have already led to changes in the image and role of the regulators. Also, legal instruments reflect and encourage a new set of behaviours and a new understanding of how regulators may serve the public interest.

Regulators: providing a service to the public

The technical regulators have a mission of public service, are "guarantors" of safety and are the "peoples' expert", or peoples' resource, on safety concerns. They need to act and be seen as independent overseers of the quality of the work and the credibility in the decision-making process. Independence, competence and effectiveness of the regulator are crucial to public trust and confidence in the national radioactive waste management programme, especially as regards high-level waste (HLW) disposal.

Regulators should thus establish good contacts with the different stakeholders. Open channels of communications should be maintained with the

** Dr. M^a del Carmen Ruiz Lopez (mcrl@csn.es) is Head of the HLW Branch at the Nuclear Safety Council, Spain, as well as a member of the NEA RWMC Regulators' Forum and the FSC Core Group. Dr. Claudio Pescatore (pescatore@nea.fr) is Principal Administrator for Radioactive Waste Management in the NEA Radiation Protection and Radioactive Waste Management Division. This article is based on the NEA report entitled The Regulator's Evolving Role and Image in Radioactive Waste Management.*

public, implementers, government departments, parliament, concerned action groups and others. Appropriate mechanisms of dialogue must be found with the different stakeholders. In particular, the regulators should be involved early in the process of facility siting and collaborate with the potential host community/ies to the extent that this is compatible with the national regulatory regime.

Successful experiences in facility siting have shown that active regulatory involvement is needed and is also possible without endangering the independence and integrity of the regulatory authority. For example, thanks to their early involvement and commitment at the local level, the regulatory authority of the Nordic countries have come to be seen by the municipalities as “the independent expert of the public” and “competent and responsible supervisors of safety”.

Regulatory process: gradual progress and public involvement

A stepwise decision making and implementation process implies a stepwise regulatory process. This kind of regulatory process facilitates the development of regulations in a gradual way, starting from very general principles and ending with the guidance applicable to a licensing review. In this way, the job of regulating the development and implementation of a radioactive waste disposal facility, for instance, is intrinsically one of gradual learning and refinement. Accordingly, rules set at one step may be modified or updated at a later stage, although regulators must clarify the reasons and basis for changing regulations at later stages of repository development. (For further details regarding stepwise decision making in radioactive waste management, see the article on page 18.)

In order to preserve flexibility in a decision-making process that can last decades, regulators should strive to avoid over-prescriptive rules too early. This attitude implies in turn a well-structured and formalised interaction process between implementers, regulatory authorities and other stakeholders that secures the societal trust mentioned above. A potential issue that could emerge is whether the level of knowledge is adequate to provide the necessary input for the technical and societal decision at each stage in the stepwise development process. A pragmatic response to this question can be given: in the early stages, only a preliminary safety appraisal is needed stating that nothing has been found that would raise doubts

about the possibility to achieve the required safety level.

The process of rule making and its application to facility site selection and licensing should be transparent and comprehensible. This implies an open process in which the public and other stakeholders can comment on the approaches used by the regulators:

- The “rules of the game” for the regulatory process should be known as soon as possible, and in any case in advance of a licensing application.
- Ideally, the general public should perceive the overall system of regulation, including the formulation of relevant policy by government, as being impartial and equitable.

However, since there are decisions that are the exclusive responsibility of the regulatory authorities, the regulators should determine and inform in advance when, where and how public and other stakeholder input can be accommodated. The regulators should also communicate the basis of their decisions. In any event, public involvement in the regulatory process will be an area of continuing learning.

Confidence and public trust

Public trust is based both on track record and on perceived morality and values. A good track record would suggest, from experience or evidence, that certain future events would occur as expected. A perception of such attributes as reliability, honesty, veracity, fairness and strength of a person or institution would further allow a certain degree of delegation to be given. Public trust is thus necessary to further legitimate the mission and role of the regulators, in the eyes of the public.

A number of organisational and behavioural features appear essential to building confidence and meriting public trust. Among these are:

- **Openness:** being active in providing information about decisions, policies and questions related to safety. Openness is also a matter of being prepared to answer questions, as well as to discuss and to exchange views with the public or various organisations. Communications need to be open and honest. Open channels of communication must be maintained.
- **Clarity:** demonstrating a commitment to openness through efforts to communicate in ways that are clear and understandable to the broader public. The use of plain language to explain

safety, institutional and procedural concepts is essential for fostering the understanding and transparency necessary for building trust.

- **Accountability:** in the sense that regulators must be prepared to have their actions and decisions probed and questioned in public fora.
- **Independence:** being independent of the nuclear energy industry in regard to licensing decisions, and of any other organisations likely to be affected by such decisions. Independence has to be demonstrated by visible actions.
- **Competence:** both statutory and effective. Statutory competence is granted by the mandate defined for regulators in the national programme. Effective competence relies on the training of regulatory staff and the resources of their institution. The regulatory staff must have the required expertise and sufficient resources for careful scrutiny of the implementer's proposals and arguments. Achieving and maintaining adequate, effective competence within regulatory authorities means that they must be able to attract and retain capable staff.

Dialogue and interaction

In order to gain public confidence and trust, all the relevant regulatory authorities, including government, need a long-term strategy for public communication as well as for interaction with other stakeholders. A prerequisite in defining the communication strategies with stakeholders and to address issues of real interest *is to listen to their concerns and expectations*.

Public concerns have turned out, in many cases, to be different from what the technical experts regard as the most relevant concerns. In order to increase public confidence in their mandate, the regulators must understand the social concerns and how to address them. Studies and research on social concerns should thus be the starting point in addressing regulatory public information and defining stakeholder communications strategies. Indeed, risk perception, values and interests of the public and different stakeholders have been the subject of research by a number of regulatory organisations.

Since local authorities are key decision makers in any facility siting process (and even more so if the municipalities participate on a voluntary basis, or have veto rights, such as in Sweden and Finland regarding repositories), they are natural intermediaries for dialogue with the technical regulatory authorities. In the first instance, the technical

regulator's role should be one of collaboration, acting proactively alongside the municipalities. The objective is not to gain public acceptance of a project but to build up the regulator's credibility and gain public confidence as well as to provide national and local decision makers with the necessary information on safety matters.

Communication with the public and the news media is a matter of particular importance, as they are both an audience in themselves and a channel for communicating with other audiences. How to communicate with the public is not a simple subject because of the limitations in translating technical language for public understanding. In any event, communication requires the organisation's commitment to continuous learning: training in risk communication and in conducting public meetings is necessary. Thus, in addition to the regulatory control functions, public information should be a key function of regulators. In fact this is stated in several legal instruments having served to create regulatory bodies and is included as a goal in regulatory strategic plans.

The regulatory authority, as a body with independent functions, should provide independent, neutral, balanced and factual information about issues related to safety. Indeed, most of the technical regulators have the obligation both to make regular or periodic reports and to inform stakeholders when asked. Consequently regulators have to be prepared to respond. This means that they should position themselves on questions of debate and issues of public interest (e.g. waste disposal alternatives and options, general feasibility of disposal, retrievability, etc.).

Conclusions

The traditional position worldwide has been that regulators should not be too intensely involved with the waste disposal programme until the actual licensing process begins, since their independence might be legally compromised. This position is gradually changing towards a more active and visible role in the pre-licensing steps.

The regulatory process is part of a broader decision-making system. Culture, politics and history vary from country to country, providing different contexts for establishing and maintaining public confidence. However, an open, stepwise regulatory process led by a respected regulator can give confidence that the implementer's proposals are subject to detailed technical scrutiny on behalf of the public. ■