

## **INTERNATIONAL CONFERENCE ON SAFE DECOMMISSIONING FOR NUCLEAR ACTIVITIES**

### **SUMMARY FINDINGS**

(summary presented by the Conference President – W. Renneberg, Germany)

The Conference served an important purpose in bringing together and consolidating information from around the world, and the proceedings will therefore represent a very valuable overview of the current situation. I should add, however, that the information presented at the Conference was concentrated on the decommissioning of large nuclear facilities. A concerted international effort should be made to obtain a realistic picture of the scope of the decommissioning task to be expected from the many other practices using radioactive material in medical, industrial and research applications.

In this regard, I note that the IAEA is currently compiling information on the magnitude of this problem, and I urge them to continue with this work. This should provide a solid basis for an international discussion of actions to begin solving the problem.

The Conference also heard about a great deal of practical decommissioning experience that has been accumulated. The international community should consider ways to make this information more widely available. The IAEA could contribute to this by means of a Web-based ‘chat room’ dedicated to decommissioning.

One general conclusion from the discussion was that the IAEA should ensure that its safety standards on decommissioning are continuously improved and kept up to date.

Turning to the main findings from Technical Sessions 2A-2E, six main themes emerged: the importance of early and thorough planning; social issues; funding; waste management issues; long-term retention of knowledge; and the removal of regulatory controls.

With regard to the issue of early planning for decommissioning, emphasis was placed throughout the Conference on the importance of planning decommissioning thoroughly. Planning should start as early as possible, ideally at the design stage of a facility, as required by the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. A fundamental first step in this planning is to obtain a thorough understanding of the condition of the facility at the end of operations, including knowledge of all the waste streams to be expected during decommissioning. The decommissioning plan for the facility should include a description of the intended management approach for each of these waste streams. This in turn requires that the State should have national plans in place for the safe management of this waste.

The overall decommissioning strategy to be adopted should be identified as early as possible in the planning process. The presentations and discussions at the Conference

indicated a distinct shift towards immediate dismantling as a preferred strategy. This preference seems to be based on a range of considerations, notably the availability of know-how and experienced staff from the operational phase, and certainty of funding. Nevertheless, there will still be cases in which one of the other strategies - safe enclosure or entombment - may be appropriate in the circumstances.

Another prerequisite for planning decommissioning, as emphasized throughout the Conference, is the existence and implementation of an appropriate and stable regulatory framework and requirements.

Turning to social issues, the participation of the public, including community leaders, work forces and interest groups, in the decision-making processes should be initiated as early as possible and should continue throughout the process. The aim is to minimize the negative social and economic effects of decommissioning.

In the discussion on waste management issues, it was noted that progress in the provision of national repositories for radioactive waste would be of great benefit to decommissioning. However, the absence of a repository should not be considered an obstacle to early dismantling. If repositories are not available, regulators should provide guidance to operators on the appropriate conditioning of waste.

The long-term retention of knowledge is of great importance in two respects: people and records. The knowledge and experience of staff involved in the operation of the facility need, if at all possible, to be exploited during decommissioning. If the early dismantling strategy is adopted, this can be done directly by retaining the people, but if decommissioning is delayed a way needs to be found to preserve their knowledge and experience in a form that can be used later. The second aspect is to ensure that proper records of the history of the site are retained in the long term after decommissioning. Failure to do this can lead to situations involving a risk of accidents, substantial costs and the generation of further waste.

Funding is clearly vital to decommissioning. Provision needs to be made to ensure that sufficient funds will be available, with a high degree of confidence, when they are needed. An appropriate mechanism should be in place before a new facility is licensed to operate. However, there are significant uncertainties associated with both the estimation of future costs and the performance of funds designed to meet those costs, even when an appropriate funding system is in place. A particular concern relates to facilities that need to be decommissioned but for which funds are not available.

With regard to the removal of regulatory controls, it was noted that the recycling or reuse of materials from decommissioning can greatly reduce the amount of waste that needs to be disposed of in a repository. This can preserve resources and repository capacity. Criteria for the international trade in such materials are needed, and therefore should be internationally agreed. A great deal of work has been done with the aim of establishing criteria for the removal of materials from regulatory control. Work aimed at reaching international consensus on an acceptable methodology for establishing clearance levels should continue.

Questions remain as to whether the criteria for the release of sites should be the same as those for the release of materials, whether natural and artificial radionuclides can be subject to the same criteria, and whether there is a market for materials released from a nuclear facility, even if they have been declared 'non-radioactive'. The international community should make concerted efforts to resolve these issues.