

CLOSING ADDRESS

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Introduction

Thank you Professor Camarinopoulos for an excellent summary of the salient points coming out of this conference. I am very impressed by the high quality of the conference and the presentations that have been made. Over the years I have participated in many international meetings about decommissioning. Actually, my first International Atomic Energy Agency (IAEA) meeting was on decommissioning almost 30 years ago. At that time only a few installations had been decommissioned and dismantled and many of the discussions were rather theoretical. Today, the situation is quite different. Many installations, ranging from small laboratory facilities, e.g., glove boxes to large commercial sized nuclear power plants, have been decommissioned and many of them dismantled. The list of lessons learned presented in papers and posters at this conference is impressive.

A first conclusion is that adequate technology is available for decommissioning, but there are still challenges for specific tasks, not least to ensure a proper and cost effective waste management.

Secondly it can be noted that strategy, organizational and planning issues have been very prominent in the presentations and are key to the success of decommissioning projects.

Thirdly, waste management issues remain a concern in many countries, both at the very low level end of the spectrum, e.g., concerning clearance levels, recycling and reuse, and at the higher end of the spectrum, e.g., how to take care of the intermediate level waste.

Fourthly, more emphasis is being put on the social aspects and stakeholder involvement, bearing in mind that large decommissioning projects have a great impact on the local society, both from the point of view of reducing the risks and of changing dramatically the employment situation.

IAEA Action plan

In his opening address, the Deputy Director General for Nuclear Safety and Security, Mr. Taniguchi, made reference to the International Action Plan on Decommissioning of Nuclear Facilities that was approved by the IAEA Board of Governors in June 2004. This plan covers many aspects of decommissioning, including the setting of safety standards and the provision of guidance on their application, as well as information exchange on technical developments and lessons learned. The progress of the implementation of this plan has been reported during this conference.

Now it is time to revisit the Action Plan taking into account the information provided and the discussions held during this week and to identify what new actions are needed or what ongoing actions need to be reinforced. I will not pre-empt this work, but only mention a few points from the long list of topics that have been discussed.

Joint Convention

I will start with the international safety framework. Decommissioning is one of the topics that is covered by and should be reported under the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. Very good experience has been gained from the first two review meetings that have been held, primarily concerning strategies and implementation activities for radioactive waste management. The need for reporting in a structured way and the review of the reports and the activities in one country by peers in other countries has been very much appreciated. Learning from each other and being exposed to a critical, in the positive sense, review is seen as an important tool to improving national approaches.

So far, however, the decommissioning activities, although reported under the Joint Convention, have had a lower profile in the discussions. There is a need to consider how the positive experiences of the review mechanisms for waste management can also be transferred to the decommissioning field. The IAEA will work together with the Contracting Parties to the Joint Convention to explore how this can be achieved for the next review meeting, within the existing framework.

Flexible and graded approaches

Another important point raised during this conference concerns the discussion on a flexible and graded regulatory approach. Experience shows that the international cooperation provided by the IAEA through its decommissioning safety project — DeSa — has been very useful in clarifying some of the aspects in this connection. The IAEA will look into the mechanisms for, and the suitable content of, a follow-up project to DeSa to keep this positive momentum alive.

Sharing of experience – Establishing a decommissioning network

Another common theme during this conference has been the need for information and experience sharing, not least between those countries and organizations which are conducting large and important decommissioning projects and those countries which are facing decommissioning challenges but still lack experience. Several mechanisms exist internationally for the exchange of experiences between the well developed projects, e.g., within the NEA Co-operative Programme on Decommissioning, which has been active for more than 25 years and within the collaborative programmes of the European

Commission. However, there is no mechanism for sharing information and experience with the less experienced countries. Such a mechanism is very important to ensure that decommissioning will be performed safely and effectively worldwide.

To fill this gap the Agency is considering establishing a Decommissioning Network, which will bring together organizations with particular experience and competence in decommissioning work and who are willing to share their experiences, with organizations — primarily in developing countries — that are starting decommissioning activities. To be effective, the network will be centred around a number of case studies and demonstration projects, e.g., a research reactor in the Philippines, and regional reference centres. The issues that will be addressed will cover a large spectrum of activities; they include; strategies, organization and planning (both for regulators and operators), methodologies, cost assessment and funding mechanisms, characterization activities, decommissioning techniques, waste and materials management and including ‘hands-on’ experiences.

The decommissioning network will provide opportunities to support Member States with less developed decommissioning industries by providing access to decommissioning skills, knowledge and practical experience. It could provide possibilities for secondments, training courses and technical visits. The use of coaching and mentoring techniques could be developed. Also it might, on a more technical level, provide the possibility for sharing or transferring redundant instrumentation and equipment.

Positive discussions with interested experienced organizations about the network had already started before this conference and there have been even more positive reactions during this week. A first consultancy is planned for February 2007 to discuss the organization and functioning of the network. It will be followed by a Technical Meeting with a broader participation of Member States. The positive experiences from a similar network on radioactive waste disposal, which has been operating for several years, will be utilized. In this network, organizations operating underground research facilities are members and countries entering the field of geological disposal are associates.

Technology

I mentioned earlier that adequate technology is available for decommissioning. The approach to decommissioning and the techniques used are in essence straightforward. Decommissioning is not ‘rocket science’ and there is no reason why it should not be managed in the same way as any other project. However, as with other projects, experience and proper planning and organization are essential in order to reduce risks and costs while ensuring safety. Also, technology will continue to be developed and new specific technical approaches will be used. The IAEA will continue to provide a forum for the exchange of experiences and applications. In particular, it will be important to find simple and economic solutions for use in the developing countries with limited resources.

Waste management and site reuse

I will now turn to the issues of waste management and the reuse of material and sites. The overall objective of decommissioning is to reduce the potential risk of a redundant installation and, preferably, to remove the radioactive materials so that the

site can be released for productive reuse, be it for industrial purposes, which is the most probable, or for leisure purposes. IAEA Safety Guides have been published on the release of sites from regulatory control after termination of practices and on clearance levels for materials. Still, it has been reported at this conference that there is a need to ensure harmonization of application of these rules across Member States. Also, the difficulties in getting public or industrial acceptance for the recycling of cleared material have been reported. More activities in this area are needed.

Further work is also needed to define realistic end states for both waste and sites. In reality, full site release might not be the optimal, or even preferred or achievable, solution. A nuclear power site is a very valuable site for future power production, given that the infrastructure already exists there. It might be acceptable, in some cases, that a certain part of the site remains under regulatory control. The same can be valid for some types of material recycling. Further work on these aspects is needed in order to develop appropriate safety guidance, taking into account the many practical experiences noted at this conference.

Another aspect of waste management discussed during the conference is whether lack of waste disposal facilities is an excuse for delaying decommissioning activities. It was agreed that immediate decommissioning is the preferred option, but that waste management needs to be considered in good time. In this context, the best options for storing the waste while waiting for disposal, have to be determined. It is also important that the waste management community is made aware and requested to work on the management of all types of waste from decommissioning as soon as possible, i.e., to find adequate solutions for the management of special types of decommissioning waste, such as graphite waste, large size components and intermediate level waste. The situation is not very different from the situation for spent fuel management, for which interim storage facilities have been built at plants to be decommissioned.

Funding

Throughout the conference, the issue of ensuring adequate funding for decommissioning has been raised. This concerns how to assess the funding needs, but also, more importantly, how to ensure that funding will be available for decommissioning, not least in countries with limited resources. There is a need to raise the awareness of governments of this issue also in those Member States that are not Contracting Parties to the Joint Convention.

It is also clear that some countries might not be able to afford extensive decommissioning work. For these cases, it would be of interest to seek international solutions for financing. An example of this is the decommissioning and waste management work done in the former Soviet Union with financing from the G8 countries and the European Bank for Reconstruction and Development, which is coordinated in a Contact Expert Group operated by the IAEA.

Decommissioning of future reactors

Finally I will say a few words about the future. We are facing an increasing interest in the development of new nuclear facilities and new types of nuclear power plants. This is the time to ensure that the experiences of decommissioning are taken into account in the design of new plants. As practically all power plants are rebuilt several times during their lifetimes through the replacement of components etc., including

decommissioning experiences in design will also be a tool for improving the maintainability of the plants and with the resultant lowering the operational radiation doses to the staff.

In the new designs, recycling should also be taken into account. Perhaps the car industry could serve as a good example in this context, where nowadays, a large percentage of the material used in the cars is designed to be reusable.

Concluding remarks

To summarise, I think that this conference has been very timely and has brought up a large number of issues to be considered. The IAEA is preparing to follow up on the recommendations given. Although I started by saying that decommissioning is a mature activity, we have identified many areas where further advice is needed.

I believe that this conference has been an excellent forum for the exchange of experiences and lessons learned.

In his introductory remarks Mr. Taniguchi quoted Aristotle by saying “What we have to learn to do, we learn by doing.” I will not question the wisdom of Aristotle, but I also believe that we do not have to learn everything through our own experience, but that we can also learn from each other. I hope that the follow-up of this conference will prove that to be true.

Once again, I would like to thank the Government of Greece, the Greek Atomic Energy Commission and the city of Athens for hosting this conference and for the warm welcome that has been given to us all.