INTERNATIONAL CONFERENCE ON TOPICAL ISSUES IN NUCLEAR SAFETY

CHAIRMAN'S CLOSING STATEMENT

Ladies and gentlemen, I have the honour now at the end of this conference to summarize your significant achievements this week.

Before I begin that summary I want to acknowledge and thank all of the people who worked very hard to prepare this opportunity for international progress in nuclear safety. Some you have met and are easily recognized, others have been less visible but vital to success. let me name them:

First of all Ms. Annick Carnino whose breadth of understanding and vision linked the five important topics that we have considered; risk-informed decision making, the influence of external factors on safety, fuel cycle facilities, research reactors and safety performance indicators.

Our conference co-ordinator, Mr. Joost Versteeg and his extraordinary secretary Ms. Anne Meehan.

Our technical co-ordinator, Mr. Luis Lederman and the other scientific secretaries: Rick Niehaus, David Lange, Vesselina Ranguelova and Marc Voth.

We are also indebted to IAEA Conference Services, Ms. Hilde Schmid and Evelyn Janisch, Maria Backova and Anne Posta who assisted Hilde.

Our published papers from this conference have been made more polished and presentable by the editorial work of Mr. Ramesh, Mr. Barralough and Mr. Luraschi.

Many of us benefitted from the help of Joji Joseph who loaded our presentations and showed us which buttons to push on the computer to display them. And, finally perhaps the least visible, our technician, Andreas Vackfall, who controlled all of these microphones and other devices so that we could have all of our discussions without annoying delays or electronic feed back.

I ask for your applause for these members of the Agency staff who made it possible for us to do our work.

I want also to thank the members of the programme committee who guided the development of the papers for this conference over the last year, Mr. Kleber Cosenza of Brazil, Mr. J.P. Laurent of France, Mr. Young Soo Eun of Korea and Mr. Bert Winkler of South Africa. You should also know that the original chairman of this conference was Mr. Tibor Mikus of Slovakia and he too made important contributions until he was forced to withdraw because of greater responsibilities in his home land about six months ago.

Our first discussion revealed broad agreement that where the capability exists, risk-informed decision making can be a significant enhancement to nuclear safety and safety focus. We acknowledged however, that existing frame works of deterministic regulations are also effective. It was clear that undertaking the work to produce an underlying plant specific probabilistic safety assessment of sufficient quality to achieve some or all of the potential benefits of risk-informed decision making, could be a real burden in some situations. The conference also noted that achievement of the benefits requires alignment between the regulatory body and the power plant on the use and understanding of this advancement.

It was recommended that the IAEA supplement its existing international level guidance regarding PSA with new work to assist member states who want to adopt this concept. The Agency is asked to provide guidance and assistance for both operators and regulators regarding training, reference criteria, global experience and communications programmes for use when appropriate.

A wide range of views regarding the influence of external factors on nuclear safety was expressed. Indeed the expression of some views reflecting current political decisions during the course of the discussions demonstrated in a small way the potential for distracting both operators and regulators from a sharp focus on safety.

Important discussions on the impact of market liberalization, a significant external factor, revealed that in those regions where the achievement of strong business performance is recognized to be a natural result of strong safety performance that this external factor may enhance safety. In those countries where the power plant is unable to benefit from its own excellence of operation,

the safety culture can not be strengthened by this external factor or through actions of the regulatory body or the operating organization acting alone. It was recommended that the Agency elaborate means for bringing this and other factors to the attention of the highest political decision makers.

The most significant conclusion from this session however, and one which impacts every topic discussed in the conference was that a strong safety culture in a nuclear facility is paramount. The existence of a strong safety culture will enable organizations to tolerate change and withstand many external pressures. The IAEA is asked to intensify its efforts to identify ways to develop, identify, measure and promote strong safety culture within nuclear facility operating organizations. The conference noted that this need is particularly urgent in some countries where safety is generally not given a high priority in society.

Our discussions on fuel cycle facilities recognized that although there are many differences between these facilities and power plants there are many significant common elements as well. The conference suggested that the IAEA enhance its preparedness to respond to requests for assistance from member states for fuel cycle facilities. The development of appropriate safety standards is a prerequisite to providing these safety services. The Agency should consider elements of its assistance programmes currently in use for power plants for application with qualified peers at fuel cycle facilities and to foster international information exchange on performance, safety and safety indicators. The possibility of including some representatives of fuel cycle facilities in OSART missions is also suggested.

On the subject of the safety of research reactors we recognized that our most important audience was not present at the conference. Specifically, reactors operating without regulatory oversight and possibly without sufficient safety focus or sufficient funding. Mindful of this situation, the conference discussed known issues of ageing and extended shutdowns in the absence of plans for future use or decommissioning. The importance of assuring strong safety cultures at research reactors was recognized and the IAEA was asked focus research reactor activities on programmes such as quality assurance that enhance safety culture and safety management. Operating organizations with reactors in extended shutdowns should be encouraged to develop strategic plans for the future of these facilities considering realistic outlooks and the sources of necessary funds.

The Agency was also asked to conduct a survey of safety aspects of research reactors and to investigate further how the utilization needs of Member States could be served by regional centres. This might permit an alternative when decommissioning is being considered.

Maintaining a competent work force for both nuclear facilities and for regulatory oversight is recognized to be a significant issue. It was the subject of a separate session.

Wide spread agreement exists that the numbers of young people interested in the technical work associated with infrastructure industries is declining. This shortage can be seen both at the craftsman and the degreed engineer levels for many disciplines associated with nuclear facilities. Simultaneously, the industry is facing a significant loss of existing competence

because a disproportionate share of the work force is reaching retirement age. This is particularly true in engineering areas.

Many different approaches are being taken by regulators, nuclear installations and governments of member states to make careers and education in pertinent fields more attractive. The IAEA is asked to monitor these efforts, foster the exchange of national experiences and to disseminate information on the methods used and experience gained to all member states. The Agency should also continue its work to enhance the quality of nuclear training and development of model courses. The possibility of establishing regional centres for education linked to regional research reactors should be considered.

Safety performance indicators are widely used by nuclear enterprises. Many indicators are used by managers and regulators to measure and monitor the details of operational performances. Often these indicators are expressed in technical terms that do not lend themselves to two important objectives. One is the measurement of safety and safety culture, and the other is to communicate the overall quality of nuclear operations to the public.

The conference addressed the difficult – but not impossible – task of defining a small set of indicators with international uniformity and relevance that can be useful to operators, regulators and the public. Our discussions revealed the difficulty of the task and the time required to accomplish it. Some expressed that extreme care should be exercised in this regard.

It was clear that measurement systems and indicators are important. Objective measures should be used by both plants and regulators. The Agency should continue its work to ensure that objective performance indicators are

available for effective use at all nuclear power plants. Further the Agency should continue the task of identifying and testing indicators which can have international relevance and uniformity, for use by all interested stakeholders.

The use of indicators to assess risk relevance was also discussed. This too was seen as difficult however given its application in some member countries, it was suggested that work should proceed aided by appropriate research.

At the beginning of this closing summary, I thanked all those who prepared and administrated the conference. Now that we have completed our work and set forth sound recommendations for future work to enhance the safety of nuclear facilities, it is time to thank all of you. To the session chairmen, the rapporteurs, the keynote speakers, the presenters of lead-in discussions, the authors of contributed papers and posters, to the speakers at special sessions and panels and to all who contributed perspectives during our discussions – I say thank you. It was a worthy effort.