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## **WELCOMING SPEECH**

### **INTERNATIONAL NUCLEAR CONFERENCE (INC '97) A New Era in Nuclear Science and Technology - The Challenge of the 21st Century**

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Let me start by extending my warmest welcome to everyone present at this Conference. To all overseas participants I greet you with "Selamat Datang" to Malaysia. It is indeed a great pleasure for me to be at the Opening Ceremony of this International Nuclear Conference, INC '97, which is jointly organised by the Malaysian Nuclear Society, American Nuclear Society, Malaysian Institute for Nuclear Technology Research, and Universiti Kebangsaan Malaysia. I would also like to express my appreciation to the Organising Committee for inviting me to deliver this opening speech and to officially open this Conference.

Ladies and gentlemen,

Globalisation and the advent of new technologies and knowledge necessitate countries to some extent to depend on one another for progress and development. A country which is richly endowed with natural resources may not have all the technologies needed to harness them, while technologically advanced countries may not have all the raw input materials. At the same time, new challenges which are beyond the capacity of any one country to address individually have emerged. These lead to a greater need for international co-operation. In this respect, this Conference is one of the platforms and means by which such co-operation can be achieved, and I hope participants will make use of this opportunity to learn from and share experiences with one another. This Conference is a commendable effort in bringing together scientists, technologists, medical doctors, academicians, industrialists, policy makers and media from a broad spectrum of countries, ranging from the least developed to the technologically advanced, to discuss the roles of nuclear science and technology in facing the challenges of the 21<sup>st</sup> Century.

The world population has nearly doubled over the last three decades and it will continue to increase. Current estimate predicts that by 2020 there will be about 8 billion people living on this planet, with almost 90% of the increase taking place in developing countries. With this scenario, I believe adequate supply of food and energy will still be among the greatest challenges facing many countries in the future, along with the provision of cheap and good health care, safe industrial development, and clean environment.

We have seen that nuclear science and technology contributes successfully in meeting some of these challenges. In food production, techniques using radiation and isotopes are used to improve crop and animal production through soil fertilisation, plant and animal breeding, insect and pest control, and food preservation. In energy supply, nuclear power is used to generate electricity in many countries. In fact, seventeen percent of current world electricity demand is supplied by nuclear power. To further make this option attractive and bearable financially, new generations of nuclear power plants are also being developed. These power plants are to be more environmentally friendly, economic and reliable than their predecessors. In health and medical care, the use of radiation and isotopes for diagnostic as well as therapeutic purposes are all too well known. Indeed, the medical sector is one of the early beneficiaries of the development in nuclear science and technology.

In industry, many invaluable applications of radiation and radioisotopes are now well established, particularly in advanced countries. The main areas of applications include activities in radiography, non-destructive testing, control systems and radioactive tracers, analytical techniques and quality control, radiation processing to enhance the properties of materials, and the production of radioactively-labelled pharmaceuticals. These activities have brought about considerable economic benefits and have provided solutions to problems which could not have been or difficult to be solved by other means.

In the environmental sector, the use of isotopes and the development of analytical tools, including radioactive tracer methods, neutron activation analysis, x-ray fluorescence and atomic absorption, have enriched the means available to us in the investigation and detection of environmental pollutants such as pesticides and toxic materials. Radiological impact assessment (RIA) models are used widely to ensure environmental safety at nuclear and waste treatment facilities. In fact nuclear technology, if administered accordingly, is environmentally friendly and its applications in areas such as agriculture, industry, and medicine support environmental objectives.

Ladies and gentlemen,

I have deliberated to you a selection of the nuclear techniques which have contributed to easing up some of the problems in food and energy shortage, lack of good health care, industrialisation, and clean environment. While this technology has so much to offer, it also suffers from the Hiroshima and Nagasaki images of more than fifty years ago - an image which is so closely associated with it and so difficult to erase from the public's mind. The persistence of this image was assisted by the arms race between the superpowers which has only recently ended and reinforced by the events at Three Mile Island and Chernobyl. The issues of safety and the use of this technology in weapons production thus occupy the public's mind. At this point let me echo the Malaysian Government's commitment to international efforts to totally eliminate nuclear weapons. The recent establishment of the South East Asian Nuclear Weapons Free Zone is a demonstration of that commitment and support.

On nuclear safety we should also be mindful of the fact that due to the international nature of this technology, any undesirable incident in one particular country will affect the public's view of the technology elsewhere. Despite the wealth of world experience in the development and applications of nuclear science and technology the public still maintain a level of scepticism on our ability to command of the technology. This perception will perhaps gradually change if we are more forthcoming and forthright in informing the public of such events.

We cannot undo past events, but we should not always put the blame on history and legacy alone. Public unawareness and misunderstanding are persisting issues which need to be continuously addressed. Successful applications of nuclear technology depend not only on technical excellence; understanding and acceptance both by the public and the national authorities are some of the prerequisites. A concerted effort by the nuclear community through international co-operation and effective information networking are required to further increase public awareness and acceptance of the technology.

I also believe that public perception is formed by the materials presented to them; materials they read, see, and hear. The process therefore is a two-way efforts. The information provider therefore do have some control on shaping that perception. Thus, it would serve nuclear science and technology well if the nuclear community increase the peaceful applications component of this technology in the news report being made available for public consumption. Towards this end, the recent advancement in information and communication technology should be made use of. In addition, the nuclear community itself must come much closer to the end users and enhance its vertical networking with other technology providers. The breadth of coverage of this technology should provide an excellent platform for closer interaction with others in different areas. I was made to understand by MINT that in the Malaysian experience, interactions and co-operation of that nature have taken place to some degree. More and more private sector companies are warming up to this technology and actually using it as a component in their total activities.

Ladies and gentlemen,

The Government of Malaysia acknowledges the roles played by Non-Government Organisations (NGOs) such as the Malaysian Nuclear Society (MNS) in promoting public awareness and acceptance of nuclear technology. Conferences such as this one provide tremendous opportunity for information exchange and dissemination. I was informed that participants from more than 15 countries, from developing as well as technologically advanced nations are present at this Conference. It is my hope that all participants will take this opportunity to exchange ideas and to map out new strategies for nuclear science and technology to meet the challenge of the 21st Century.

With that note, I declare this International Nuclear Conference INC '97 officially open.