

International Conference on Human Resource Development for Nuclear Power Programmes

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Speech on the 2010 Conference Outcomes

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Your excellencies, distinguished guests, Ladies and gentlemen,

I have the pleasure of addressing you today on a topic that is very critical for the global nuclear power sector; the development of human resources.

For both new nuclear comers and countries with existing nuclear power programmes, national capacity building constitutes the main principle to ensuring success and sustainably in the long run .

The education and training of personnel in the industry and related government entities, is an aspect of nuclear power sector which needs to be given top priority.

UAE nuclear power policy and approach gave special emphasis to human resources development as an essential element of the program. Since then, HR development has been our focus in the UAE nuclear energy programme, an advance nuclear newcomer with two reactors under construction and more planned.

The availability of skilled nuclear professionals is fundamental for the scale-up of a growing nuclear industry worldwide. Yet today, we are faced with an aging nuclear expert workforce, and we may see soon an overall shortage of these professionals in the future. This issue needs to be addressed, so we can ensure that all nuclear power programmes globally are developed managed and operated in a safe and sound manner.

Of course, in many countries, different stakeholders are taking important measures to fill this gap and have made great efforts to implement relevant training programmes. Still, additional efforts must be pursued.

To address this issue, I had the honour to preside the first major International Conference on Human Resource Development for

Introducing and Expanding Nuclear Power Programmes which was convened in 2010 in Abu Dhabi.

The Conference focused on the concern surrounding the potential lack of a skilled workforce in the nuclear energy sector in the coming decades. Today, and four years later, I would like to recall the important issues raised at that Conference and its outcomes.

I would first of all like to call to your attention the visible increasing demand for clean and reliable energy at the global level over the past decades. The nuclear industry has witnessed a number of countries taking concrete steps toward establishing their own nuclear power programmes.

These nuclear newcomers, such as my country, the United Arab Emirates , or countries that have planned and are currently setting the stage for expanding their nuclear power programme, are looking to experienced nuclear countries to develop their strategies as well as to understand the challenges in building-up the crucial pillars of a successful programme. Human resource development is one of these key areas.

This is not only relevant for nuclear newcomers, however. Other countries are adding new reactors to their existing plants. The 2010 Conference highlighted the plans of countries such as China, India, France, Japan, the Russian Federation and the United States, which at that time were planning a robust expansion in their nuclear power fleet.

While there is no doubt surrounding the demand for nuclear energy, questions lie within how to acquire a proportionate high-competency workforce to design, build, license and operate these plants. We must take into account that for each nuclear power plant that begins operation, nuclear experts must be at hand for the span of 100 years. This takes into account the years from the programme's initial inception all the way through to its decommissioning.

We are proud to note that the industry's current professional workforce consists of renowned experts that have built the foundation for nuclear power over the past 50 years. Yet these experts are now approaching retirement age. Unfortunately, in numerous countries, the amount of students that are being educated in nuclear and other relevant fields may not be sufficient in compensating this foreseeable loss in the available workforce.

This challenge is relevant in various phases of nuclear power plants development. For countries that are embarking on new programmes, it is important that they independently seek to establish a domestic expertise and skills base.

They should not, for example, rely exclusively on the human resource support from their technology supplier as a long term strategy; and here I would like to mention the innovative model the UAE is utilizing in building its workforce on international experience while at the same time developing the local expertise through multiple integrated initiatives.

For States with plans to expand their existing programmes, this consideration should first be met with the assurance that they are able to scale up to meet the demand of a larger skilled workforce in the necessary timeframe.

Finally, for countries that will be supplying nuclear technology, it is important that the country maintains a national human resource base and at the same time, is able to transfer knowledge and training alongside the technology it exports.

At the 2010 Conference, these important issues were discussed at lengths, with an array of countries outlining their challenges as such. Experts, scientists and officials from 62 States participated by sharing their relevant experiences and concerns.

The Conference concluded with three principle issues:

First, participants highlighted the need to expand the nuclear engineering and technology education, so as to include 'soft' sciences like risk analysis, law, and social sciences.

A number of new approaches were presented in light of how countries are already doing this. The United States implemented the Nuclear Power Institute Partnership to integrate colleges and universities with the nuclear industry for a large range of degrees in the nuclear field.

Japan likewise initiated a nuclear socio-engineering programme, while the UAE joined with American universities and national laboratories to integrate education on nuclear policies and areas such as safety, security and non proliferation.

While discussing strategies that could attract the youth to pursue a career in the nuclear field, 2010 conference underscored the importance of employing women in the sector.

A second conclusion from the Conference was that *strong governmental and society support* comprise two essential characteristics which are absolutely necessary for achieving a successful programme.

The roles of government, educational facilities, industry and international organizations were determined in light of addressing the human resource development challenge.

Considering the long life of any nuclear power initiative, stable national policies are important for maintaining the integrity and functionality of the programme.

Society as well needs to be involved and educated on overarching aspects of nuclear power in order to ensure that a programme develops and runs smoothly.

Finally, it was clear from 2010 Conference an increasing request *for more cooperation at the local, national and international levels* in the

area of building human resources for a nuclear power programme. Extensive networking was deemed an important tool for providing necessary data and educational courses.

It was noted that through collaboration, potential “isolationist” trends would be avoided. Additionally, collective knowledge sharing would be beneficial for nuclear newcomers, as best existing practices would be examined. Nuclear countries could also take advantage of new methods being conjured and piloted.

To conclude, 4 years from the Abu Dhabi Conference I can only highlight the importance of having a robust and competent nuclear workforce to guarantee that nuclear programmes meets the highest safety and security standards. Capacity building is at the core of any programme’s efficient operation and long-term sustainability. We collectively have to pay due attention to this issue and utilize concrete strategies on how to address it.

The 2010 Conference was successful in identifying the challenges of all sectors involved in nuclear power programmes with regards to addressing human resource development. It also effectively reported on several new initiatives that are beneficial to consider in this thematic area.

Today’s conference as the Second Conference on Human Resource Development (HRD) should review progress made in light of the outcomes from the 2010 Conference over the past four years. I hope our deliberations herein will be fruitful and add extensively to the establishment of indispensable capacity building in the nuclear sector.

I thank you for your attention.