IAEA MINISTERIAL CONFERENCE

ON

NUCLEAR POWER IN THE 21ST CENTURY

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DIRECTOR GENERAL

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INTERNATIONAL ATOMIC ENERGY AGENCY

Thank you, Mr President.

Good morning, Ladies and Gentlemen,

I would like to begin by thanking the Government of the Russian Federation, ROSATOM, and you, Mr Kiriyenko, for hosting this *IAEA Ministerial Conference on Nuclear Power in the 21st Century*.

I had a very good meeting with President Putin yesterday which provided a valuable opportunity to discuss issues related to this Conference and the work of the IAEA in general.

The world of nuclear power has changed significantly since the last Ministerial Conference on Nuclear Power took place in Beijing four years ago.

Unfortunately, the most dramatic development was the accident at the Fukushima Daiichi nuclear power plant in Japan in March 2011. However, there have been many very positive developments since then, most notably the improvements made in global nuclear safety as a result of the accident.

With this Conference in the beautiful and historic city of St Petersburg, I believe we can look ahead with confidence and optimism to the future of nuclear power in the 21st century.

The world responded quickly to the Fukushima Daiichi accident. The IAEA convened a Ministerial Conference within three months. The *IAEA Action Plan on Nuclear Safety* was agreed within six months and implementation began immediately.

After the Chernobyl accident in 1986, nuclear power entered a period of stagnation. That did not happen after Fukushima Daiichi. Construction of new

nuclear power plants has continued in many countries. Interest from what we at the IAEA call "newcomers" is largely undiminished.

I do not wish in any way to play down the gravity of the Fukushima Daiichi accident. People in the affected region are still living with the consequences. The clean-up and remediation work will take many years. Much work is still needed to ensure that the root causes of the accident are fully understood. The decommissioning of the facility will be challenging.

But we should acknowledge that a relatively stable situation has been established at Fukushima Daiichi itself, and that, internationally, many valuable lessons have already been learned. Effective steps have been taken to make nuclear power plants safer everywhere. I have seen this for myself in visits to plants in countries as far apart as South Africa and the Russian Federation.

That is why I believe we can now look forward with confidence.

Mr President,

It is clear that many countries believe that nuclear power will have an important part to play in addressing one of the key challenges facing the world in the 21st century – securing adequate and sustainable supplies of clean energy.

There are 434 nuclear power reactors in operation in the world today and 69 new ones are under construction. The latest IAEA projections suggest that the number of nuclear power plants could increase by at least 80 or 90 in the next 20 years. **Growth could be much higher.**

Established users of nuclear power, including China, India and our host Russia, have significant expansion plans. A number of countries have taken the decision to introduce nuclear power. They include Bangladesh, Jordan, Nigeria, Turkey and Vietnam. The United Arab Emirates has become the first new country

in 27 years to launch a nuclear power programme. It is presently building two reactors.

Access to stable sources of energy is vital for developing countries as they work to raise living standards, and for developed countries as they try to maintain their economic competitiveness. Overall demand for energy is growing steadily as the world population increases. In order to meet that growing demand, we need to tap all available sources of energy.

Nuclear power is a tried and tested technology. It provides electricity at a stable cost. The material used to produce nuclear fuel – uranium – has the potential to last thousands of years if used in fast reactors. This is in contrast to supplies of fossil fuels, which are expected to run out within a few hundred years.

Like renewables, nuclear power involves low greenhouse gas emissions. Unlike renewables, nuclear can deliver the steady supply of baseload electricity needed to power a modern economy.

Exciting technological developments such as fast reactors and closed fuel cycles have great potential to make nuclear power even more efficient in the coming decades.

In short, nuclear power can help to improve energy security, reduce the impact of volatile fossil fuel prices, mitigate the effects of climate change and make economies more competitive.

Mr President,

So much for the advantages of nuclear power. What are the possible challenges to future development?

I believe that the number one challenge is safety. We need to ensure that the most robust levels of nuclear safety, based on IAEA safety standards, are in place at every nuclear power plant in the world. We must always err on the side of caution. Operators, regulators and governments must show an unwavering commitment to the principle of "Safety First."

They must also demonstrate a high degree of openness and transparency. Public confidence in the safety of nuclear power was deeply shaken by the Fukushima Daiichi accident. We have made some progress in the past two years towards winning back that confidence. But this is no reason for complacency.

We should be able to explain, in a factual manner, the benefits and risks of nuclear power compared with other forms of electricity generation. If we are honest about the possible risks and problems associated with nuclear power – as with any modern technology – people are more likely to believe us when we explain its benefits. Most of us in this room are aware that nuclear power actually has a very good safety record. That deserves to be much better known.

Waste disposal is often cited as one of the major problems facing nuclear power. In fact, the nuclear industry has been managing waste disposal successfully for more than half a century. Dozens of facilities for low-level and intermediate-level nuclear waste are in operation throughout the world.

As far as the management of high-level radioactive waste and spent fuel is concerned, good progress has been made in recent years, especially in Finland, Sweden and France. Last year, I had an opportunity to visit the ONKALO facility in Finland, where a repository for the final disposal of spent fuel is being built deep underground. It is an impressive site.

The first deep geological repositories for nuclear spent fuel are likely to become operational after 2020. The progress that is being made in this area also deserves to be better known.

The high cost of building a nuclear power plant is seen by some as an obstacle to future development. Nuclear power plants are expensive to build, but once they are up and running, they are relatively inexpensive to operate throughout a life cycle of 30 or 40 years – or even more. A number of innovative new financing models have been developed. I expect to see other creative approaches to the high start-up costs of nuclear power emerge in the coming years.

Mr President,

The statutory objective of the IAEA is to "accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world."

It is up to each country to decide whether or not to use nuclear power. We do not attempt to influence their decision. But if countries decide to add nuclear power to their energy mix, our role is to help them do it safely, securely and sustainably. We accompany both experienced users and newcomers at every stage of their nuclear journey.

We establish global nuclear safety standards and security guidance. We provide detailed practical assistance in many areas, from energy planning to site selection, legal and regulatory matters and technical training, all the way through to plant decommissioning.

Our programme of expert peer reviews has proved enormously beneficial in areas such as operational safety and regulatory effectiveness and is continually being expanded.

A key aspect of the IAEA's work is ensuring that the expansion of nuclear power in the coming decades does not lead to the proliferation of nuclear weapons. The steady growth in the number of nuclear facilities, and in the amount of nuclear material under IAEA safeguards, will pose a challenge for the Agency, especially in an age of economic austerity.

Nevertheless, I am confident that, with the support of our Member States, the IAEA will rise to the challenge and continue to provide assurance that nuclear material held in non-nuclear-weapon States is being used for exclusively peaceful purposes.

It is equally important to ensure that nuclear and other radioactive materials do not fall into the hands of terrorists and criminals. Next week, the IAEA will host an *International Conference on Nuclear Security* at ministerial level in Vienna to consider ways of strengthening the global nuclear security framework.

In conclusion, Mr President, let me state my firm conviction that nuclear power will make a significant and growing contribution to sustainable development in the coming decades.

The IAEA is committed to ensuring that the expansion of nuclear power takes place in a way which results in maximum safety, reliability and efficiency, and guards against the proliferation of nuclear weapons. We will remain a reliable partner for all of our Member States.

I wish you every success with your deliberations at this important Conference.

Thank you.