

**St Petersburg International Economic Forum
Panel on Nuclear Power: One year after Fukushima**

IAEA Response and lessons learned

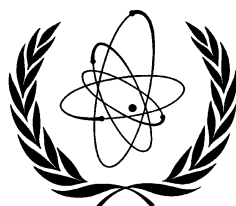
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Denis Flory

Deputy Director General

Head of the Department of Nuclear Safety and Security



INTERNATIONAL ATOMIC ENERGY AGENCY

Good morning, ladies and gentlemen.

- The accident at Fukushima Daiichi was a wake-up call. It reminded us that nuclear accidents can happen, they do happen. It further reminded us that when it comes to nuclear safety, we cannot take anything for granted. Our common goal, in the IAEA as well as in the wider international community is that nuclear accidents become less and less likely. Our goal is also that, would an accident happen, all measures for minimizing its consequences would be available, exercised, and effective.
- On 11 March 2011 a huge earthquake and tsunami left more than 20,000 people dead or missing in eastern Japan, it disabled cooling systems and lead to fuel meltdowns at three of the six units in Fukushima Daiichi.
- The accident was a jolt to the nuclear industry, regulators and governments. It was triggered by a massive force of nature, but it was existing weaknesses regarding defence against natural hazards, regulatory oversight, accident management and emergency response that allowed it to unfold as it did.

Ladies and Gentlemen,

- Several countries are planning today to embark on new nuclear energy projects. This confirms our assessment at the IAEA that nuclear energy remains a valid option for many countries as they consider their future energy mix, in a view to reduce their carbon emissions.
- Our records show that in 2011, 13 reactors were permanently retired, 12 of them as a direct result of the accident. Still, there were seven new grid connections – the third straight year of increases. But there were only four construction starts on new reactors. Nevertheless, the Agency's projections suggest that the drop in construction might be temporary. Indeed, there were 65 reactors under construction at the end of 2011, 44 of them in Asia, which remains the centre of growth.

The IAEA Response to Fukushima Daiichi Accident

- At 06:42 UTC, less than one hour after the earthquake struck the East coast of Japan on 11 March 2011, we activated our Incident and Emergency Centre following notification from our International Seismic Safety Centre of the earthquake, and of the potential for damage at four

nuclear power plants on the north-east coast of Japan as well as the potential for a tsunami,. Since then, the IEC worked continuously during 54 days, on a 24/7 basis.

- The Director General visited Tokyo from 17 to 19 March to express the solidarity of the international community for Japan, to convey offers of assistance from more than a dozen countries; to obtain information about the accident at first hand; and to stress the importance of the highest level of transparency.
- Concurrently, we sent four successive Monitoring Teams to Japan, a Joint FAO/IAEA Food Safety Assessment Team and a Marine Monitoring Assessment Team to strengthen the activities of Japanese authorities and to provide assistance and expert advice.
- We shared information from Japan and from our various Teams with our Member States and the Press through daily briefings, on the status of Fukushima NPP, and on the Radiological Status on site and off site.
- We then sent the IAEA International Fact-finding Expert Mission which visited Japan at the end of May for a preliminary assessment of the safety issues linked with Fukushima Daiichi, and to identify areas that needed further exploration or assessment. It reported to the June 2011 Ministerial Conference on nuclear safety that we convened in Vienna

The IAEA Nuclear Safety Action Plan

- Fukushima confirmed that nuclear accidents do not respect borders. The atmospheric releases were detected in both hemispheres, demonstrating that the primary responsibility for safety of operators and States, enshrined in our safety standards, must be backed by an international approach to safety.
- This lesson and the IAEA mandate were the basis for the actions of the Agency during the crisis, leading to the launch of the ambitious Action Plan on Nuclear Safety which was adopted unanimously by our 151 Member States in September 2011. This is the first time in the life of the Agency that all Member States gather, in a comprehensive program, all nuclear safety tools to strengthen the global nuclear safety framework at the national, regional and international levels.

Stress Tests

- The accident has raised questions on the level of consideration given to safety issues for extreme events. External events can occur in combination, which could trigger enduring combined consequences for nuclear power plants such as prolonged station blackout and prolonged total loss of heat sink. In response to these questions, we developed a methodology for assessing the safety vulnerabilities of a nuclear power plant, based on the IAEA Safety Standards, and made it available to Member States. On this basis, an IAEA international expert mission was conducted in Japan in January 2012 to review Japan's approach for assessing safety at its nuclear power plants.
- During the same period, national reviews of the safety of nuclear power plants have been carried out across the planet to identify lessons learned from the accident and potential safety improvements. These reviews were carried out by operators and reviewed by the national regulators to identify areas that needed particular attention in the light of the accident. In addition, regional reviews have also been conducted: in the EU and in the Ibero American region.
- One key area in the Nuclear Safety Action Plan concerns the strengthening of emergency preparedness and response. In an era of instant communication, the accident demonstrated the need for a stronger role of the IAEA to meet the expectations of Member States and the Public.
- Emergency planning and preparedness cannot be left to individual initiatives but must be governed by stringent well-rehearsed legal requirements, involving all relevant stakeholders, support organizations and the Government. Effective emergency response requires appropriate international framework and efficient national emergency management systems that are built on international standards and guidelines.
- Universal implementation of the IAEA Safety Standards on emergency preparedness and response at the national level is crucial. It improves preparedness and response, facilitates communication in an emergency and contributes to the harmonization of national criteria for protective actions.
- Today, we are working with all Member States to strengthen their emergency preparedness and response mechanisms to ensure that the necessary assistance is made available promptly.
- Today, we are looking into ways of enhancing and making better use of RANET, the IAEA Response and Assistance Network, including expanding its rapid response capabilities.
- Today, we are also working on revising our own Agency emergency response plans and procedures to provide Member States, international organizations and the general public with

timely, clear, factually correct objective and easily understandable information during a nuclear emergency.

Transparency and Action Plan

- Beyond the heated debates that led to the approval of the Action Plan by our Member States, today its resolute implementation is recognised as an essential element of the international response. In proposing to make a more systematic use of international peer review missions, the Action Plan plays a decisive role towards harmonization of safety practices.
- Transparency on the objective evaluation by peers is a key element of the Action Plan. It is a powerful tool, which does create an obvious incentive for improvement, and meets expectations of the public.
- Without building credibility of our communication prior to emergencies, all our efforts would be vain. Transparency is a key element of credibility-building for regulators, operators and international organisations.

Strengthen the effectiveness of operating organizations with respect to nuclear safety

- We have also strengthened our existing agreement with the World Association of Nuclear Operators. We agreed to improve coordination of our respective peer review missions, to further facilitate our cross participation in various committees, and indeed to identify a Contact point in WANO who might be invited to our IEC in case of a relevant emergency.

Ladies and Gentlemen

- The Chinese expression for crisis, wei ji, is a combination of two words: danger and opportunity. The experience gained in response to the Fukushima accident provides valuable input for enhancing and harmonizing the Global Nuclear Safety and Security Framework.
- I believe that nuclear power plants have already become safer as a result of the measures taken at local, national and international levels. Safety will continue to improve, but we must avoid complacency at all costs. Our job is to develop and make available standards and guides whose implementation will allow considering accidents as a remote possibility. Our job is not to forget

this remote possibility, but develop and promote standards for preparing and exercising towards this remote possibility.

- If the existing scientific knowledge that such an accident could happen had been considered, then the height of the wall to prevent against Tsunami might have been higher, measures to manage a severe accident would have been foreseen and the staff trained for such a severe accident, and response capabilities might have been better prepared.

- Thank you.