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Fukushima Ministerial Conference on Nuclear Safety

15-17 December 2012

Report by the Director General

A. Introduction

- 1. Following the accident at TEPCO's Fukushima Nuclear Power Stations (the Fukushima Dai-ichi accident) on 11 March 2011, an IAEA Ministerial Conference on Nuclear Safety was convened in Vienna, Austria, in June 2011 to direct, under the leading role of the IAEA, the process of learning and acting upon lessons from the accident in order to strengthen nuclear safety, emergency preparedness, and radiation protection of people and the environment worldwide. The Ministerial Conference adopted a declaration which, inter alia, requested the IAEA Director General to draft an Action Plan on Nuclear Safety (the Action Plan). The Action Plan, which defined a programme of work to strengthen the global nuclear safety framework, was unanimously adopted by the Board of Governors and endorsed by all Member States at the 55th regular session of the General Conference in September 2011.
- 2. Since the adoption of the Action Plan, many lessons have been learned and significant progress has been made in key areas of nuclear safety, such as the safety assessment of nuclear power plants (NPPs), the IAEA's peer review services, emergency preparedness and response, the IAEA's Safety Standards, etc., thus contributing to the enhancement of nuclear safety worldwide. Important activities are being and will be carried out in the future in all areas under the Action Plan. The full and effective implementation of these activities requires joint efforts and full commitment from the IAEA Secretariat, Member States and other stakeholders.
- 3. Following the Fukushima Daiichi accident, Japan expressed its intention to share with the international community the experience and lessons learned from the accident in order to contribute to strengthening nuclear safety worldwide. It was noted in the Action Plan that "the High level Conference to be organized by Japan and the IAEA in 2012 will provide an opportunity for learning further lessons and for enhancing transparency."

4. Against this backdrop, Japan, in co-sponsorship with the IAEA, organized the Fukushima Ministerial Conference on Nuclear Safety (the Conference) in Fukushima Prefecture, Japan, from 15 to 17 December 2012.

B. The Ministerial Conference

- 5. The principal objective of the Conference was to contribute to strengthening nuclear safety worldwide by providing yet another opportunity to share with the international community, at the ministerial and expert levels, further knowledge and lessons learned from the Fukushima accident and to further enhance transparency, including the implementation of the Action Plan. The Conference provided yet another opportunity for the international community to reconfirm the importance of nuclear safety and to maintain and enhance the momentum towards strengthening nuclear safety worldwide.
- 6. Delegates and the media were informed of the current situation at the Fukushima Daiichi Nuclear Power Station, such as the levels of radiation and the post-accident challenges for decommissioning and remediation actions taken by Japan, as well as on the current situation of the damage and recovery in the areas around the Fukushima Daiichi Nuclear Power Station.
- 7. The importance of taking action in the event of a nuclear or radiological emergency based on scientific and objective information and of further enhancing effective international cooperation in dealing with an emergency situation was highlighted.
- 8. The Conference Co-Presidents were Mr Koichiro Gemba, Minister for Foreign Affairs of Japan and Mr Fadillah bin Hj. Yusof, Deputy Minister of Science, Technology and Innovation of Malaysia, who chaired the Plenary Session at ministerial level. Mr Yukiya Amano, Director General of the IAEA addressed the plenary session.
- 9. The Conference was attended by over 700 delegates from 117 countries and 13 international organizations. Forty-six of these delegates attended at the level of minister or equivalent high rank, or as a head of organization.
- 10. The Conference consisted of a plenary session, at which the statements by heads of delegations were delivered, and 3 working sessions, with the participation of internationally recognized experts as keynote speakers and panellists. As further described in section E of this report, the working sessions covered the following major topics:
 - Working Session 1 on: "Lessons learned from the accident at TEPCO's Fukushima Nuclear Power Stations" provided an opportunity of an overview of lessons learned from the Fukushima accident, measures to mitigate consequences and prevent an accident, as well as safety of the operation of nuclear installations and protection of NPPs against severe natural disasters.
 - Working Session 2 on: "Strengthening nuclear safety, including emergency preparedness and response, in the light of the accident at TEPCO's Fukushima Nuclear Power Stations" discussed ways to further strengthen nuclear safety, including emergency preparedness and response, in the light of the Fukushima accident, and the IAEA Safety Standards.
 - Working Session 3 on: "Protection of people and the environment from ionizing radiation" provided an opportunity to discuss radiation protection, public communication on radioactivity, remediation related activities, and tasks related to research and development for off-site activities.

C. Plenary Session

- 11. As noted above, the opening remarks were made by the Co-Presidents of the Conference, and statements were also delivered by the IAEA Director General and, on behalf of the Host Country, by Mr Koichiro Gemba, Minister for Foreign Affairs of Japan.
- 12. A message from the United Nations Secretary General was delivered by Mr K. J. Tokaiev, Director General of the United Nations Office in Geneva.
- 13. The Plenary Session benefited from the statements of 71 heads of national delegations and 5 international organisations. All these statements can be found in the Conference website¹. They covered from their respective national and international perspectives broad areas of nuclear safety, such as lessons learned from the Fukushima accident, including progress in implementing improvements to nuclear safety in key specific technical issues, such as safety assessments, peer reviews, emergency preparedness and response and safety standards, protection of NPPs against extreme natural hazards, regulatory independence, effectiveness, competence and authority, enhancing transparency and dissemination of information to the public, need for strengthened national and international nuclear safety regimes and effective implementation of the IAEA Safety Standards.
- 14. In addition, these statements referred to the contribution of the IAEA Action Plan on Nuclear Safety (the Action Plan) to the international efforts to strengthen nuclear safety worldwide; the role of the IAEA in coordinating international efforts in enhancing global nuclear safety; the contribution of IAEA international experts' meetings (IEMs) to analyse all technical aspects and learn the lessons from the Fukushima accident; the 2nd Extraordinary Meeting of the Contracting Parties to the Convention on Nuclear Safety (CNS); the IAEA assistance to Member States embarking on a nuclear power programme and on capacity building activities based on IAEA safety standards.
- 15. The outcome document of the Conference was developed through a process of open-ended consultations with representatives of Member States in Vienna which were presided over by the Permanent Representatives of Japan and Malaysia to the IAEA. The statement was issued by the Co-Presidents who, in doing so, endeavoured to reflect the substance and thrust of the views expressed by the Member States through the preparatory process.

¹ http://www-pub.iaea.org/iaeameetings/Presentations-Fukushima-Ministerial-Conference-on-Nuclear-Safety.aspx

D. Statement by the Co-Presidents of the Fukushima Ministerial Conference on Nuclear Safety

Mr Koichiro Gemba, Minister for Foreign Affairs of Japan Mr Fadillah bin Hj. Yusof, Deputy Minister of Science, Technology and Innovation of Malaysia

15 December 2012

Fukushima Prefecture, Japan

The Government of Japan, in co-sponsorship with the International Atomic Energy Agency (IAEA) is holding the Fukushima Ministerial Conference on Nuclear Safety from 15 to 17 December 2012 in Fukushima Prefecture, Japan, following the IAEA Ministerial Conference on Nuclear Safety in June 2011, which led to the unanimous adoption of the IAEA Action Plan on Nuclear Safety (the Action Plan) by the IAEA General Conference in September 2011.

The principal objective of the Conference is to contribute to strengthening nuclear safety worldwide. The Conference is to provide yet another opportunity to share with the international community, at the ministerial and expert levels, further knowledge and lessons learned from the accident at TEPCO's Fukushima Daiichi Nuclear Power Station (the Fukushima Daiichi accident); to further enhance transparency; and to discuss the progress of international efforts aimed at strengthening nuclear safety, including through the implementation of the Action Plan, as well as of the measures to protect people and the environment from ionizing radiation.

The Conference is attended by IAEA Member States, many of whom are represented at the ministerial level, as well as by relevant international organizations. It was opened by Mr Koichiro Gemba, Minister for Foreign Affairs of Japan, who made a statement on behalf of the host country, followed by the statement by Mr Yukiya Amano, Director General of the IAEA.

At the Conference, international solidarity with Japan and its people affected by the Fukushima Daiichi accident as well as by the Great East Japan Earthquake and tsunami was reiterated, with the Government of Japan expressing its deep gratitude for this solidarity. The role and activities of the IAEA since the accident were commended, as was the continued cooperation with Japan, in particular with Fukushima Prefecture. Appreciation was expressed by participants for the valuable opportunity to visit Fukushima Prefecture and learn about the current situation and the life of people in Fukushima.

At the close of the first day of the Conference, having considered the contributions by the delegations in the Plenary Session and reflecting their substance and thrust, the Co-Presidents decided to issue the following statement.

[Fukushima Daiichi accident and Japan's response]

- 1. The tremendous efforts made by the people and the Prefecture of Fukushima for recovery and reconstruction from the Great East Japan Earthquake, tsunami and the Fukushima Daiichi accident were highly commended.
- 2. The tangible progress in response to the Fukushima Daiichi accident, including the achievement of the present stable status of the nuclear power station and the significant decrease of radioactive

releases at the accident site since the time of the accident, as reported by the Government of Japan, was welcomed.

- 3. The progress made on the off-site remediation and waste management, including the setting up of legal and policy frameworks and the strengthening of institutional arrangements in national and local governments for this purpose, was acknowledged.
- 4. The importance of continuous sharing and dissemination of objective information on and lessons learned from the Fukushima Daiichi accident, which also contributes to a further increase in transparency, was emphasized. In this regard,
 - The reports disseminated internationally by Japan and by the IAEA international fact finding and peer review missions on the situation of the accident and the restoration efforts after the accident were noted with appreciation. Japan was encouraged to continue to share information on: the progress of decommissioning TEPCO's Fukushima Daiichi Nuclear Power Station; on-site and off-site remediation; and waste management; including by hosting international fact finding and peer review missions and by leading an international effort to obtain data from the Fukushima Daiichi reactors. The lessons learned from these activities, through their dissemination and related cooperation with the international community, are expected to contribute to enhancing the safety and effectiveness of future decommissioning and remediation activities worldwide.
 - The establishment of the Nuclear Regulation Authority in September 2012 and Japan's intention to host an Integrated Regulatory Review Service (IRRS) mission were welcomed.
 - The reports by the IAEA Director General on the topics of the three International Experts' Meetings (IEMs) held so far were welcomed, and expectations were expressed for the IAEA to publish a comprehensive report on the Fukushima Daiichi accident in 2014, as announced by the Director General at the 56th regular session of the IAEA General Conference.

[Strengthening nuclear safety worldwide]

- 5. It was stressed that nuclear safety is a prerequisite for the peaceful uses of nuclear energy, that strengthening nuclear safety is a continuous process and that there should be no complacency in safety matters.
- 6. The importance of strengthening the central role of the IAEA in promoting international cooperation, in coordinating enhanced international efforts, in providing expertise and advice, in developing the IAEA Safety Standards to be implemented as broadly and effectively as possible, and in promoting nuclear safety culture worldwide, in order to strengthen global nuclear safety was emphasized.
- 7. The importance of the Declaration adopted unanimously by the IAEA Ministerial Conference on Nuclear Safety, held in Vienna in June 2011, and the subsequent Action Plan approved unanimously by the Board of Governors and endorsed at the 55th regular session of the IAEA General Conference in September 2011, was emphasized.
- 8. The progress made in the implementation of the Action Plan was welcomed. The importance of strengthening efforts to fully implement the Action Plan through the effective and active cooperation and participation of Member States, including through their national plans, measures and initiatives, and the involvement of other relevant stakeholders was stressed.
- 9. The utmost importance of establishing and sustaining competent national regulatory authorities with effective independence and adequate human and financial resources was emphasized. In this

- connection, the measures taken by Member States to strengthen their respective national regulatory authorities were welcomed.
- 10. National assessments of the design of nuclear power plants against site specific extreme natural hazards and the measures undertaken or in progress to implement the necessary corrective actions to enhance protection against these hazards, including improvements to the plant design, procedures, and processes, were welcomed.
- 11. The importance of measures for the prevention and mitigation of severe accidents was emphasized. It was also stressed that nuclear power plants should be designed, constructed and operated with the objectives of preventing accidents, and, should an accident occur, mitigating its effects and especially avoiding off-site contamination.
- 12. The increased utilization by Member States of international peer reviews, including notably IAEA peer reviews such as the IRRS, the Operational Safety Review Team (OSART) and the Emergency Preparedness Review (EPREV), as well as their follow-up reviews, was welcomed. Referring to the Action Plan in which Member States are strongly encouraged to voluntarily host IAEA peer reviews, including follow-up reviews, on a regular basis, views were expressed that in doing so Member States are expected to use a systematic approach covering all the key safety areas, to implement the recommendations of such reviews, as well as to consent to make publicly available in a timely manner the results of such reviews.
- 13. The importance of promoting the IAEA Safety Standards to be implemented as broadly and effectively as possible by Member States was stressed. The activities undertaken and those to be undertaken in the future regarding the review of the IAEA Safety Standards were welcomed, and the Commission on Safety Standards (CSS) and the Secretariat were encouraged to make further progress in reviewing, and revising as necessary, the relevant IAEA Safety Standards.
- 14. The importance of strengthening emergency preparedness and response arrangements and capabilities at operator/licensee, local, national, regional and international levels, and cooperation in this regard was emphasized. In this context, the Secretariat's efforts to enhance the Response and Assistance Network (RANET), which is an operational tool for the implementation of the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, including planned expansion of functional areas and the improvement of the list of resources, were welcomed. Views were expressed to encourage Member States that have not yet done so to join RANET and register their capabilities, and to strengthen the IAEA's role and capabilities in supporting the international emergency preparedness and response framework.
- 15. The importance of enhancing transparency and effectiveness as well as further developing and strengthening of communication with the public in a nuclear or radiological emergency was emphasized so that adequate and timely responses could be taken, based on scientific and objective information. Continued dissemination of factually correct and objective information in a transparent and easily understandable manner is also important so that individual, local, national and international actors may take informed and science-based actions.
- 16. The importance of broadest adherence to the relevant international instruments on nuclear safety, in particular the Convention on Nuclear Safety (CNS), and of strengthening those instruments by enhancing their implementation or amending them as necessary, was stressed. In this context, the outcomes of the 2nd Extraordinary Meeting of the Contracting Parties to the CNS were taken account of, including the Action-Oriented Objectives for Strengthening Nuclear Safety and the establishment of the "Effectiveness and Transparency" working group with the task of reporting to the next Review Meeting on a list of actions to strengthen the peer review process and on

- proposals to amend, when necessary, the CNS. It was stressed that their steady implementation is necessary for promoting nuclear safety worldwide.
- 17. The work of the International Expert Group on Nuclear Liability (INLEX) in the framework of the Action Plan towards establishing a global nuclear liability regime was appreciated.
- 18. The importance of assisting Member States that are embarking on a nuclear power programme in their development of infrastructure and human resources, including in their effort to establish the highest level of safety based on the IAEA Safety Standards, was emphasized. The hosting of IAEA peer reviews such as the Integrated Nuclear Infrastructure Review (INIR) and Site and External Events Design review service (SEED) by such Member States was welcomed and their wider use was encouraged.
- 19. The importance of research and development, as well as education and training by Member States and other relevant stakeholders in the area of nuclear safety and related areas, including for decommissioning, remediation and the protection of people and the environment from ionizing radiation, was stressed.
- 20. The importance of international cooperation for assessing the environmental and human impact of radioactive releases by a nuclear accident was emphasized. In this regard, the work of the World Health Organization (WHO) for issuing reports on the preliminary dose estimation and on the preliminary health risk assessment from the Fukushima Daiichi accident was noted with appreciation. Appreciation was also expressed for the ongoing work by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) on an assessment of the levels of exposure and radiation risks attributable to the accident.
- 21. The work of the Secretariat on a review of the generic criteria for radioactive material in food, animal feed and drinking water, in cooperation with WHO and the Food and Agriculture Organization of the United Nations (FAO) including the Codex Alimentarius Commission, as well as other relevant international organizations, was noted with appreciation. Support was expressed for this work, which will identify ways to clarify, harmonize and update, if appropriate, the existing guidance documents on contamination levels in these items after nuclear or radiological emergencies.
- 22. Closer cooperation among the relevant networks of regulatory authorities, nuclear operators, technical support organizations and the IAEA in the field of nuclear safety, including in the implementation of the IAEA Safety Standards, was encouraged. The progress made in this regard was welcomed, in particular the signing of the Memorandum of Understanding between the IAEA and the World Association of Nuclear Operators (WANO). Operating organizations were encouraged to implement nuclear safety measures and to fully support and actively contribute to international efforts to enhance nuclear safety.

E. Working Sessions

- 16. The Chairperson for Working Session 1 was Mr M. Weightman, Chief Inspector of Nuclear Installations, Office for Nuclear Regulation, United Kingdom; the Chairperson for the Working Session 2 was Mr R. Jammal, Executive Vice-President and Chief Regulatory Officer, Canadian Nuclear Safety Commission, Canada, and the Chairperson for the Working Session 3 was Ms A. Dela Rosa, Director, Philippine Nuclear Research Institute (PNRI), the Philippines. Key-note speakers and panelists made focused presentations in each working session (see Programme of the Conference Annex 1) followed by discussion among delegates.
- 17. At the closing Plenary Session of the Conference, the three Chairpersons of working sessions delivered their summaries of the deliberations of their respective sessions

E.1. Working Session 1: Chairperson's Summary

- 1. Since the accident at TEPCO's Fukushima Daiichi Nuclear Power Station (hereinafter referred to as the 'Fukushima Daiichi accident'), Member States and the IAEA have been working ceaselessly to learn lessons, and to take actions to review the safety of nuclear installations and to ensure that nuclear safety improvements, where needed, are made in a timely manner.
- 2. It is a credit to the whole nuclear community that its response to the Fukushima Daiichi accident has led to a wide ranging examination of many safety matters aimed at improving nuclear safety in general. The actions of the IAEA in pursuing the Action Plan on Nuclear Safety (hereinafter referred to as the 'Action Plan') and, in fact, this very conference attest to the seriousness of the world nuclear community in seeking to maximize learning from the Fukushima Daiichi accident. This provides a basis for earning the trust and confidence of stakeholders.
- 3. It is particularly important and reassuring that the process initiated by Member States immediately after the Fukushima Daiichi accident to review site hazards and to complete complementary safety assessments (through national reviews or 'stress tests') has now been largely completed. The results of these assessments, undertaken to ensure plant robustness to extreme events, have been reported to national authorities and international organizations, and where Member States have identified the need for improvements, these have been prioritized and resourced. Such prioritization has reflected the need to maintain continued attention to the critical features of the previous safety basis for plant operation. It is reassuring to note that, despite the use of different terminology and emphases, the efforts have largely converged on the same conclusions. In addition, the similarities in actions provide confidence that significant issues have not been overlooked. The prior use of periodic safety reviews has been shown to be particularly advantageous.
- 4. The Fukushima Daiichi accident reminds us of the imperative of establishing an effective nuclear safety regulatory framework, including an independent (in law, practice and culture) effective expert regulator that is credible, trusted, competent and adequately resourced. To achieve this objective, it is vital to recognize the importance of scientific and technical knowledge and expertise in taking effective, optimized regulatory decisions. The importance of Member State participation in the International Conference on Effective Nuclear Regulatory Systems, to be held in Ottawa, Canada, in 2013, was highlighted.

- 5. In this regard, it is important to note the efforts to create the new Japanese Nuclear Regulatory Authority as an independent commission body, separated from the functions of nuclear promotion, bringing together in one body safety, security and safeguards regulation. It was highlighted that there was a commitment to ensure that regulatory lessons learned from the Fukushima accident will be incorporated into the new organization, including taking full advantage of international best practice and, especially, having openness and transparency as a core value.
- 6. Since March 2011, many lessons have been learned from the Fukushima Daiichi accident. Such lessons cover not only technical and regulatory aspects but also philosophical and cultural issues. As mandated by the Action Plan, the IAEA has facilitated the sharing of this information at a number of different events, including the successful International Experts Meetings held during 2012 on reactor and spent fuel safety, communication in the event of a nuclear or radiological emergency, and protection against extreme earthquakes and tsunamis, as well as the Second Extraordinary Meeting of the Contracting Parties to the Convention on Nuclear Safety.
- 7. It is reassuring to see that significant progress has been made on all 12 actions established in the Action Plan. However, a large amount of work will need to be carried out by the IAEA, its Member States and others in the coming years to improve nuclear safety worldwide. This is in line with an important aspect of a sustained safety culture continuously striving for improvements to nuclear safety.
- 8. The Fukushima Daiichi accident has reminded us of the importance of paying careful attention to external events such as floods, earthquakes and tsunamis. It has served as the stimulus for a reexamination of the design basis to ensure that such external events are adequately taken into account and for the introduction of an additional layer of protection to prevent or mitigate a beyond design basis accident, regardless of the initiating event. However, it was noted that more work needs to be undertaken to explore what constitutes a consistent design basis and how much safety margin is reasonable for establishing adequate beyond design basis robustness. Probabilistic assessments can add value in this respect.
- 9. It is now time to consider further information, as reported at this conference, relating both to the lessons learned about the prevention of severe accidents and to the ways in which Member States have made progress in developing severe accident management strategies, including, inter alia, pre-positioning additional equipment, both on- and/or off-site, and the provision of procedures to use this equipment.
- 10. Consideration needs to be given to the potential performance of a plant in response to beyond design basis accidents; that is, the effectiveness of the measures and safety features provided for design basis accidents needs to be evaluated to see whether these measures and safety features can be enhanced to provide protection against events that had not previously been considered in the design. These enhancements might be introduced either through the provision of additional equipment or by providing protection against the effects of extreme events.
- 11. Mitigation capabilities need to be correspondingly enhanced; alternatively, systems not normally relied upon for mitigation may need to be re-classified (e.g. installed fire systems may take on part of the reactor/spent fuel pool cooling safety function), to adequately complement the accident prevention features. This should include updating and strengthening the severe accident management guidelines and the associated training, drills and exercise programmes to improve the overall response capability.
- 12. It should be emphasized that any proposed additional measures to mitigate the impact of severe accidents should not be carried out at the expense of the attention given to prevention of accidents; both these aspects need to be properly supported. The constant and full compliance of nuclear

power plants with their licensing basis should continue to provide assurance at all times that safety margins are guaranteed to allow the necessary time to respond to an initiating event and to adequately mitigate and properly manage accident progression, when necessary.

- 13. Although the various safety measures identified in response to the Fukushima Daiichi accident will serve to improve safety, the key will always be constant vigilance, as there is no room for complacency or anything less than a total commitment to improving safety. The establishment of a robust and enduring safety culture is crucial. Licensees and regulators need to be constantly alert to any early sign of a possible degradation of safety that could directly or indirectly affect the public. Other aspects of promoting a vibrant safety culture were noted, in particular recognizing the significant efforts that are needed to embed the attributes of a strong safety culture, such as open reporting and learning, in a prevailing, more established culture. Additionally, it was noted that the transparency of the results of peer review missions is essential, as is ensuring that regulatory bodies operate in an open and transparent manner, thereby enhancing confidence and trust.
- 14. While the concepts set out in the strategy for defense in depth remain sound, the application of defense in depth requires further enhancement. The areas for enhancement include: to focus safety measures on both the prevention of accidents and the mitigation of accident consequences; to strengthen the mitigation measures to ensure containment integrity; periodically re-examining site specific external hazards to ensure the adequacy of safety margins and protective measures; and to ensure the availability and operability of resources to cope with events such as a prolonged station blackout or loss of ultimate heat sink. In addition, it is necessary to assess the effects of a combination of extreme natural hazards; to explore the uncertainties associated with extreme natural hazards using the latest technical approaches; and to account for accident propagation between units on multi-unit nuclear power plant sites as well as the impact on emergency preparedness and the severe accident management programme. The IAEA and its Member States should put additional effort into work in these areas and the dissemination of results so that the implementation of defense in depth can be improved. The IAEA is planning a conference to address this need.
- 15. A major lesson from the Fukushima Daiichi accident is the need for effective and independent barriers in the national nuclear safety system at the operator, regulator and stakeholder levels. This is why there has been considerable focus on enhancing the international peer review mechanisms for nuclear operators and regulators worldwide, as well as on promoting openness and transparency to ensure that stakeholders—in particular, the public—can hold industry and regulators properly to account, thereby enhancing trust and confidence. This will demand a commitment to being open to challenge, learning from others and holding each other to account, requiring working internationally through an attitude of cooperation, collaboration and mutual trust. Additionally, greater consideration will be required on organizational factors within each barrier of national and international systems.
- 16. The Fukushima Daiichi accident reinforces the importance of preventing accidents, even in the absence of significant direct radiation-related health impacts from certain event sequences that nevertheless led to significant social disruption. It argues for recognizing that the scope of regulatory assessments needs to include more emphasis on broader environmental and societal impacts.
- 17. Additional lessons learned will need to be taken forward in key areas such as regulatory effectiveness, human and organizational factors, periodic safety reviews, severe accidents and source term determination for radiation protection.

- 18. The adoption by the Board of Governors of the IAEA Action Plan on Nuclear Safety and its unanimous endorsement by Member States at the 2011 IAEA General Conference has provided a significant driving force for the identification of lessons learned and the implementation of safety improvements.
- 19. While significant progress has been made, considerable work remains to be done under the Action Plan. It is important for all those involved—whether nuclear regulators, plant operators, governments or international organizations—to maintain the momentum gained in the 15 months since the adoption of the Action Plan in the collective drive to improve nuclear safety around the world
- 20. All of this is based on a fundamental approach to nuclear safety, namely, that of continuous improvement—no matter how high the standards, the quest for improvement must never cease.

E.2. Working Session 2: Chairperson Summary

- 1. The IAEA Action Plan on Nuclear Safety was adopted by the Board of Governors and endorsed by all Member States at the 55th regular session of the General Conference in September 2011. The ultimate goal of the Action Plan is to strengthen nuclear safety, emergency preparedness and radiation protection of people and the environment worldwide.
- 2. More than a year since its adoption, significant progress has been made on all 12 actions established in the Action Plan. Important activities have been and continue to be carried out in several key areas, such as assessing safety vulnerabilities of nuclear power plants; strengthening the IAEA's peer review services; reviewing and strengthening the IAEA safety standards; improving emergency preparedness and response capabilities; strengthening and maintaining capacity building; and enhancing and widening the scope of communication and information sharing with Member States, international organizations and the public. These activities have contributed to the enhancement of the global nuclear safety framework.
- 3. Several Member States are now actively preparing their own national nuclear safety action plan in order to implement the IAEA Action Plan. All Member States were encouraged to develop a national action plan, taking into account their national arrangements. The IAEA offers support to Member States for developing such plans based on the IAEA Action Plan.
- 4. Demand for IAEA peer review services remains high. These services have been strengthened since the Fukushima Daiichi accident, and the IAEA is continuously working with Member States to make further improvements. Numerous missions have been conducted in all areas of nuclear safety, including Operational Safety Review Team (OSART), Emergency Preparedness Review (EPREV), Integrated Regulatory Review Service (IRRS) and Design Safety Review Service (DSRS) missions. Transparency of the results of the peer review services is essential for enhancement of safety.
- 5. Significant progress on strengthening nuclear safety has been made by those Member States with nuclear power plants through 'stress tests' and the implementation of appropriate measures based on the findings of these tests. Virtually all Member States with nuclear power plants have conducted such stress tests.
- 6. A thorough review of the IAEA safety standards has been conducted, in particular of safety requirements applicable to nuclear power plants and the storage of spent fuel. While no deficiencies were identified in the safety requirements, consideration is being given to strengthening safety requirements in areas such as dealing with prolonged loss of power, properly identifying potential external hazards and ensuring safety under severe accident conditions.

- 7. One of the most effective actions to strengthen nuclear safety worldwide is for Member States to utilize the IAEA safety standards as broadly and effectively as possible in a consistent manner. The IAEA provides support and assistance in the implementation of IAEA safety standards through its peer review services in all safety areas.
- 8. The memorandum of understanding between the World Association of Nuclear Operators (WANO) and the IAEA calls for cooperation in several important areas, including coordinating the scheduling of IAEA OSART and WANO peer review missions, enhancing the exchange of information, and collaborating in a serious event in a nuclear power plant or fuel cycle facility. It was reiterated that the responsibility for nuclear safety lies with each Member State and operating organization.
- 9. Sound preparedness for and effective response to any nuclear or radiological emergency is essential in order to avoid or minimize the impacts of such an event if one were to occur. The Fukushima Daiichi accident reinforced the importance of emergency preparedness and response at all levels—local, national and international.
- 10. The IAEA's role in response to a nuclear or radiological emergency was broadened to enable it to conduct analysis of emergency conditions, potential consequences and prognosis of possible scenarios, and to share this analysis with Member States. Further efforts are needed to implement this role with the support of Member States and utilizing the IAEA's Response and Assistance Network (RANET). To fulfill this function effectively, a broader scope of information should be provided to the IAEA in an emergency through pre-agreed information exchange procedures.
- 11. To further strengthen international assistance arrangements, RANET was enhanced with the preparation of new guidance on the roles and responsibilities of, and actions for, members of the network in preparing for, requesting and receiving assistance. A new functional area was proposed for providing assessments as well as advice to competent authorities on the on-site mitigation activities in an emergency at a nuclear facility. Member States were encouraged to register available national capabilities within RANET to further strengthen the network.
- 12. The EPREV peer review service was further strengthened by incorporating the lessons learned to date; as a result, more effective support and assistance is being provided to Member States. In 2012, the IAEA carried out eight EPREV missions, the largest number in a single year since this programme began. Member States, especially those with nuclear power plants, are encouraged to utilize this IAEA service, which allows for a complete appraisal of the national emergency preparedness and response arrangements and capabilities.
- 13. In line with the strategy recommended in the final report of the International Action Plan for Strengthening the International Preparedness and Response System for Nuclear and Radiological Emergencies, the Emergency Preparedness and Response Expert Group (EPREG) was established to advise the IAEA Secretariat on strategies to strengthen and sustain sound international preparedness for nuclear and radiological emergencies.
- 14. Continued support in the form of training events and exercises has been provided by the IAEA to Member States, to help them to strengthen their national emergency preparedness and response capacities. There is a need to continue such capacity building efforts at the national, regional and international levels. Member States were encouraged to conduct table top and field exercises using realistic scenarios.
- 15. The IAEA Secretariat and Member States have made progress on improving public information and enhancing transparency and communication during emergency situations. There is a need to

- ensure more effective communication to the public and all other stakeholders in order to regain public trust.
- 16. While significant progress has been made, a considerable amount of work remains to be done under the Action Plan to improve safety worldwide. Full and effective implementation of the Action Plan requires joint efforts and full commitment from the IAEA Secretariat, Member States and other stakeholders. Strengthening nuclear safety should always be considered a work in progress.
- 17. The IAEA will continue to play a central role in strengthening the global nuclear safety framework, including the preparation of a comprehensive report on the Fukushima Daiichi accident, to be finalized in 2014.

E.3. Working Session 3: Chairperson Summary

- 1. Significant progress has been made in the implementation of the Action Plan in the area of protection of people and the environment from ionizing radiation. This conference is an important opportunity to take stock of the lessons learned and the improvements made to date.
- 2. The radiological consequences of a nuclear or radiological emergency do not respect national boundaries; therefore, effective international cooperation is vital to ensure the protection of people from unplanned exposures to ionizing radiation.
- 3. In applying the concepts and principles of radiation protection during remediation and decommissioning after a nuclear or radiological emergency, realistic dose assessments, harmonized practical approaches, monitoring and characterization of the levels of radioactivity in the environment, and national and local guidance for affected citizens should be considered in the decision making process.
- 4. Radiation risk coefficients of potential health effects and limitations of epidemiological studies for attributing radiation effects following exposure to low doses of radiation need to be properly interpreted. An explanation of these limitations is essential for making clear the reasons why collective effective doses aggregated from small notional individual doses should not be used to attribute health effects to radiation exposure situations either retrospectively or prospectively.
- 5. The ultimate objective of remediation after a nuclear or radiological emergency is to reduce radiation exposure to the population from existing exposure situations and to improve the environment contaminated by radioactive substances, in order to realize the return of residents to their homes and livelihoods. To this end, Member States should have established policies and strategies for remediation of contaminated areas in place at an early stage of their nuclear programme, including for remediation of urban and rural areas for a wide range of environmental conditions. An effective remediation programme should address legal, socioeconomic and technological issues in line with IAEA safety standards and national requirements and guidelines.
- 6. For an effective transition from an emergency exposure situation to an existing exposure situation, and for remediation of affected areas, clear guidance should to be developed at the national level with the involvement of all stakeholders.
- 7. Many remediation actions will generate waste, which will impact the strategy chosen for implementation; in addition, this waste should be properly managed.
- 8. .It is important both to gather experiences and lessons learned worldwide in the remediation and decommissioning of nuclear facilities in the aftermath of nuclear or radiological emergencies and to disseminate this information through the IAEA and through cooperation with the international

- community. The lessons learned from these activities are expected to contribute to enhancing the safety and effectiveness of future remediation and decommissioning activities worldwide.
- 9. It is important to seek more efficient and effective technologies for optimizing remediation from the perspectives of safety, cost and time through R&D and demonstration projects.
- 10. It is important to increase Member States' competence in the selection and use of technologies for characterization and remediation of areas affected by a nuclear or radiological emergency. Member States were encouraged to share information on existing monitoring networks and programmes as well as past practices and experience with management of contaminated land from previous nuclear or radiological emergencies.
- 11. Strong coordination among all involved organizations—such as competent authorities and professionals in the areas of health, food safety, civil defence, radiation protection, environment, transport, commerce and customs—is required for effective implementation of remediation strategies after a nuclear or radiological emergency.
- 12. The efforts undertaken by Japan and the progress made in off-site remediation and waste management were acknowledged. Japan was encouraged to continue to share information on the results and status of the decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station, off-site remediation and waste management. It was noted that, at the request of the Government of Japan, the IAEA Secretariat organized a mission to support the remediation of radioactively contaminated areas off the site of TEPCO's Fukushima Daiichi Nuclear Power Station.
- 13. The IAEA Secretariat was encouraged to provide further assistance and support to Japan in the remediation of the large areas of land contaminated as a result of the Fukushima Daiichi accident. It was also deemed important to support Member States in developing their competence in the characterization and remediation of areas affected by nuclear or radiological emergencies.
- 14. The importance of international cooperation for assessing the human impact of radioactive releases by a nuclear accident was emphasized. In this regard, the work of the World Health Organization (WHO) for issuing reports on the preliminary dose estimation and on the preliminary health risk assessment from the Fukushima Daiichi accident was noted with appreciation. Appreciation was also expressed for the ongoing work by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) on an assessment of the levels of individual exposure and radiation risks attributable to the accident. In this regard the presentation given by UNSCEAR was appreciated.
- 15. It is important to globally strengthen methods for monitoring food, including agricultural and fishery products, at every stage of production and distribution, to secure conformity with the reference values related to radioactive substances in food in affected regions.
- 16. The work of the IAEA Secretariat on a review of the generic criteria for radioactive material in food, animal feed and drinking water in cooperation with WHO and the Food and Agriculture Organization of the United Nations (FAO), including the Codex Alimentarius Commission, as well as other relevant international organizations, was noted with appreciation. The review will identify ways to clarify, harmonize and update, if appropriate, the existing guidance documents on contamination levels in food, animal feed and drinking water after nuclear or radiological incidents. The results of this review are expected to become available by the end of 2013.
- 17. Support was expressed for this work, which will identify ways to clarify, harmonize and update, if appropriate, the existing guidance documents on contamination reference levels in these items after a nuclear or radiological emergency. In this regard, presentations given by WHO and FAO were appreciated.

- 18. The IAEA was encouraged continue to review and to update the current strategies for monitoring people, with a special focus on children, as well as the environment and food, in cooperation with WHO and other relevant organizations, in order to facilitate dose assessment and decision making on countermeasures and remediation, as well as to produce a technical report to be made available to Member States.
- 19. Communication to the public is an important tool for promoting effective actions to protect human health and the environment and, more broadly, to improve living conditions in areas affected by significant releases. In communication with the public, health, environmental, economic, social, psychological, cultural, ethical and political considerations should be taken into account, many of which may influence the actions taken. Effective communication will help in handling the effects of social and economic pressure, including post-traumatic stress disorder, depression and fear.
- 20. When communicating radiation protection issues to the public, it must be recognized that the language used by experts in the field is completely foreign to a general audience. It is very important to have early, routine communication and to have 'one voice' based on 'good science'. Extreme views based on 'poor science' can create unwarranted alarm and can result in real harm.
- 21. There is a need for guidelines that allow for accurate and timely information management, for the benefit of not only the people living near a nuclear power plant, but all people who may be affected if there were a nuclear or radiological emergency. Communication should be completely open and honest and should be in plain language; the advice provided is to be clear, concise and practical; reassurance should be given, when appropriate; and necessary knowledge is to be shared with people.
- 22. Implementation of IAEA safety standards and closer cooperation among the relevant networks of regulatory authorities, nuclear operators, technical support organizations and the IAEA in the field of remediation and decommissioning were strongly encouraged.
- 23. Member States with nuclear programmes including the use of radioactive material were strongly encouraged to voluntarily host relevant IAEA peer reviews, including follow-up reviews, on a regular basis, in the area of remediation and decommissioning, as well as to make the relevant parts of the review results publicly available in a timely manner.
- 24. The IAEA International Experts Meeting to be held in January 2013 on remediation and decommissioning after a nuclear or radiological emergency will be an important milestone reflecting improved understanding of the technical, social, environmental and economic issues to be considered for remediation and decommissioning activities after a nuclear or radiological emergency.
- 25. Interest was expressed in Japan's statement of its intention to host an IAEA international expert mission on the decommissioning of the Fukushima Daiichi Nuclear Power Station next year. Interest was also expressed in Japan's request to the IAEA that it considers establishing an international advisory group on decommissioning.
- 26. While significant progress has been made, considerable work remains to be done under the Action Plan. It is important for all those involved—whether nuclear regulators, plant operators, governments or international organizations—to maintain the momentum gained in the 15 months since the adoption of the Action Plan in the collective drive to improve nuclear safety in the area of protection of people and the environment around the world.

F. Closing Remarks

- 18. Following the Chairpersons' Summaries, the Conference concluded its proceedings with closing remarks by the Deputy Director General of the IAEA and Head of the Department of Nuclear Safety and Security and the acting Co-Presidents of the Conference, the Permanent Representatives of Japan and Malaysia to the IAEA.
- 19. The Fukushima Ministerial Conference on Nuclear Safety provided an excellent opportunity to share with the international community, at the ministerial and expert levels, knowledge and lessons learned from the accident at TEPCO's Fukushima Daiichi Nuclear Power Station, to further enhance transparency and to discuss the progress of international efforts in strengthening nuclear safety, including through the implementation of the IAEA Action Plan on Nuclear Safety.
- 20. The Conference provided a good occasion to reconfirm commitments to nuclear safety, and it provided many of the participants with the opportunity to visit the accident site, the remediation activity areas and to grasp first hand ideas of the complex and difficult conditions in which the workers of the nuclear power plant had to react to the accident, as well as of the complexity of the work being performed and to be performed in the future to mitigate the consequences of the accident.
- 21. Appreciation was expressed to the Fukushima Prefecture and its Governor, Mr Sato, the City of Koriyama and its people, as well as the Government and people of Japan for providing excellent facilities to host the Conference and for giving the delegates a flavour of this beautiful region and its hospitality.
- 22. The effective cooperation between the Government of Japan and the Agency throughout the preparation and holding of the Conference, the valuable contributions of the Chairs of the three Working Sessions, the keynote speakers, panellists and the scientific secretaries, as well as all delegates, made the Fukushima Ministerial Conference a success.

The Fukushima Ministerial Conference on Nuclear Safety 15–17 December 2012 Fukushima Prefecture, Japan

PROGRAMME





The Fukushima Ministerial Conference on Nuclear Safety

15–17 December 2012 Fukushima Prefecture, Japan

PROGRAMME

Conference Venue: Plenary Sessions: Hall C (ground floor)

Fukushima Trade Fair Center "Big Palette Fukushima" Minami 2-52 Koriyama City Fukushima Prefecture Japan 963-0115

Working Sessions 1, 2 and 3: Convention Hall (ground floor)

Fukushima Trade Fair Center "Big Palette Fukushima"

The working languages of the Conference will be the official IAEA languages: Arabic, Chinese, English, French, Russian and Spanish, as well as Japanese, and statements made in any one of these languages during the meetings of the Conference will be interpreted simultaneously into the others.

In order to assist the interpreters, delegates are kindly asked to provide the Conference Secretariat with a written text of their statements well in advance, and to deliver statements at a reasonable speed.

The interpretation of proceedings serves to facilitate communication and does not constitute an authentic record of the proceedings.

Friday, 14 December 2012

14:00 –20:00 Registration of delegates

Saturday, 15 December 2012

08:00 Registration of delegates

09:30 – 12:30 Plenary Session

Co-Presidents: HE Mr K. Gemba, Minister for Foreign Affairs of Japan

HE Mr Fadillah bin Haji Yusof, Deputy-Minister of Science, Technology and

Innovation of Malaysia

Scientific Secretaries: Mr G. Caruso, Department of Nuclear Safety and Security, IAEA

Mr T. Hatori, Director, International Nuclear Energy Cooperation Division,

Ministry of Foreign Affairs of Japan

Opening remarks by Co-Presidents of the Conference

Statement on behalf of the Host Country

Opening statement by Mr Y. Amano, Director General, IAEA Message from the Secretary –General of the United Nations

Mr K-J. Tokaiev, Director-General of the United Nations Office at Geneva,

Secretary-General of the Conference on Disarmament

followed by

Statements by Ministers/Heads of Delegations

12:30 - 14:00 Lunch break

Working Lunch for Heads of Delegations hosted by the Minister for Foreign Affairs of Japan, Co-President of the Conference, Convention Hall

14:00 -17:00* Plenary Session (continued)

Statements by Ministers/Heads of Delegations

18:30 – 20:00 Welcome reception hosted by Fukushima Prefecture, Hall A

^{* -} Issuance of an outcome document by the end of the Plenary Session, 15 December 2012.

⁻ Joint Press Conference by Co-Presidents after the Plenary Session.

Sunday, 16 December 2012

10:00 – 13:00 Plenary Session (continued as necessary)

Statements by Heads of Delegations

10:00 – 13:00 Working Session **1**

Lessons Learned from the Accident at TEPCO's Fukushima Nuclear

Power Stations

Chairperson: Mr M. Weightman, Chief Inspector of Nuclear Installations,

Office for Nuclear Regulation, United Kingdom

Scientific Secretaries: Mr P. Hughes, Department of Nuclear Safety and Security, IAEA

Mr T. Bannai, Safety Regulation Coordinator for International Affairs

Secretariat of Nuclear Regulation Authority Ministry of the Environment of Japan

10:00 Opening remarks by the Chairperson

10:10 – 10:50 Keynote addresses:

Overview of lessons learned from the accident and measures to mitigate

consequences and prevent an accident

Mr S. Tanaka, Chairman, Nuclear Regulation Authority, Japan

Safety of the operation of nuclear installations and protection of NPSs from

severe accidents and extreme natural hazards

Mr R. Meserve, Chairman, International Nuclear Safety Group (INSAG)

10:50 – 11:50 Panellist presentations:

Mr P. Jamet, Chairperson, Stress Test Peer Review Board, European Nuclear

Safety Regulators Group (ENSREG)

Mr B. Borchardt, Executive Director for Operations,

Nuclear Regulatory Commission, United States of America

Mr L. Vinhas, Resident Representative of Brazil to the IAEA and CTBTO Mr Y.W. Park, President, Korea Institute of Nuclear Safety, Republic of Korea Mr S. Duraisamy, Vice Chairman, Atomic Energy Regulatory Board, India

Mr V.S. Bezzubtsev, Deputy Chairman, Federal Environmental, Industrial and Nuclear Supervision Service of Russia (Rostechnadzor), Russian Federation

11:50 – 13:00 Discussions followed by Chairperson's summary

13:00 - 15:00 Lunch break

15:00 – 18:00 Plenary Session (Continued as necessary)*

Statements by Heads of Delegations

15:00 – 18:00 Working Session 2

Strengthening Nuclear Safety, including Emergency Preparedness and Response, in the light of the Accident at TEPCO's Fukushima Nuclear Power Stations

Chairperson: Mr R. Jammal, Executive Vice-President and Chief Regulatory Officer,

Canadian Nuclear Safety Commission, Canada

Scientific Secretaries: Ms E. Buglova, Department of Nuclear Safety and Security, IAEA

Mr H. Kobayashi, Senior Coordinator, International Nuclear Energy

Cooperation Division, Ministry of Foreign Affairs of Japan

15:00 Opening remarks by the Chairperson

15:10 – 15:50 Keynote addresses:

Strengthening nuclear safety including through the implementation of the IAEA Action Plan

Mr D. Flory, Deputy Director General and Head of the Department of Nuclear Safety and Security, IAEA

Overview of strengthened IAEA Safety Standards

Mr A.-C. Lacoste, Member of Commission on Safety Standards (CSS) and the President of the Sixth Review Meeting of the Convention on Nuclear Safety

15:50 – 17:00 Panellist presentations:

Mr L. Stricker, Chairperson, World Association of Nuclear Operators (WANO)

Mr Z. Pan, Academician, China Academy of Engineering, China,

China National Nuclear Cooperation (CNNC)

Mr J. Repussard, Director General, the French Institute for Radiological

Protection and Nuclear Safety (IRSN), France

Mr W. Travers, Director General, Federal Authority of Nuclear Regulation, United Arab Emirates

Mr K. Oshima, Commissioner, Nuclear Regulation Authority, Japan

Mr D.E. Sumargo, Director, Inspection of Nuclear Installation and Nuclear Material, Nuclear Energy Regulation Agency (Bapeten), Indonesia

Mr H. Wanner, Director General, the Swiss Federal Nuclear Safety

Inspectorate (ENSI), Switzerland

17:00 – 18:00 Discussions followed by Chairperson's summary

^{*} Plenary may meet if the speakers' list has not been exhausted.

Monday, 17 December 2012

09:00 - 12:00 Working Session 3

Protection of People and the Environment from Ionizing Radiation

Chairperson: Ms A. Dela Rosa, Director, Philippine Nuclear Research Institute (PNRI),

The Philippines

Scientific Secretaries: Mr P. Vincze, Department of Nuclear Energy, IAEA

Mr K. Sakai, Director, Research Center for Radiation Protection,

National Institute of Radiological Sciences of Japan

09:00 Opening remarks by the Chairperson

09:10 – 09:50 Keynote addresses:

Radiation protection and public communication on radioactivity

Mr C. Clement, Scientific Secretary, International Commission on Radiological

Protection (ICRP)

Mr J. Lochard, Member of the Main Commission of the ICRP

Remediation related activities and tasks related to Research and

Development on off-site activities

Mr J.C. Lentijo, Director, Division of Nuclear Fuel Cycle and Waste

Technology, Department of Nuclear Energy, IAEA

09:50 – 11:00 Panellist presentations:

Ms M. Neira, Director, Department of Public Health and the Environment, World Health Organization (WHO)

Mr W. Weiss, Chairperson, United Nations Scientific Committee on the Effect of Atomic Radiation (UNSCEAR)

Mr J.M. Poirson, Senior Food Safety Officer, Emergency Prevention System,

Food Safety Unit, Nutrition and Consumer Protection Division,

Agriculture and Consumer Protection Department,

Food Agriculture Organization (FAO)

Mr O. Phillips, Senior Manager, National Nuclear Regulator, South Africa

Mr M. Uchibori, Vice Governor, Fukushima Prefecture, Japan

Mr T. Konoe, President of the International Federation of Red Cross and Red

Crescent Societies (IFRC)

Mr V. Sucha, Deputy Director-General, Joint Research Center,

European Commission (EC)

11:00 – 12:00 Discussions followed by Chairperson's summary

12:00 – 13:00 Break

13:00 – 14:00 Plenary Session

Presentation of the summaries of the Working Sessions by the Chairpersons

Closing remarks by IAEA

Closing addresses by Co-Presidents

Side Events

15th -17th December

- -Panel displays and sales of local products and items by Fukushima Prefecture
- -Panel displays by IAEA
- -Panel displays by GOJ (Nuclear Regulation Authority)

15th December

Briefing on TEPCO's Fukushima Dai-ichi NPS accident by GOJ (Agency for Natural Resources and Energy)

Video Tour to TEPCO's Fukushima Daiichi Nuclear Power Station

-Time: 12:30-13:45, 13:45-14:00

-Location: Small meeting room 2&3 (3rd floor, Big Palette Fukushima)

-Language: English

Progress Status of the Mid-to-Long Term Roadmap towards the Decommissioning of Units 1-4 of TEPCO Fukushima Daiichi Nuclear Power Plant

-Time: 17:00-18:30

-Location: Small meeting room 2&3 (3rd floor, Big Palette Fukushima)

-Language: English

16th December

Briefing on TEPCO's Fukushima Dai-ichi NPS accident by GOJ (Nuclear Regulation Authority, Ministry of the Environment, Japan Nuclear Energy Safety Organization, Agency for Natural Resources and Energy, and Tokyo Electric Power Company, Inc)

-Time: 13:30-15:00, 18:30-20:00

-Location: Small meeting room 2&3 (3rd floor, Big Palette Fukushima)

-Language: English

Briefing by IAEA and Canadian delegation

IAEA International Conference on Effective Nuclear Regulatory Systems: Transforming experience into regulatory improvements

-Time: 18:30-19:00

-Location: Small meeting room 1 (3rd floor, Big Palette Fukushima)

-Language: English

17th December

Briefing by Fukushima Medical University

Briefing on Fukushima Health Management Survey Program etc.

-Time: 12:00-13:00

-Location: Small meeting room 2&3 (3rd floor, Big Palette Fukushima)

-Language: English