GNSSN Steering Committee (SC) Meeting

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1. Current status of Japan’s nuclear power plants
Fukushima Dai-ichi
Step 2 on the “Roadmap towards Settlement of the Accident at Fukushima Daiichi Nuclear Power Station, TEPCO” was completed (Dec 16th, 2011)

• Reactor: A condition so-called “Cold Shutdown”
  ✓ Temperature of RPV bottom is, in general, below 100°C.
  ✓ Release of radioactive materials from PCV is under control and public radiation exposure by additional release is being significantly held down. (Not exceed 1 mSv/y at the site boundary as a target.)
  ✓ Mid-term Safety of Circulating Water Injection Cooling System

• Spent Fuel Pool: More stable cooling
  ✓ Circulating Cooling System by installation of heat exchanger

• Radioactive Contaminated Water: Reduction of total amount
  ✓ Full-fledged processing facilities
  ✓ Desalination processing (reuse)
  ✓ Storage
  ✓ Mitigation of contamination in the ocean
### 1. Current status of Japan’s nuclear power plants.

**Mid-to-Long-Term Roadmap towards the Decommissioning of Fukushima Nuclear Power Units 1-4**

<table>
<thead>
<tr>
<th>Step 1, 2</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
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</thead>
<tbody>
<tr>
<td>Present (Step 2 Completed)</td>
<td><strong>Period to the commencement of the fuel removal from the Spent Fuel Pools (Within 2 years)</strong></td>
<td><strong>Period to the commencement of the removal of fuel debris (Within 10 years)</strong></td>
<td><strong>Period to the end of the decommissioning (In 30-40 years)</strong></td>
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<td>Within 2 Years</td>
<td><strong>-Commence the removal of fuels from the spent fuel pools (Unit 4 in 2 years)</strong>**</td>
<td><strong>-Complete the fuel removal from the spent fuel pools at all Units</strong></td>
<td><strong>-Complete the fuel debris removal (in 20-25 years)</strong></td>
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<td><strong>-Reduce the radiation impact due to additional emissions from the whole site and radioactive waste generated after the accident (secondary waste materials via water processing and debris etc.) Thus maintain an effective radiation dose of less than 1 mSv/yr at the site boundaries caused by the aforementioned.</strong></td>
<td><strong>-Complete preparations for the removal of fuel debris such as decontaminating the insides of the buildings, restoring the PCVs and filling the PCVs with water Then commence the removal of fuel debris (Target: within 10 years)</strong></td>
<td><strong>-Complete the decommission (in 30-40 years)</strong></td>
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<td><strong>-Maintain stable reactor cooling and accumulated water processing and improve their credibility.</strong></td>
<td><strong>-Continue stable reactor cooling</strong></td>
<td><strong>-Implement radioactive waste processing and disposal</strong></td>
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<td><strong>-Commence R&amp;D and decontamination towards the removal of fuel debris</strong></td>
<td><strong>-Complete the processing of accumulated water</strong></td>
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<td><strong>-Commence R&amp;D of radioactive waste processing and disposal</strong></td>
<td><strong>-Continue R&amp;D on radioactive waste processing and disposal, and commence R&amp;D on the reactor facilities decommission</strong></td>
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Actions towards systematic staff training and allocation, improving motivation, and securing worker safety will be continuously implemented.
1. Current status of Japan’s nuclear power plants.

- Currently 54 units of nuclear power plants are in operation. (The Units 1~4 at the TEPCO Fukushima Daiichi Nuclear Power Station were decided to be decommissioned.)

  1 unit (Tomari Power Station (Unit 3) is operating and 49 units are in stoppage.)
Reform of Japan’s Nuclear Safety Regulation

- **NSSA (tentative name)** will be established as an agency (Size: 500 Staff, 50 billion yen Budget), an external organ of the MOE by separating the nuclear safety regulation section of NISA from METI and unifying relevant functions of other ministries NSIC, a council-type third party to be created with NSSA, will review the effectiveness of regulatory actions taken by NSSA, investigate causes of nuclear accidents and make recommendations to monitor the regulatory independence of NSSA. (Diet agreed personnel)
Reform of Japan’s Nuclear Safety Regulation

• With a strong determination “To protect people and the environment from harmful effects of radiation," the Government of Japan will establish “a new regulation that applies the latest scientific/technical knowledge on safety to existing facilities and operation (backfitting),“ reinforce “a licensee’s responsibility of seeking to constantly improve the safety of its facilities,” and make the regulation visible by statutory transparency.

Reform of the Atomic Energy Basic Act
Considering the international understanding of nuclear safety, the objective of nuclear safety in the use of nuclear energy, that is “to protect people and the environment from harmful effects of ionizing radiation,” will be clearly written in the Atomic Energy Basic Act.

Reform of the Nuclear Reactor Regulation Act
1. Dealing with “the unexpected” - The new regulation takes severe accidents into consideration.
2. Regulation based on the latest knowledge - The new regulation applies latest scientific/technical knowledge on safety issues to existing facilities (backfitting).
3. An Operational limit of 40 years will be introduced to ensure the safety of aged power reactors.
4. Specified licensee’s responsibility - a licensee’s responsibility to constantly improve the safety of its facilities.
5. Thorough protection of the lives and health of citizens in case of nuclear disasters.
Current status safety networks of Japan

• It is important to establish safety networks worldwide to enhance safety of NPPs.

• Especially, exchanging and sharing the knowledge and lessons on NPPs’ safety among regulatory authority, TSO etc. is the most important.
Current status safety networks of Japan

Based on this idea, NISA has conducted bilateral or multilateral meetings.

Through these meetings, NISA is try to share the knowledge on siting, operating including the information on incidents.

- What kind of the information on the safety should be exchanged?
- How often such information on needs to be exchanged?
- How such information should be shared?
Conclusion

• Based on the mid and long term roadmap, Unit1～Unit4 at TEPCO’s Fukushima Dai-ichi have been decommissioned.

• In order not to repeat such an accident like TEPCO’s Fukushima Dai-ichi NPS Accident, bills to amend laws relevant to new regulatory organizations and regulatory systems were submitted to the Diet.

• NISA has been making efforts to share knowledge about the safety through bilateral and multiple meetings. It is important to share the knowledge worldwide.
THANK YOU FOR YOUR ATTENTION!