### Status of countermeasures for the accident at Fukushima Daiichi Unit 1 through 4: As of June 15th, 2011. (Estimated by JAIF)

<table>
<thead>
<tr>
<th>Plant status when hit by the earthquake</th>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Unit 3</th>
<th>Unit 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of spent fuels stored in the reactor</td>
<td>292</td>
<td>58</td>
<td>514</td>
<td>1331</td>
</tr>
</tbody>
</table>

#### Disaster damage
- Core meltdowns occurred in the reactor. No fuel rods
- Contamination has spread to soil, etc.
- Some radioactive materials (Cs, Pu, Am Cm and Sr) have been detected in the soil sampled at the site.
- Environmental monitoring has been enhanced (4/16-). Sr-89 exceeded the regulatory limit has been detected from the area near the site.
- TEPCO has conducted medical checkups. It revealed that 102 received radiation doses above 100 mSv. (100-200mSv: 88 workers, 200-300 mSv: 13 workers, 300 mSv-8 workers). Amount of doses that the workers who received dose are: 64mSv and 67mSv. [5/13]

#### Core melt level
- Water in the reactor had cooled. The total injection flow rate into the reactor is 20,000m³/h (4/12)

#### Reactor Coolant Water
- Cooling of minimum injection rate

#### Cooling at each unit
- Cooling of reactor
- Cooling of SFP
- Cooling of Accumulated water

#### Radioactive materials
- Radioactive materials and radioactively contaminated debris scattered due to the hydrogen explosion at Unit 1 and 3 R/Bs and other conditions.
- Radioactive materials have been detected in samples collected from underground water and also seawater at or near the site.

#### Radioactivity
- Radioactivity (Dose at water surface): 4.0E+5Bq/cm³ 1.9E+7Bq/cm³ 3.8E+5Bq/cm³ 2.0E+5Bq/cm³
- Dose rate at the NPS border (Monitoring Post): 363 μSv/h at 3.6 km from the NPS border

### Challenges
- Countermeasures against tsunami
- Radiation effects in the vicinity of the station

### Summary
- The current status of the plant and the progress of countermeasures taken for restoring from the accident at Fukushima Daiichi Unit 1 through 4. As of June 15th, 2011. (Estimated by JAIF)
- The table below shows the status of countermeasures as of June 15th, 2011. (Estimated by JAIF)

#### Progress of countermeasures
- Countermeasures are taken against the tsunami
- Countermeasures are taken against the radiation

#### Main information
- Type of plant: Unit 1, Unit 2, Unit 3, Unit 4
- Electric: 460,1380
- Thermal power output: 764,2351
- Operation status: In service, "Shut down"
- Net power output: 764,2351
- Notes: Stopped due to the earthquake

#### Plant status
- Emergency power supply: EDGs automatically started up when the external power was lost but stopped later when tsunami hits the plant.
- Core and Fuel integrity: Contaminated damaged fuel for Unit 1, 2, 3, 4.
- PCV integrity: Damage and leakage suspected for Unit 1, 2, 3, 4.
- Core cooling: No damage.

#### Goal of STEP 1 (April through June)
- Goal of STEP 1 (April through June)
- Storing and processing low level radioactive wastewater
- Storing and processing low level radioactive wastewater
- Radioactivity: 4.0E+5Bq/cm³ 1.9E+7Bq/cm³ 3.8E+5Bq/cm³ 2.0E+5Bq/cm³
- Volume: 2,800m³[5/31] 4,800m³[5/31] 5,800m³[5/31] 900m³[5/31]

#### Reliability improvement
- Injecting freshwater via SFP coolant clean up line
- Injecting freshwater via SFP coolant clean up line
- Injecting freshwater via SFP coolant clean up line
- Injecting freshwater via SFP coolant clean up line

#### Security heat exchange function
- Work for secondary loop piping
- Construction work to be started after improving the environment
- Construction work to be started after improving the environment
- Construction work to be started after improving the environment

#### Improving work environment
- Reducing radioactivity, preventing contaminated underground water from spreading to the sea
- Radioactivity: 4.0E+5Bq/cm³ 1.9E+7Bq/cm³ 3.8E+5Bq/cm³ 2.0E+5Bq/cm³
- Volume: 2,800m³[5/31] 4,800m³[5/31] 5,800m³[5/31] 900m³[5/31]

#### SFP cooling
- Storing and processing low level radioactive wastewater
- Storing and processing low level radioactive wastewater
- Radioactivity: 4.0E+5Bq/cm³ 1.9E+7Bq/cm³ 3.8E+5Bq/cm³ 2.0E+5Bq/cm³
- Volume: 2,800m³[5/31] 4,800m³[5/31] 5,800m³[5/31] 900m³[5/31]
**Source**
Government Nuclear Emergency Response Headquarters, News Release, Press conference
TEPCO, Press Release, Press Conference

**Abbreviations**
- SFP: Spent Fuel Storage Pool
- EDG: Emergency Diesel Generator
- RPV: Reactor Pressure Vessel
- PCV: Primary Containment Vessel
- R/B: Reactor Building
- T/B: Turbine Building
- RW/B: Radioactive Waste Disposal Building
- RHR: Residual Heat Removal system
- CST: Condensate water Storage Tank
- Hx: Heat exchanger
- NPS: Nuclear power station

<table>
<thead>
<tr>
<th><a href="Low">Significance judged by JAF</a></th>
<th><a href="High">Significance judged by JAF</a></th>
<th><a href="Severe" title="Need immediate action">Significance judged by JAF</a></th>
<th><a href="Completed">Progress of countermeasures</a></th>
<th>[Progress of countermeasures](Under construction)</th>
<th>[Progress of countermeasures](To be done (including studying and manufacturing))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>