



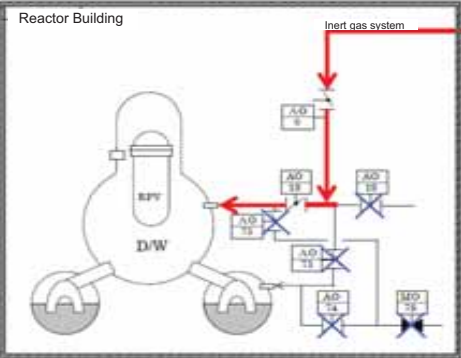

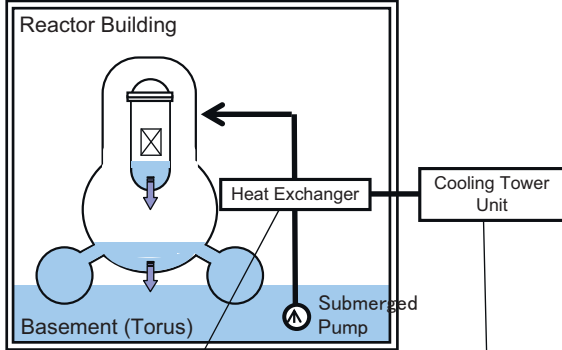
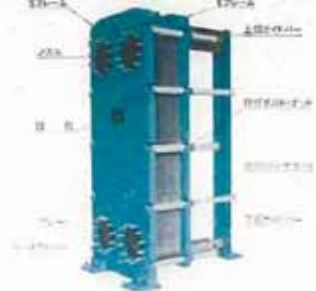





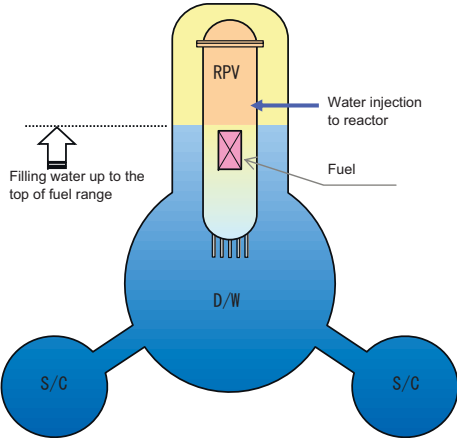

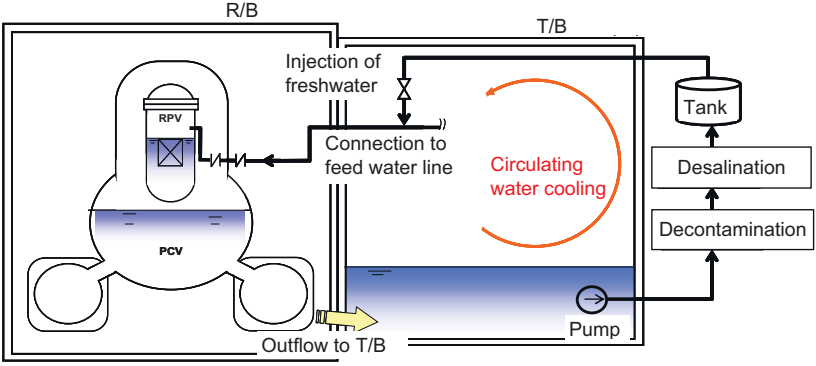
# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
I. Cooling (1) Reactor	<p>[Unit 1]</p> <p><b>Improvement of working environment</b></p> <p>Removal of debris, measurement of radiation dose, entrance into buildings (May 9)</p> <p>RPV water level gauge calibration (May 10)</p> <p>PCV pressure gauge calibration (May 11)</p> <p>Installation of water level gauge at the basement of the reactor building (May 27)</p> <p>Installation of temporary RPV pressure gauge (Jun. 3)</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Checking the reactor buildings by Packbot</p> </div> <div style="text-align: center;">  <p>Measuring radiation dose inside the reactor buildings</p> </div> </div> <div style="display: flex; justify-content: center; margin-top: 20px;">   </div> <div style="text-align: center; margin-top: 10px;"> <p>Installing temporary RPV pressure gauge</p> <p>Nitrogen gas supply apparatus</p> </div>
	<p><b>Nitrogen gas injection</b></p> <p>In operation from Apr. 6</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>System outline of nitrogen gas injection</p> </div> <div style="text-align: center;">  <p>Nitrogen gas supply apparatus</p> </div> </div>

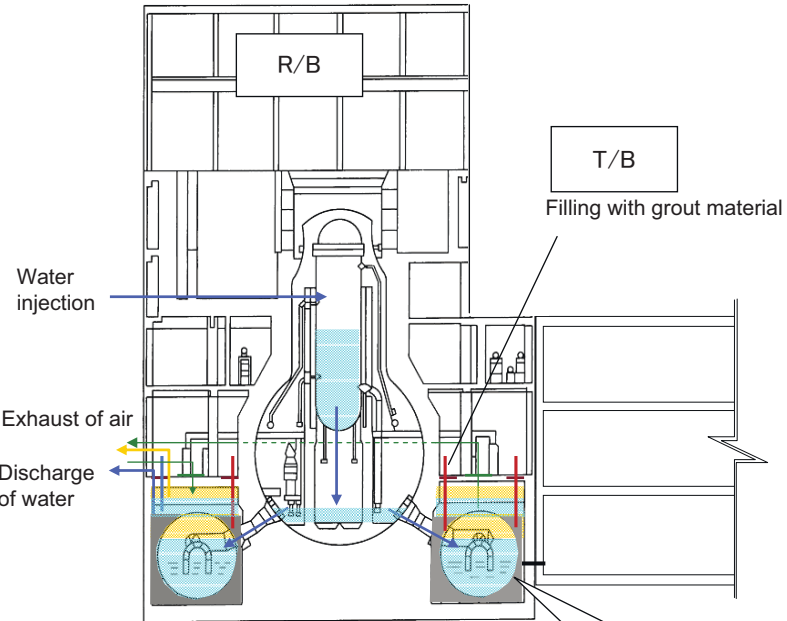
# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">1. Cooling</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(1) Reactor</p>	<p><b>Secure heat exchange function</b></p> <ul style="list-style-type: none"> <li>- Due to the leakage from the primary containment vessel (PCV), judged that it was difficult to secure water level of PCV.</li> <li>- Therefore, prioritized the achievement of circulation cooling of reactors by circulating water cooling.</li> <li>- For the reactor cooling facilities using heat exchanger, examining its implementation as mid and long term measures.</li> </ul> <p>(Work implemented)</p> <ul style="list-style-type: none"> <li>- Completed the assembly of cooling tower unit and shielding equipment to reduce exposure dose for outdoor work (from May 17 to Jun. 17)</li> </ul>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>[Under consideration] Outline of circulating cooling system within the reactor building</p> </div> <div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="text-align: center;">  <p>Plate-type heat exchanger</p> </div> <div style="text-align: center;">  <p>Cooling tower unit</p> </div> <div style="text-align: center;">  <p>Shielding equipment to reduce exposure dose during outdoor work</p> </div> </div> <div style="margin-top: 20px; text-align: center;"> <p>Jun. 3, Completed assembly of cooling unit on the trailer</p> </div> </div> <div style="margin-top: 20px;"> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-right: 20px;"> <p>Demolished and removed debris at the truck bay door, which would have been obstacles for installation of alternative cooling facilities (from May 10 to May 15)</p> </div> <div style="text-align: center;">  <p>Inside reactor building of Unit 1 in front of the truck bay door</p> </div> </div>





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Issues	Progress etc.	Reference (Photos and Figures)
<p>I. Cooling</p> <p>(1) Reactor</p>	<p><b>Cooling fuels at minimum water injection rate (Cooling by water injection)</b></p> <ul style="list-style-type: none"> <li>- Implementing water injection toward achieving cold shutdown condition.</li> <li>- Implementing installation of water injection lines from the core spray system and the reactor feedwater pump to promote the diversification of water injection for the reactor.</li> </ul> <p><b>Sealing the leakage location</b></p> <p><b>Flooding the PCV</b></p> <ul style="list-style-type: none"> <li>- Under examination on the implementation as mid and long term measures.</li> </ul> <p><b>Consideration and preparation of reuse of accumulated water</b></p> <ul style="list-style-type: none"> <li>- Work on injection line (from May 21)</li> <li>- Started circulating water cooling from Jun. 27</li> </ul> <p><b>Initiation and implementation of circulating water cooling</b></p> <ul style="list-style-type: none"> <li>- Started circulating water cooling from Jun. 27</li> </ul> <p><b>Installation of PCV gas control system</b></p> <ul style="list-style-type: none"> <li>- In test operation (as of Dec. 14)</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="1025 304 1339 352" style="border: 1px solid black; padding: 2px;">Image of flooding the PCV</div> <div data-bbox="1462 304 1944 352" style="border: 1px solid black; padding: 2px;">Inspection of reactor water level gauge</div> </div> <div style="text-align: center; margin: 20px 0;">  <p>The diagram shows a vertical reactor vessel with a central fuel rod (RPV) and a surrounding dilution water (D/W) chamber. Labels include 'Water injection to reactor', 'Fuel', 'RPV', 'D/W', and 'S/C' (Steam Condensers) at the base.</p> </div> <div style="text-align: right; margin: 20px 0;">  </div> <div style="text-align: center; margin: 20px 0;">  <p>The diagram illustrates a water reuse system. It shows a reactor vessel (PCV) connected to a Tank. The cycle includes 'Injection of freshwater', 'Connection to feed water line', 'Circulating water cooling' (indicated by a red arrow), and 'Outflow to T/B'. The water then passes through 'Desalination' and 'Decontamination' units before returning to the Tank. A 'Pump' is also shown in the system.</p> </div> <div style="text-align: center; margin: 20px 0;"> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">System outline of water reuse as reactor coolant by processing accumulated water</div> </div>

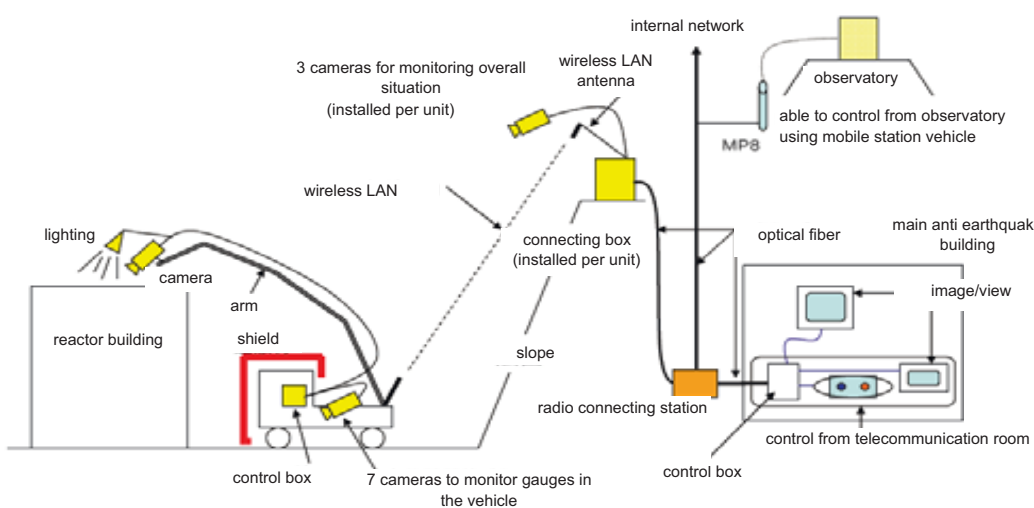
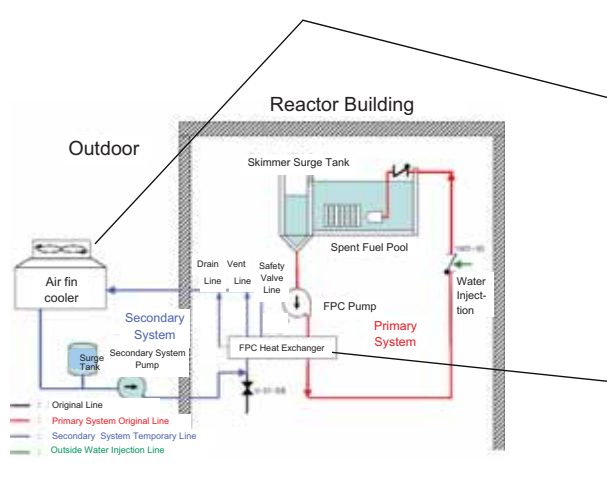


# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">I. Cooling</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(1) Reactor</p>	<p>[Unit 2]</p> <p><b>Improvement of working environment</b></p> <ul style="list-style-type: none"> <li>- Check on radiation dose, entry into buildings. (May 18, May 26, Jun. 4, Jun. 11)</li> <li>- Started local exhausters, purification operation (from Jun. 11 to Jun. 19).</li> <li>- Reactor water level gauge calibration (Jun. 22, Oct. 21)</li> <li>- Installation of water level gauge at basement of the reactor building (Sep. 15)</li> </ul> <p><b>Nitrogen gas injection</b></p> <p>In operation from Jun. 28</p> <p><b>Secure heat exchange function</b></p> <ul style="list-style-type: none"> <li>- Prioritize the achievement of circulation cooling of reactors by circulating water cooling. For the reactor cooling facilities using heat exchanger, examining its implementation as mid and long term measures.</li> </ul> <p><b>Study on sealing methodology of leakage location of Primary Containment Vessel</b></p> <ul style="list-style-type: none"> <li>- Conducted laboratory test on sealing methodology.</li> </ul> <p><b>Sealing the leakage location</b></p> <p><b>Flooding the PCV</b></p> <ul style="list-style-type: none"> <li>- Under examination on the implementation as mid and long term measures.</li> </ul> <p><b>Cooling fuels at minimum water injection rate (cooling by water injection)</b></p> <ul style="list-style-type: none"> <li>- Started operation of water injection through the core spray system from Sep. 14</li> <li>- Implementing water injection toward achieving cold shutdown condition.</li> <li>- Implementing installation of the reactor feedwater pump inside the turbine building to promote the diversification of water injection for the reactor.</li> </ul> <p><b>Consideration and preparation of reuse of accumulated water</b></p> <ul style="list-style-type: none"> <li>- Construction of water injection line from Apr. 9</li> <li>- Started circulating water cooling from Jun. 27</li> </ul> <p><b>Initiation and implementation of circulating water cooling</b></p> <ul style="list-style-type: none"> <li>- Started circulating water cooling from Jun. 27</li> </ul> <p><b>Installation of PCV gas control system</b></p> <ul style="list-style-type: none"> <li>- Started operation from Oct. 28</li> </ul>	<div data-bbox="1064 427 1727 523" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Image of the countermeasure: Sealing the damaged location of Primary Containment Vessel</p> </div>  <div data-bbox="1527 1257 1926 1380" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Drilling the 1st floor of the reactor building, filling the whole torus room with grout material.</p> </div>





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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">I. Cooling</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(1) Reactor</p>	<p>[Unit 3]</p> <p><b>Improvement of working environment</b></p> <ul style="list-style-type: none"> <li>- Removal of debris, measurement of radiation dose, entrance into buildings (May 18, Jun. 9)</li> <li>- Clearance work using robots (Jul. 1)</li> <li>- Placement of steel plates at truck bay door (Jul. 4)</li> <li>- Installation of water level gauge at the basement of the reactor building (Sep. 9)</li> </ul> <p><b>Nitrogen gas injection</b></p> <ul style="list-style-type: none"> <li>- In operation from Jul. 14</li> </ul> <p><b>Secure heat exchange function</b></p> <ul style="list-style-type: none"> <li>- Prioritize the achievement of circulation cooling of reactors by circulating water cooling. For the reactor cooling facilities using heat exchanger, examining its implementation as mid and long term measures.</li> </ul> <p><b>Sealing the leakage location</b></p> <p><b>Flooding the PCV</b></p> <ul style="list-style-type: none"> <li>- Under examination on the implementation as mid and long term measures</li> </ul> <p><b>Cooling fuels at minimum water injection rate (cooling by water injection)</b></p> <ul style="list-style-type: none"> <li>- Started operation of water injection through the core spray system from Sep. 1</li> <li>- Implementing water injection toward achieving cold shutdown condition</li> <li>- Implementing installation of the reactor feedwater pump inside the turbine building to promote the diversification of water injection for the reactor</li> </ul> <p><b>Consideration and preparation of reuse of accumulated water</b></p> <ul style="list-style-type: none"> <li>- Construction of water injection line (from Apr. 16)</li> <li>- Started circulating water cooling from Jun. 27</li> </ul> <p><b>Initiation and implementation of circulating water cooling</b></p> <ul style="list-style-type: none"> <li>- Started circulating water cooling from Jun. 27</li> </ul> <p><b>Installation of PCV gas control system</b></p> <ul style="list-style-type: none"> <li>- Started installation work from Sep. 30</li> </ul>	<p>Demolished and removed debris at the truck bay door, which would have been obstacles for installation of alternative cooling facilities for Unit 3 reactor.</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <span style="font-size: 2em;">➔</span>  </div> <p>Machine hatch space on the 1st floor of the reactor building (After removal, Jun. 4)</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: fit-content;"> <p>Situation of demolishing and removing debris</p> </div> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Removal of outside pillars using wirelessly-controlled backhoe</p> <p style="text-align: center;">Removal of debris using Brokk (wired remote control)</p>


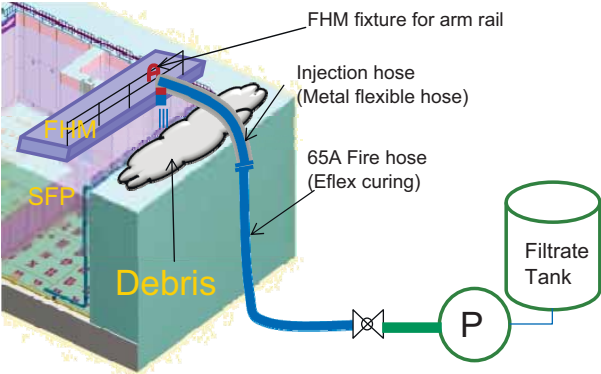



# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">I. Cooling</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(2) Spent Fuel Pool</p>	<p>[Unit 1]</p> <p><b>Continuation of water injection by "Giraffe", etc</b></p> <ul style="list-style-type: none"> <li>- Standby as backup after restoration of normal cooling system</li> <li>- Reliability improvement: enhanced durability of hoses</li> <li>- Measures to reduce radiation dose: switch to remote-controlled operation (arm, water injection operation)</li> </ul>	<p style="border: 1px solid black; padding: 2px;">Image of remote control operation of concrete pumping vehicle</p> 
	<p><b>Restoration of normal cooling system</b></p> <ul style="list-style-type: none"> <li>- Radiation measurement by <math>\gamma</math>camera and robot (from Apr. 30 to May 6)</li> <li>- Radiation reduction by flushing and shielding facility (from May 11 to May 15)</li> <li>- Water injection through normal cooling system (from May 29)</li> </ul> <p><b>Installation of heat exchanger</b></p> <ul style="list-style-type: none"> <li>- Installation work of heat exchanger completed. Circulating cooling system is under operation (from Aug. 10).</li> </ul>	 <p style="border: 1px solid black; padding: 2px;">Overview of SFP cooling function</p>  <p style="text-align: center;">Air fin cooler</p>  <p style="text-align: center;">Existing heat exchanger</p>

## Progress Status Classified by Issues (Photos and Figures)






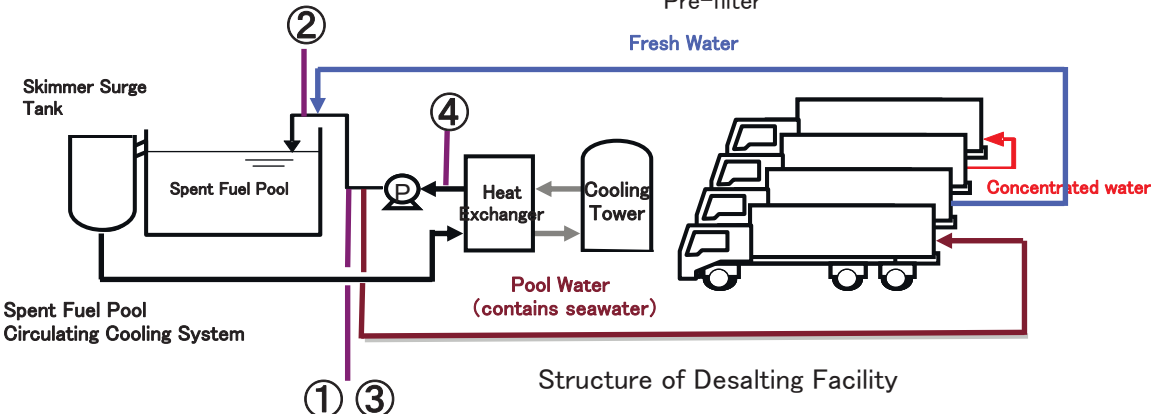

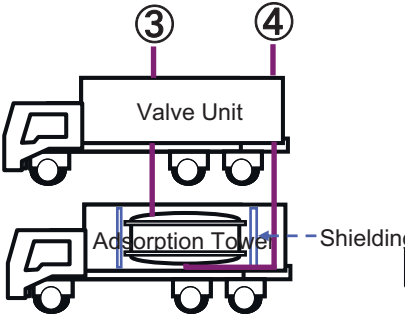
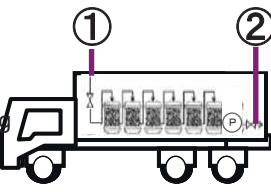

Issues	Progress etc.	Reference (Photos and Figures)	
1. Cooling  (2) Spent Fuel Pool	[Unit 2]  <b>Restoration of normal cooling system</b> - In progress  <b>Installation of heat exchanger</b> - Installation work of heat exchanger completed. Circulating cooling system is under operation (from May 31).  <b>Desalting water in Spent Fuel Pool</b> - Desalting water is in preparation		
	[Unit 3]  <b>Continuation of water injection by "Giraffe" etc</b> - Standby as backup after restoration of normal cooling system - Reliability improvement: enhanced durability of hoses - Measures to reduce radiation dose: switch to remote-controlled operation	Debris in Unit 2 Waste Treatment Building	Unit 2 Heat Exchanger Unit
	<b>Restoration of normal cooling system</b> - Confirmation of system integrity through water level measurement by "Giraffe," etc. (from May 8 to May 15) - Water injection through normal cooling system (from May 16 to Jun. 29)		
	<b>Installation of heat exchanger</b> - Installation work of heat exchanger completed. Circulating cooling system is under operation (from Jun. 30).  <b>Desalting water in Spent Fuel Pool</b> - Desalting water is in preparation (sequential implementing)	Unit 3 Spent Fuel Pool	Unit 3 Heat Exchanger Unit

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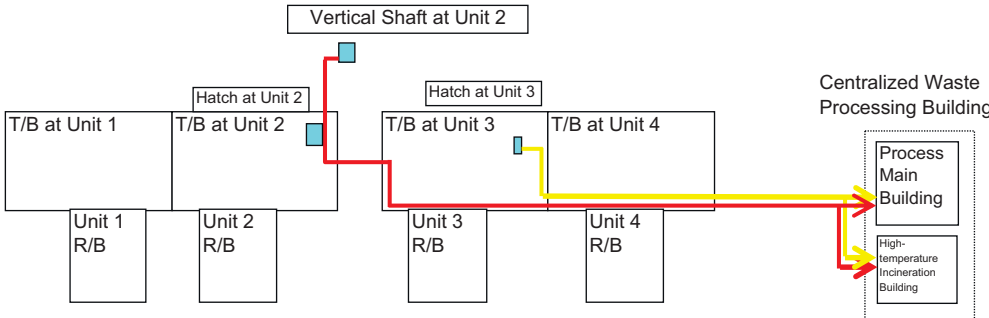






Issues	Progress etc.	Reference (Photos and Figures)
1. Cooling (2) Spent Fuel Pool	<p>[Unit 4]</p> <p><b>Continuation of water injection by "Giraffe" etc</b></p> <ul style="list-style-type: none"> <li>- Reliability improvement: enhanced durability of hoses</li> <li>- Measures to reduce radiation dose: switch to remote-controlled operation</li> <li>- Installation of water level gauge (from Apr. 22)</li> </ul> <p><b>Restoration of normal cooling system</b></p> <ul style="list-style-type: none"> <li>- Water injection by installing alternative equipment to "Giraffe" ( from Jun. 17)</li> <li>- Switch to water injection line of circulating cooling system ( from Oct. 3)</li> </ul> <p><b>Installation of heat exchanger</b></p> <ul style="list-style-type: none"> <li>- Installation work of heat exchanger completed. Circulating cooling system is under operation (from Jul. 31).</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Water injection by "Giraffe" at Unit 4</p> </div> <div style="text-align: center;">  <p>Alternative equipment to "Giraffe" at Unit 4 (removed)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Alternative equipment to "Giraffe" at Unit 4</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Unit 4 Heat Exchanger Unit</p> </div> <div style="text-align: center;">  <p>Air Fin Cooler</p> </div> </div>




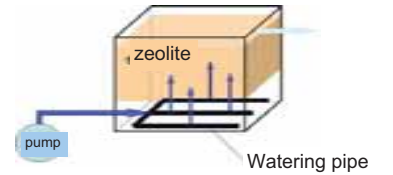










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I. Cooling (2) Spent Fuel Pool	[Unit 4] Desalting water in Spent Fuel Pool - Started to operate the desalting facility from Aug. 20.	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Concentrated Water Tank</p> </div> <div style="text-align: center;">  <p>Reverse Osmosis Membrane</p> </div> <div style="text-align: center;">  <p>Local Control Panel</p> </div> <div style="text-align: center;">  <p>Pre-filter</p> </div> </div> <div style="text-align: right; margin-top: 10px;">  </div> <div style="text-align: center; margin-top: 20px;">  <p>Structure of Desalting Facility</p> <p>The diagram shows a 'Spent Fuel Pool Circulating Cooling System' with a 'Skimmer Surge Tank' and 'Spent Fuel Pool'. It includes a 'Heat Exchanger' connected to a 'Cooling Tower'. 'Fresh Water' (blue line) and 'Pool Water (contains seawater)' (red line) flow through the system. A 'Concentrated water' stream is shown exiting. Numbered points 1-4 are marked on the diagram.</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Valve Unit Vehicle</p> </div> <div style="text-align: center;">  <p>Radioactivity Removal Apparatus</p> </div> <div style="text-align: center;">  <p>Ion Exchange Apparatus</p> </div> <div style="text-align: center;">  <p>Ion Exchange Resin Tower</p> </div> </div>



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Issues	Progress etc.	Reference (Photos and Figures)								
II. Mitigation (3) Accumulated Water	<p><b>[High level]</b></p> <p><b>Securing sufficient places to store contaminated water</b></p> <p>- Transferring to Centralized Waste Processing Building (Process Main Building and High-temperature Incineration Building) after checking non-existence of water leakage</p> <p>Process Main Building: After checking non existence of water leakage etc., started transferring accumulated water from Unit 2 Turbine Building. (Apr. 19)</p> <p>High-temperature Incineration Building: After checking non existence of water leakage etc., started transferring accumulated water from Unit 3 Turbine Building. (May 17)</p> <p>Installation of Tank (to receive processed water)</p> <table border="0"> <tr> <td>May 10 : 11,000t</td> <td>May 31 : 8,200t</td> </tr> <tr> <td>Jul. 15 : 20,000t</td> <td>Aug. 13 : 22,000t</td> </tr> <tr> <td>Sep. 16 : 28,000t</td> <td>Oct. 8 : 15,000t</td> </tr> <tr> <td>Nov. 15 : 18,000t</td> <td>Dec. 12 : 23,000t</td> </tr> </table>	May 10 : 11,000t	May 31 : 8,200t	Jul. 15 : 20,000t	Aug. 13 : 22,000t	Sep. 16 : 28,000t	Oct. 8 : 15,000t	Nov. 15 : 18,000t	Dec. 12 : 23,000t	<p align="center">&lt;Transferring into Centralized Waste Processing Building&gt;</p>  <div style="display: flex; justify-content: space-around;"> <div data-bbox="651 651 1106 1002">  <p align="center">Tanks to receive processed water</p> </div> <div data-bbox="1144 651 1599 1002">  <p align="center">Underground disaster prevention tanks to receive processed water (Image)</p> </div> <div data-bbox="1659 651 2114 1002">  <p align="center">Tanks to receive processed water (H1 area)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div data-bbox="651 1066 1106 1417">  <p align="center">Underground tanks for processed water (Highly contaminated water)</p> </div> <div data-bbox="1133 1066 1599 1417">  <p align="center">Underground disaster prevention tanks for processed water (Highly contaminated water)</p> </div> <div data-bbox="1659 1066 2114 1417">  <p align="center">Underground disaster prevention tanks for processed water (Highly contaminated water)</p> </div> </div>
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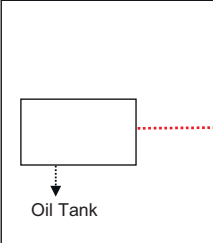
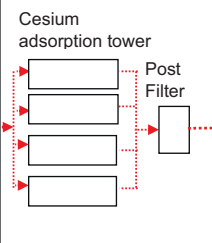
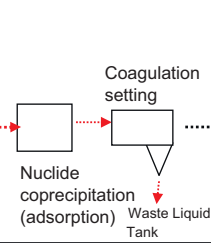
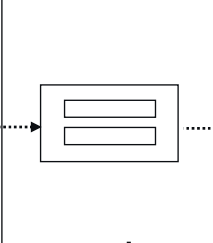
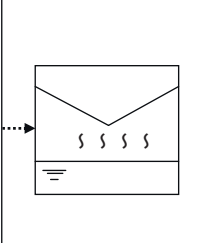

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Issues	Progress etc.	Reference (Photos and Figures)		
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">II. Mitigation</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(3) Accumulated Water</p>	<p>[High level]</p> <p><b>Consideration of mitigation of contamination in the ocean</b></p> <ul style="list-style-type: none"> <li>- Completed setting up silt fence (Apr. 14)</li> <li>- Preparation work for setting steel pipe sheet piles</li> </ul> <p>[Completed removing curtain wall]</p> <ul style="list-style-type: none"> <li>- Purification of sea water by circulating purification system (from Jun. 13)</li> <li>- Completed setting up sliding concrete wall at intake of Units 1 to 4 (Jun. 29)</li> <li>- Work of placing steel pipe sheet piles (from Aug. 17 to Sep. 28)</li> </ul> <p>(Implemented in order to block the damaged parts of permeation prevention structure due to tsunami at the south side of intake canal of Units 1 to 4)</p>	 <p>Decontamination agent (Zeolite)</p>	<p>&lt;Adsorption of cesium by zeolite&gt;</p>  <p>Circulating purification system</p>	<p>&lt;Appearance of the system&gt;</p> 
	 <p>Silt fence at intake (Units 1 to 4)</p>	 <p>Silt fence at intake (Unit 2)</p>	 <p>Sliding concrete wall at intake (Setting work)</p>	
	 <p>Sliding concrete wall at intake (Before construction)</p>	 <p>Sliding concrete wall at intake (After construction)</p>	 <p>Shipping steel pipe sheet piles</p>	
	 <p>Placing steel pipe</p>	 <p>After placing steel pipe sheet pile (1)</p>	 <p>After placing steel pipe sheet pile (2)</p>	

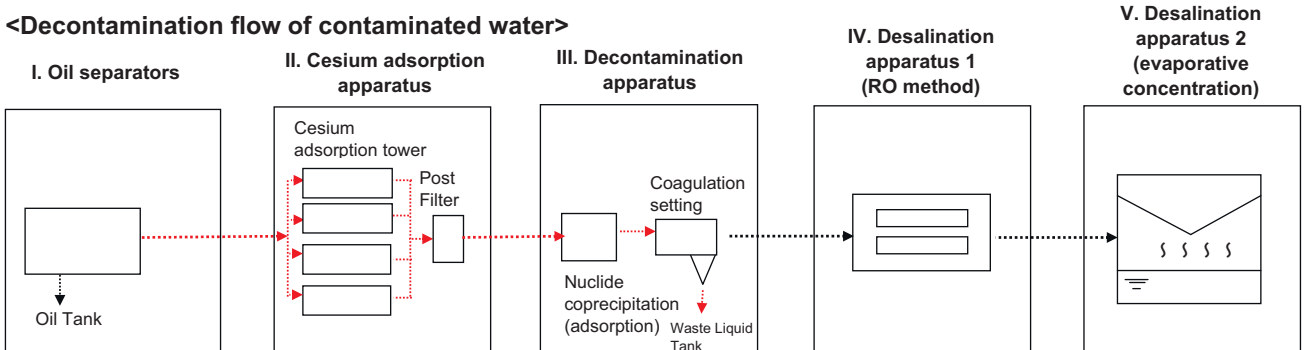
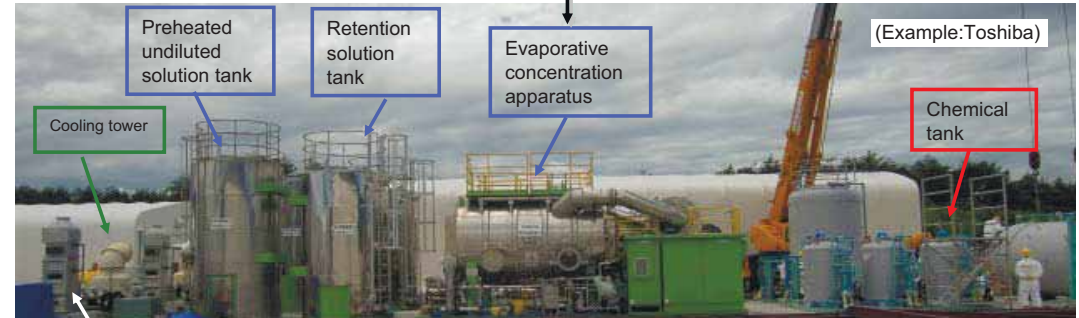
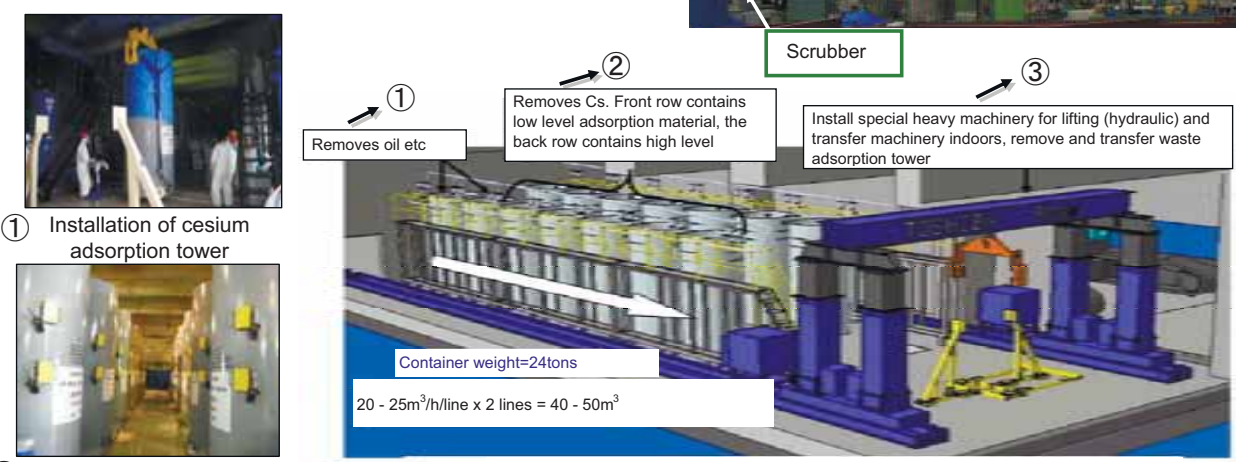





## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
II. Mitigation  (3) Accumulated Water	<p>[High Level]</p> <p><b>Containment of high level radioactive water</b></p> <ul style="list-style-type: none"> <li>- Closure of sea water piping vertical shaft</li> <li>Unit 2: completed on Jun. 2</li> <li>Unit 3: completed on May 26</li> <li>Unit 4: completed on Apr. 6</li> <li>- Closure of pits, etc</li> <li>Unit 1: completed on May 17</li> <li>Unit 2: completed on Jun. 9</li> <li>Unit 3: completed on Jun. 10</li> <li>Unit 4: completed on Jun. 10</li> </ul>	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p style="color: white; background-color: blue; padding: 2px;">Closure of sea water piping vertical shaft (left: before closure, right: after closure)</p> </div> <div style="text-align: center;">  <p style="color: white; background-color: blue; padding: 2px;">Closure of pit (left: before closure, right: after closure)</p> </div> </div>




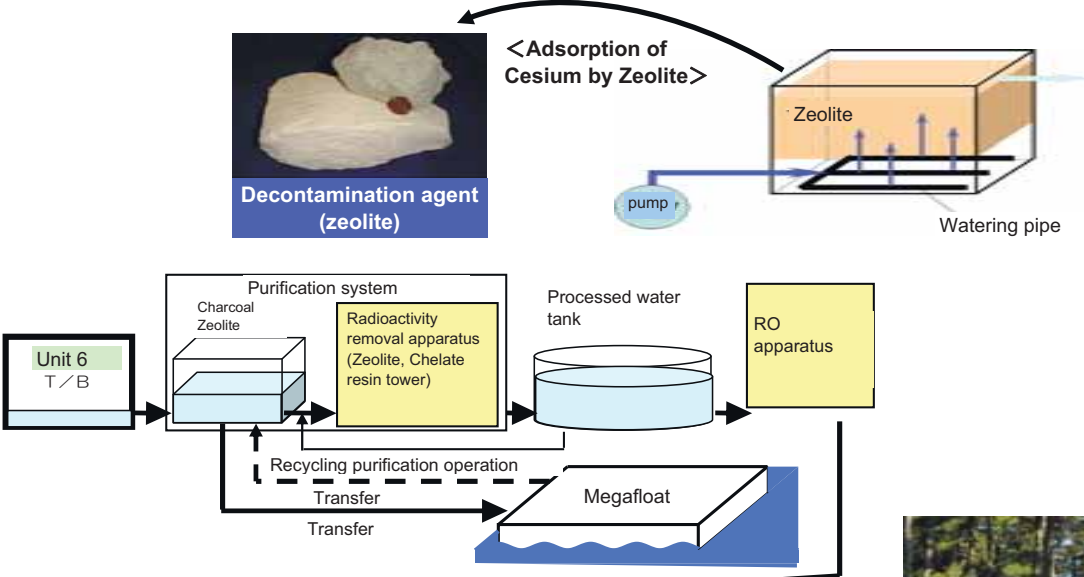
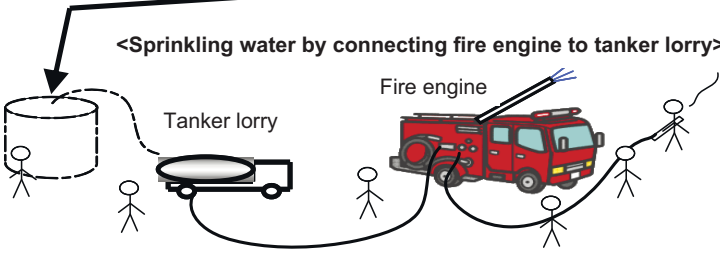

# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">II. Mitigation</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(3) Accumulated Water</p>	<p>[High level]</p> <p><b>Installation of Treatment Facility/Continuance of Elimination and Treatment of Contaminated Water in the Building</b></p> <p>[Decontamination of contaminated water]</p> <ul style="list-style-type: none"> <li>- Cesium adsorption instruments (Kurion)                             <ul style="list-style-type: none"> <li>Processing started on Jun. 17</li> </ul> </li> <li>- Decontamination apparatus (Areva)                             <ul style="list-style-type: none"> <li>Processing started on Jun. 17</li> </ul> </li> <li>- 2nd Cesium adsorption apparatus (SARRY)                             <ul style="list-style-type: none"> <li>Processing started on Aug. 18</li> </ul> </li> </ul> <p>[Desalting of contaminated water]</p> <ul style="list-style-type: none"> <li>- Desalination apparatus (RO method):                             <ul style="list-style-type: none"> <li>Phase I (RO1A/1B,RO2) processing started on Jun. 17</li> <li>Phase II (RO3) processing started on Jul. 20</li> </ul> </li> <li>- Desalination apparatus (distillation apparatus):                             <ul style="list-style-type: none"> <li>Toshiba apparatus (2A, 2B) processing started on Aug. 7.</li> <li>Areva apparatus (1A, 1B, 1C) processing started on Aug. 31.</li> <li>Toshiba apparatus (3A, 3B, 3C) processing started on Oct. 10.</li> </ul> </li> </ul> <p>[Storage of sludge waste]</p> <ul style="list-style-type: none"> <li>- Storing sludge waste in the pellet storage tank</li> <li>- Sludge waste storage facilities are under construction</li> </ul>	<p style="text-align: center;"><b>&lt;Decontamination flow of contaminated water&gt;</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>I. Oil separators</p>  <p>Oil Tank</p> </div> <div style="text-align: center;"> <p>II. Cesium adsorption apparatus</p>  <p>Cesium adsorption tower Post Filter</p> </div> <div style="text-align: center;"> <p>III. Decontamination apparatus</p>  <p>Nuclide coprecipitation (adsorption) Waste Liquid Tank</p> </div> <div style="text-align: center;"> <p>IV. Desalination apparatus 1 (RO method)</p>  </div> <div style="text-align: center;"> <p>V. Desalination apparatus 2 (evaporative concentration)</p>  </div> </div> <p style="text-align: center;">Checking components by TEPCO supervisor (at KURION factory in US)</p> <p style="text-align: center;">Scene of installing facilities at Fukushima Daiichi</p>  <p style="text-align: center;">Processed water receiving tank</p>




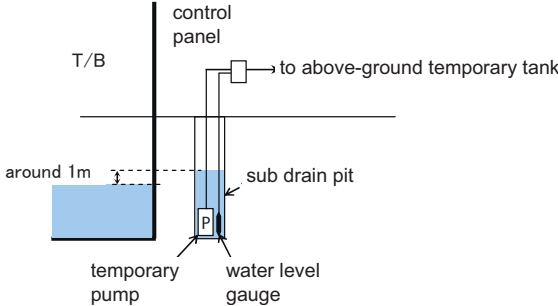

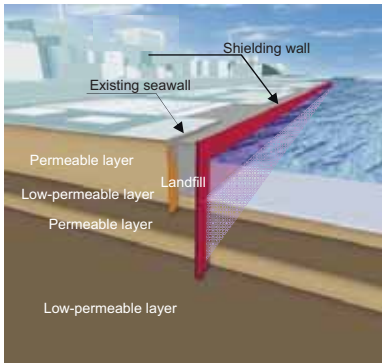
# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
II. Mitigation  (3) Accumulated Water	<p>[High level]</p> <p>Installation of Treatment Facility/Continuance of Elimination and Treatment of Contaminated Water in the Building</p>	<p>&lt;Decontamination flow of contaminated water&gt;</p>  <p>I. Oil separators</p> <p>II. Cesium adsorption apparatus</p> <p>III. Decontamination apparatus</p> <p>IV. Desalination apparatus 1 (RO method)</p> <p>V. Desalination apparatus 2 (evaporative concentration)</p>  <p>Evaporative concentration apparatus (3A, 3B, 3C)</p>  <p>① Removes oil etc</p> <p>② Removes Cs. Front row contains low level adsorption material, the back row contains high level</p> <p>③ Install special heavy machinery for lifting (hydraulic) and transfer machinery indoors, remove and transfer waste adsorption tower</p> <p>Container weight=24tons</p> <p>20 - 25m<sup>3</sup>/h/line x 2 lines = 40 - 50m<sup>3</sup></p> <p>Cesium adsorption apparatus (SARRY)</p>  <p>③ Installation of lifter for changing adsorption towers</p> 
		  <p>① Installation of cesium adsorption tower</p>  <p>② Cesium adsorption towers</p>

# Progress Status Classified by Issues (Photos and Figures)





Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">II. Mitigation</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(3) Accumulated Water</p>	<p>[Low level]  <b>Increase of storage capacity and decontamination of contaminated water</b></p> <ul style="list-style-type: none"> <li>- Low level tank 12,200t (May 31)</li> <li>- Megafloat 10,000t (May 21)</li> </ul> <p>Utilization of decontamination agent (zeolite)            Setting in water, self-circulation and adsorption of cesium by zeolite</p> <p>Full-scale decontamination in operation (from May 1), after transferring accumulated water in Unit 6 T/B to receiver tanks for low level water.</p> <p>Sprinkling purified accumulated water in Unit 6 T/B (below bathing area guideline) within the site (from Oct. 7)</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>&lt;Megafloat&gt;</p>  </div> <div style="text-align: center;"> <p>&lt;F Area Tanks&gt;</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>&lt;Square shape tanks&gt;</p>  </div> <div style="text-align: center;"> <p>&lt;Round shape tanks&gt;</p>  </div> </div> </div> </div> <div style="text-align: center; margin-top: 20px;"> <p>&lt;Adsorption of Cesium by Zeolite&gt;</p>  </div> <div style="text-align: center; margin-top: 20px;"> <p>&lt;Sprinkling water by connecting fire engine to tanker lorry&gt;</p>  </div> <div style="text-align: right; margin-top: 20px;">  <p style="background-color: blue; color: white; padding: 5px; text-align: center;">Sprinkling purified accumulated water in Unit 6 T/B within the site</p> </div>

## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)		
II. Mitigation  (4) Groundwater	<p><b>Consideration of mitigation measures of groundwater contamination</b></p> <ul style="list-style-type: none"> <li>- Closure of sea water piping vertical shaft                             <ul style="list-style-type: none"> <li>Unit 2: Completed on Jun. 2</li> <li>Unit 3: Completed on May 26</li> <li>Unit 4: Completed on Apr. 6</li> </ul> </li> <li>- Closure of pits, etc.                             <ul style="list-style-type: none"> <li>Unit 1: Completed on May 17</li> <li>Unit 2: Completed on Jun. 9</li> <li>Unit 3: Completed on Jun. 10</li> <li>Unit 4: Completed on Jun. 10</li> </ul> </li> <li>- Restoration of sub drain pumps                             <ul style="list-style-type: none"> <li>On T/B side</li> <li>Installation of pumps at sub drain pits. Completed at 7 points on Jul. 29</li> <li>Completed laying the transfer piping arrangement on Aug. 31</li> <li>On R/B side</li> <li>Considering locations to install the pumps</li> </ul> </li> <li>- Restoration of sub drainage along with expansion plan of storage/ processing facility.</li> </ul>	 <p>Putting in crushed stones</p>	 <p>Concrete placement</p>	 <p>Mortar placement</p>
	<p><b>Construction of shielding wall of groundwater</b></p> <ul style="list-style-type: none"> <li>- Completed study of shielding wall on Oct. 26</li> <li>- Started construction of shielding wall on Oct. 28</li> <li>- Under preparatory work including geological survey by measurement or boring</li> </ul>	 <p>Image of restoration of sub drain pump</p>	 <p>Overview</p>	 <p>Cross-section view</p>



## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)	
II. Mitigation (5) Atmosphere / Soil	<p><b>Dispersion of inhibitors</b></p> <p>[Present Status] Completed dispersion of inhibitors</p> <p>-Record of dispersion: Approx. 560,000m<sup>2</sup></p> <p>&lt;Inside power station (flat land and slope)&gt;: Approx. 400,000m<sup>2</sup></p> <p>-Test dispersion (Apr. 1 to Apr. 25): Approx. 30,000m<sup>2</sup></p> <p>-Full dispersion (Apr. 26 to Jun. 28): Approx. 370,000m<sup>2</sup></p> <p>&lt;Around buildings&gt;: Approx. 160,000m<sup>2</sup></p> <p>-Dispersion by crawler dump truck (Apr. 26 to Jun. 27) Around buildings of Units 1 to 4, 5 and 6: Approx. 120,000m<sup>2</sup></p> <p>-Dispersion by bending spray tower vehicle (May 27 to Jun. 4, Jun. 10) Turbine building of Units 1 to 4, roof and wall of reactor building of Unit 2: Approx. 30,000m<sup>2</sup></p> <p>-Dispersion by concrete pumping vehicle (Zebra) (Jun. 8,9,18) Roof and wall of reactor building of Units 1,3,4:Approx. 10,000m<sup>2</sup></p> <p>Continuing to monitor status of solidification, etc. at dispersed areas.</p>	 <p style="text-align: center;">Dispersion of inhibitors around buildings of Units 1 to 4</p>	 <p style="text-align: center;">Dispersion of inhibitors in the Power Station (flat)</p>
		 <p style="text-align: center;">Dispersion of inhibitors by bending spray tower vehicle</p>	 <p style="text-align: center;">Dispersion of inhibitors by bending spray tower vehicle</p>

## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)		
II. Mitigation (5) Atmosphere / Soil	Dispersion of dust inhibitors	 <p>Dispersion of inhibitors in the Power Station (flat)</p>	 <p>Dispersion of inhibitors in the Power Station (flat)</p>	 <p>Dispersion of inhibitors in the Power Station (slope)</p>
		 <p>Dispersion of inhibitors in the Power Station (slope)</p>	 <p>After dispersion of inhibitors in the Power Station (slope)</p>	 <p>After dispersion of inhibitors in the Power Station (slope)</p>
		 <p>After dispersion of inhibitors in the Power Station (flat)</p>		 <p>After dispersion of inhibitors in the Power Station (flat)</p>


## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
II. Mitigation (5) Atmosphere / Soil	<p><b>Removal /Storage of debris</b></p> <p>&lt;&lt;Removal of debris&gt;&gt;</p> <ul style="list-style-type: none"> <li>- In order to mitigate exposure dose of workers and improve work efficiency at the site, we have started removing the debris after storing them in the containers using remote-controlled heavy machinery (hydraulic shovel, crawler dump truck, bulldozer) (since Apr. 6).</li> <li>- The waste such as the removed debris and the trees cut down for site preparation are classified according to their kinds as well as the amount of radiation dose in the storage area and transported.</li> <li>- Almost all of the debris in highly-radioactive area outside the buildings of Units 1 to 4 (airborne radiation 10mSv/h or more) were removed . Debris of roads at the ocean side of the turbine buildings of Units 1 to 4 etc. was removed.</li> </ul> <p>&lt;Record of removal of debris as of Dec. 16&gt;</p> <ul style="list-style-type: none"> <li>- Collected debris      Approx. 29,000 m<sup>3</sup></li> <li>- Stored in containers    Approx. 6,000 m<sup>3</sup>                                   (Approx. 900 containers)</li> </ul> <p>&lt;Plan for further implementation&gt;</p> <ul style="list-style-type: none"> <li>- We will continue removing outside debris, which hinders work.</li> </ul> <p>&lt;&lt;Management of debris&gt;&gt;</p> <p>&lt;Management of the storage area&gt;</p> <ul style="list-style-type: none"> <li>- The debris is stored in containers and buildings according to its amount of radiation dose etc., and workers are not able to approach them easily.</li> <li>- The approach lane to the waste storage area is marked off and a sign has been installed that prohibits unnecessary entrance of unauthorized personnel.</li> </ul> <p>&lt;Securing the storage area&gt;</p> <ul style="list-style-type: none"> <li>- Except for the accumulated water treatment facilities and the other areas under construction, the storage areas are secured by fully utilizing the land within the site.</li> </ul>	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Removing debris by remote controlled heavy machinery</p> </div> <div style="text-align: center;">  <p>(Example of container : 3.2×1.6×1.1m, approx. 4m<sup>3</sup>)</p> </div> </div> <div style="text-align: center; margin-top: 20px;">  <p>Containers storing debris (mid May)</p> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="font-size: 2em; margin: 0 10px;">➔</div> <div style="text-align: center;">  </div> </div> <p style="text-align: center; margin-top: 10px;">Around Unit 1 turbine building, sea side road</p>






## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
II. Mitigation  (5) Atmosphere / Soil	Removal /Storage of debris				
		<p style="text-align: center;">Around Unit 1 turbine building, sea side road</p>	<p style="text-align: center;">Between reactor buildings of Unit 2 and Unit 3</p>	<p style="text-align: center;">Centralized Waste Processing Facility, bottom of south slope</p>	<p style="text-align: center;">Around Unit 4 turbine building, sea side road</p>




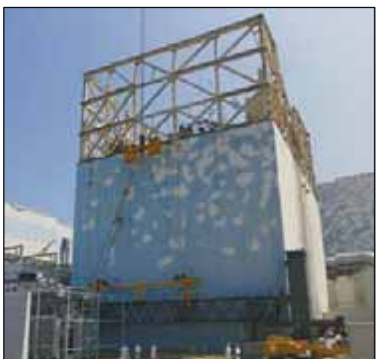




## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)		
II. Mitigation (5) Atmosphere / Soil	Removal /Storage of debris			
				
	Storage container / Storage tent for debris (High radiation dose)	Storage container for debris	Storage tent for debris (Low radiation dose)	Container for small scale debris
				
	Container for large scale debris	Inside the storage tent for debris	Storage yard in the power station (1)	
				
	Storage yard in the power station (2)	Storage yard in the power station (3)	Curing cover on debris stored outside storage yard	



## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
II. Mitigation  (5) Atmosphere / Soil	<p><b>[Unit 1]</b>  <b>Installation of reactor building cover</b></p> <p>Started preparation work *                      (from May 13)</p> <ul style="list-style-type: none"> <li>- Maintenance of roads for a crane</li> <li>- Creation of slope for crane to crawl</li> <li>- Maintenance of shallow draft quay</li> </ul> <p>Started main structure construction work                      (from Jun. 28)</p> <ul style="list-style-type: none"> <li>- Completion of steel-frame work of main structure (Aug.10-Sep. 9)</li> <li>- Completion of installation of wall panels (Sep. 10-Oct. 10)</li> <li>- Completion of installation of roof panel (Oct.8-Oct. 14)</li> <li>- Completion of installation work of ancillary facilities such as exhauster and comprehensive test (Oct. 14-Oct. 27)</li> <li>- Completion of installation of reactor building cover (Oct. 28)</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Lay out steel plate</p> </div> <div style="text-align: center;">  <p>Preparation construction (Maintenance of road for crawler crane)</p> </div> <div style="text-align: center;">  <p>Preparation construction (Maintenance of road for crawler crane)</p> </div> </div> <div style="text-align: center; margin-top: 20px;">  <p>Preparation construction (Shallow draft quay - Road for crawler crane)</p> </div>
	 <p>Image of installation of reactor building cover</p>	
	 <p>Model of constructing reactor building cover</p>	

## Progress Status Classified by Issues (Photos and Figures)




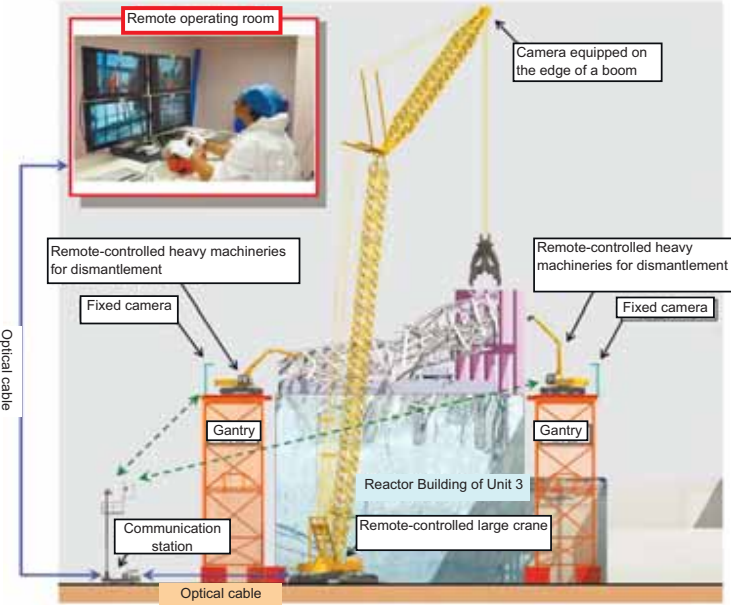





Issues	Progress etc.	Reference (Photos and Figures)			
II. Mitigation  (5) Atmosphere / Soil	[Unit 1]  Installing reactor building cover				
					
		Main steel-frame work of main structure	Start of steel-frame work on Aug. 10	Completion of steel-frame work on Sep. 9 (Northwest side)	Setting wall panel as of Sep. 15 (Northwest side)

## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
II. Mitigation  (5) Atmosphere / Soil	[Unit 1]  Installing reactor building cover				
	Installation of roof panel on Oct. 8	Completion of installation of wall panel on Oct. 10 (North side)	Installation of roof panel on Oct. 14	Completion of installation of roof panel on Oct. 14	
					
	Completion of installation of cover on Oct. 28	Ancillary facility Filter units		Ancillary facility Exhaust pipe	









# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)		
II. Mitigation (5) Atmosphere / Soil	<p>[Unit 3]</p> <p><b>Removal of debris on top of the reactor buildings</b></p> <ul style="list-style-type: none"> <li>- Commencement of preparation work from Jun. 20</li> <li>- Commencement of main work from Sep. 10</li> </ul>	 <p>① Preparation of roadbed for large-crane</p>	 <p>② Preparation for steel-frame base yard</p>	 <p>③ Assembly of heavy machinery for dismantling debris around the building</p>
	 <p>Image of removal of debris on top of the reactor building</p>	 <p>Status of demolition of pendant pillar at west side of the reactor building</p>	 <p>Preparation status at south side</p>	 <p>Status of demolition of the exhaust pipe at the top of the turbine building</p>
		 <p>Clearance of fallen debris at south side of the building</p>	 <p>Ground preparation status (Installation of pipe trench arrangement)</p>	









## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)		
II. Mitigation  (5) Atmosphere / Soil	[Unit 3]  Removal of debris on top of the reactor building			
		Status of demolition of the exhaust pipe at the top of the turbine building	Removal of debris on top of the waste treatment building	Dispersion of inhibitors
				
		Status of demolition of collapsed pillar at west side	Demolition of duct at the top of the turbine building	Concrete placement for gantry base leveling at south side
				
		Status of preparation for steel-frame base yard	Preparation for basic assembly at sea side	

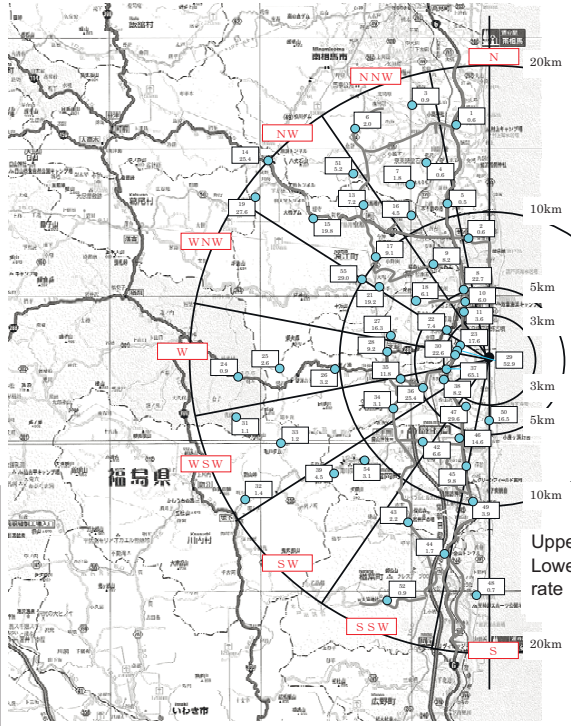
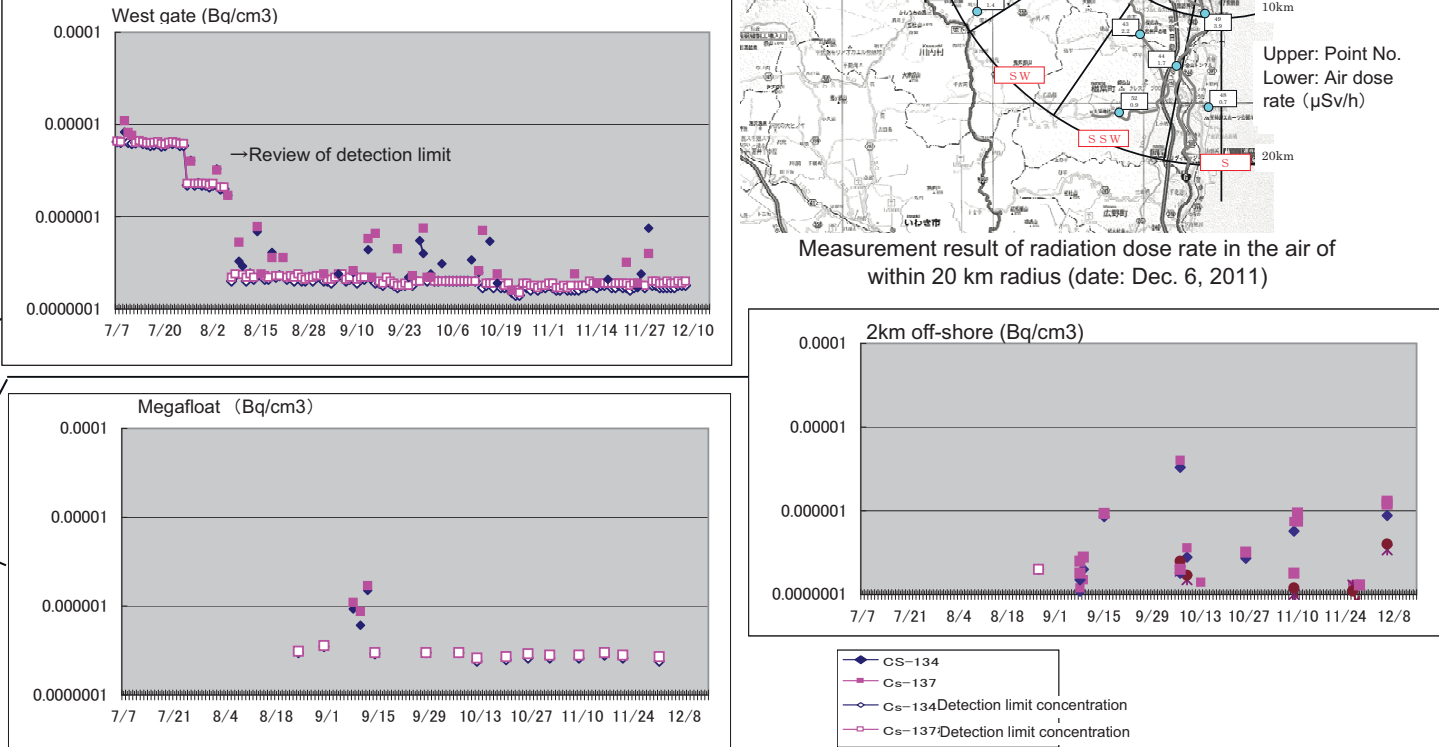
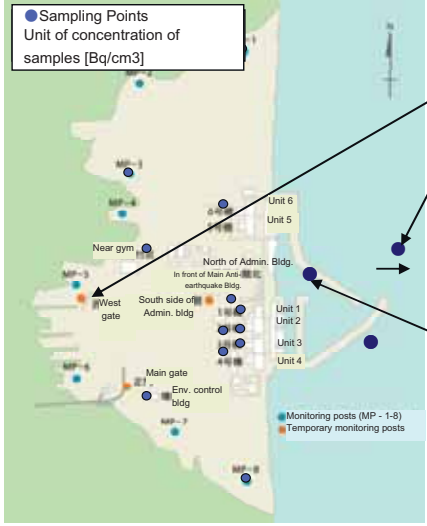
# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)		
II. Mitigation (5) Atmosphere / Soil	<p>[Unit 4]</p> <p><b>Removal of debris on top of the reactor buildings</b></p> <p>- Commencement of preparation work from Jun. 24</p> <p>- Commencement of main work from Sep. 21</p>			
	 <p>Image of removal of debris on top of the reactor building</p>	 <p>Demolition of obstacles at the work yard</p>	 <p>④ Assembly of heavy machinery for demolishing debris around the reactor building</p>	
 <p>Installation of rest stations</p>	 <p>Preparation of roadbed at the work yard</p>	 <p>Preparation of working environment on operating floor</p>		

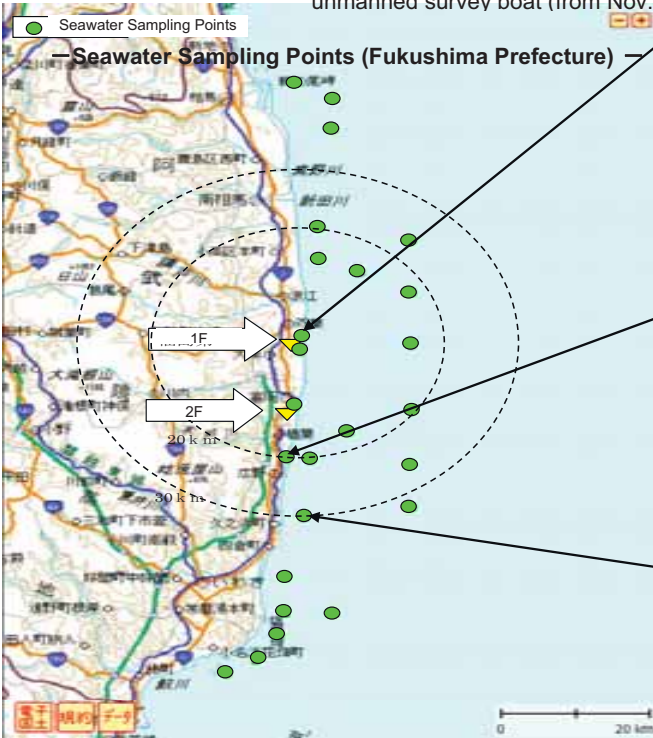
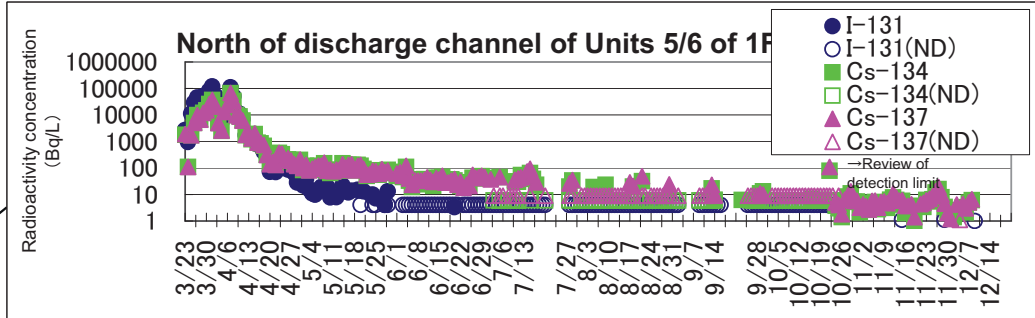
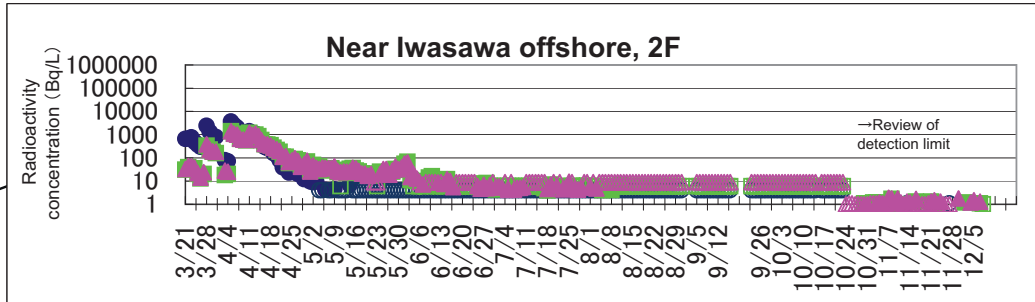
## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
II. Mitigation (5) Atmosphere / Soil	[Unit 4]				
	Removal of debris on top of the reactor building	 <p style="text-align: center;">Retreat place and shielding wall</p>	 <p style="text-align: center;">Removal of debris around the reactor building</p>	 <p style="text-align: center;">Curing for spent fuel pool (Oct. 14)</p>	
	 <p style="text-align: center;">Boring survey for basic design</p>	 <p style="text-align: center;">Preparation for work yard</p>	 <p style="text-align: center;">Removal of debris on upper part of the operating floor</p>	 <p style="text-align: center;">Demolition of parapet at the south side roof of the reactor building</p>	
	 <p style="text-align: center;">Removal of debris on roof truss</p>	 <p style="text-align: center;">Removal of debris on upper part of the operating floor</p>	 <p style="text-align: center;">Demolition of steel roof truss at the south side of the reactor building</p>	 <p style="text-align: center;">Removal of debris on upper part of the operating floor</p>	








# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
(6) Measurement, Reduction and Disclosure III. Monitoring/Decontamination	<p>Countermeasures [60,61]                      Expansion, enhancement and disclosure of monitoring</p> <p>Continue monitoring in and out of the power station [Land area]                      &lt;Monitoring within 20km radius of the periphery&gt;</p> <ul style="list-style-type: none"> <li>Monitoring of airborne radiation dose rate at 50 points by the support team from electric power companies (once a week)</li> <li>Dust sampling at 5 points near 10 km radius of the periphery (once a month) by the support team from electric power companies</li> </ul> <p>&lt;Monitoring within the site&gt;</p> <ul style="list-style-type: none"> <li>Measurement of airborne radioactivity concentration near the West Gate (everyday)</li> <li>Measurement of airborne radioactivity concentration at the sea side (since Oct. 4)</li> <li>Measurement of concentration of radioactive materials at the upper part of reactor buildings using a crane etc. (once a month)                      Unit 1 (Dec. 2), Unit 2 (Dec. 2, 6), Unit 3 (Nov. 29, 30, Dec. 5, 10)</li> <li>Measurement of airborne radioactivity concentration at 12 points in the site (once a week or once a month according to the points)</li> <li>Measurement of radioactive material fallout in the air at 12 points in and out of the site (once a month)</li> </ul>	 <p>Upper: Point No.                      Lower: Air dose rate (μSv/h)</p> <p>Measurement result of radiation dose rate in the air within 20 km radius (date: Dec. 6, 2011)</p> 
	<p>Fukushima Daiichi measuring points of airborne radioactivity concentration</p> 	








# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)	
(6) Measurement, Reduction and Disclosure III. Monitoring/Decontamination	Countermeasure [60,61] Expansion, enhancement and disclosure of monitoring [Ocean Area] <Fukushima Prefecture> • Seawater 16 points (from Apr.17) ↓ • Seawater 22 points (from May 5), Seabed soil 2 points (from Apr.29) ↓ • Outside 30km radius, 7 points (succession from MEXT); within 30 km radius, at the lower layer additional 11 points; sampling frequency review (from Jun. 4) • Expansion of seabed soil sampling (2 points → 25 points, from Jul.12) • Stop sampling at 4 points outside 30km radius (from Sep. 1), Regular sampling of seabed soil of 25 points (once a month) • Supplementary sampling of seabed soil, 16 points (Sep. 26 - 28) • Seawater sampling within 15km radius by unmanned survey boat (from Nov. 22)	<Ibaraki Prefecture> • Seawater 5 points (from Apr.29: once a week) ↓ from Jun. 7: twice a week ↓ from Sep. 1: once a week	<Miyagi Prefecture> • Seawater 6 points (from Jun. 21: twice a month)
	 <p>Seawater Sampling Points (Fukushima Prefecture)</p>	 <p>North of discharge channel of Units 5/6 of 1F</p>	 <p>Near Iwasawa offshore, 2F</p>

# Progress Status Classified by Issues (Photos and Figures)







Issues	Progress etc.	Reference (Photos and Figures)
III. Monitoring/Decontamination (6) Measurement, Reduction and Disclosure	Expansion, enhancement and disclosure of monitoring	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Dust sampling by the concrete pumping truck (May 22) Upper part of R/B, Unit 1</p> </div> <div style="text-align: center;">  <p>Dust sampling by the concrete pumping truck (Jun. 22) Upper part of R/B, Unit 1</p> </div> <div style="text-align: center;">  <p>Dust sampling (Jul. 24) Above R/B, east side, Unit 1 (T-HAWK)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Dust sampling (Aug. 28) Opening of the equipment hatch, R/B, Unit 1</p> </div> <div style="text-align: center;">  <p>Dust sampling (Sep. 11) Opening of the equipment hatch, R/B, Unit 1</p> </div> <div style="text-align: center;">  <p>Dust sampling (Oct. 3) Opening of the equipment hatch, R/B, Unit 1</p> </div> <div style="text-align: center;">  <p>Dust sampling (Oct. 7) Opening of the equipment hatch, R/B, Unit 1</p> </div> </div>

## Progress Status Classified by Issues (Photos and Figures)

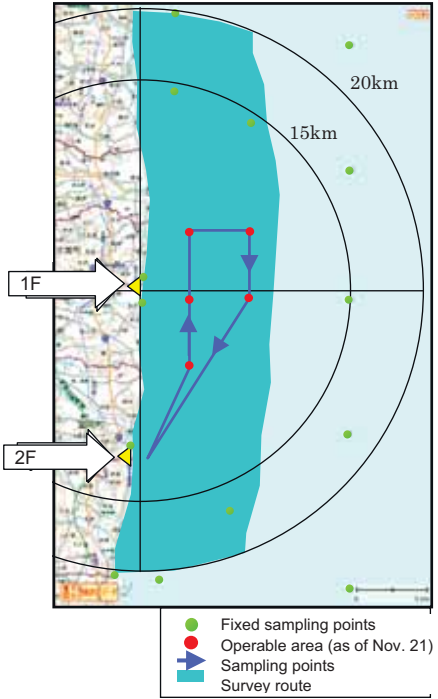



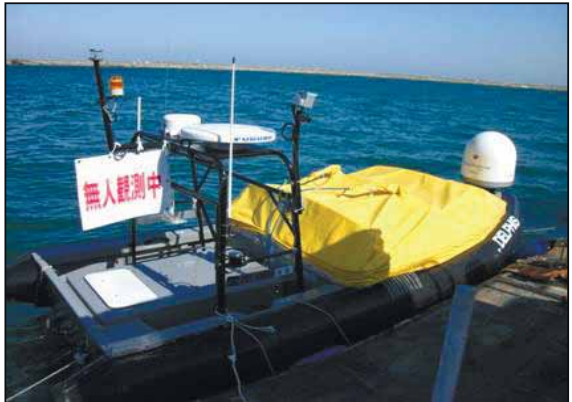

Issues	Progress etc.	Reference (Photos and Figures)
III. Monitoring/Decontamination  (6) Measurement, Reduction and Disclosure	Expansion, enhancement and disclosure of monitoring	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center; width: 30%;">  <p>Dust sampling (Jul. 22) Blow-out panel, Unit 2 (T-HAWK)</p> </div> <div style="text-align: center; width: 30%;">  <p>Dust sampling (Aug. 29) Opening of the equipment hatch, R/B, Unit 2</p> </div> <div style="text-align: center; width: 30%;">  <p>Dust sampling by the concrete pumping truck (May 23) Upper part of R/B, Unit 4</p> </div> <div style="text-align: center; width: 30%;">  <p>Dust sampling by the concrete pumping truck (Jun. 13) Upper part of R/B, Unit 3</p> </div> <div style="text-align: center; width: 30%;">  <p>Dust sampling (Jul. 23) Above R/B, west side, Unit 3 (T-HAWK)</p> </div> <div style="text-align: center; width: 30%;">  <p>Dust sampling (Aug. 24) Opening of the equipment hatch, R/B, Unit 3</p> </div> <div style="text-align: center; width: 30%;">  <p>Dust sampling (Sep. 12) Opening of the equipment hatch, R/B, Unit 3</p> </div> </div>



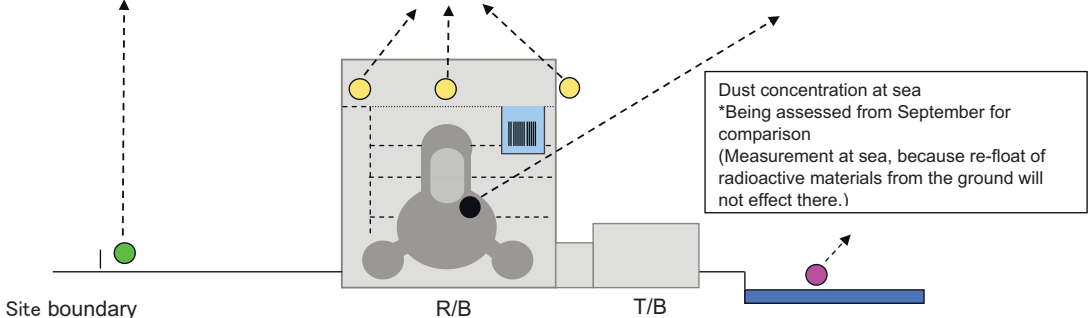




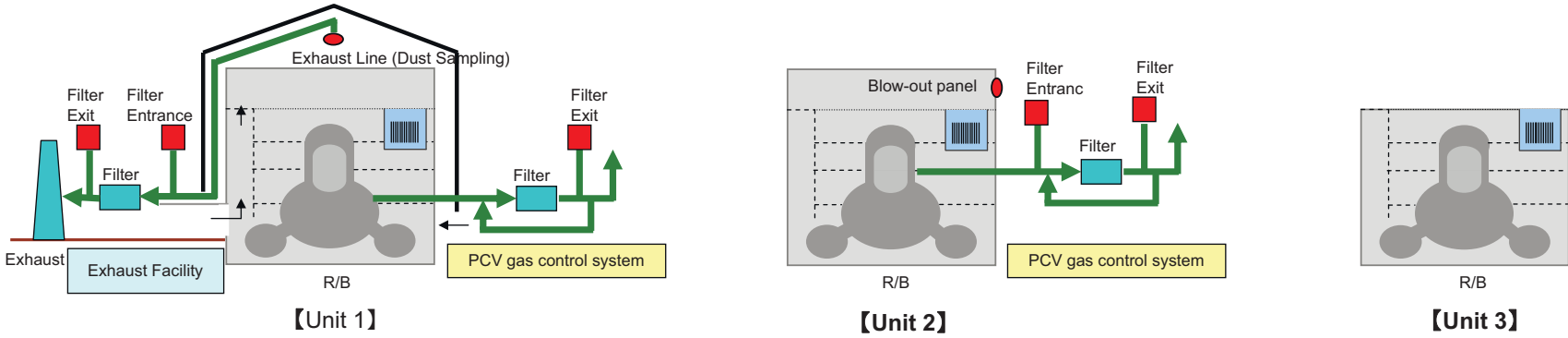
# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
III. Monitoring/Decontamination (6) Measurement, Reduction and Disclosure	Expansion, enhancement and disclosure of monitoring	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%; text-align: center;">  <p>Soil sampling by the support team from electric power companies (land area within 20 km radius)</p> </div> <div style="width: 33%; text-align: center;">  <p>Measurement of airborne radioactivity concentration by the support team from electric power companies (land area within 20 km radius)</p> </div> <div style="width: 33%; text-align: center;">  <p>Wide Area Monitoring</p> </div> <div style="width: 33%; text-align: center;">  <p>TEPCO cooperates with SDF decontamination work</p> </div> <div style="width: 33%; text-align: center;">  </div> <div style="width: 33%; text-align: center;">  </div> </div>

# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
III. Monitoring/Decontamination (6) Measurement, Reduction and Disclosure	<p>Expansion, enhancement and disclosure of monitoring</p>  <p>Survey route and sampling points by an unmanned survey boat</p>	 <p>Sailing of an unmanned survey boat</p>  <p>Preparation for sailing</p>  <p>Water sampling equipment (red dotted line)</p>  <p>Overview of an unmanned survey boat [DELPHIS]</p>  <p>Operation room</p>






# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
(6) Measurement, Reduction and Disclosure III. Monitoring/Decontamination	<p><b>Expansion, enhancement and disclosure of monitoring</b></p>	<div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> <div style="background-color: #ffffcc; padding: 5px; border: 1px solid black;"> <b>Dust concentration near west gate</b>                      Used for assessment of release amount of radioactive materials as of July and August                 </div> <div style="background-color: #c8e6c9; padding: 5px; border: 1px solid black;"> <b>Dust concentration at the upper part of the reactor building</b>                      Being used for assessment of release amount of radioactive materials from September                 </div> <div style="background-color: #ffe0b2; padding: 5px; border: 1px solid black;"> <b>Gas concentration inside PCV</b>                      Being used for assessment of release amount of noble gas from November                 </div> </div>  <div style="margin-top: 10px;"> <p><b>Dust sampling points (Overview)</b></p> <p><b>Overview of Sampling</b></p> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Sampling Upper part of R/B, Unit 1</p> </div> <div style="text-align: center;">  <p>Sampling Opening area at equipment hatch of R/B, Unit 1</p> </div> <div style="text-align: center;">  <p>Sampling Blow-out panel of R/B, Unit 2</p> </div> <div style="text-align: center;">  <p>Sampling Upper part of R/B, Unit 3</p> </div> </div> <div style="margin-top: 10px;">  </div>

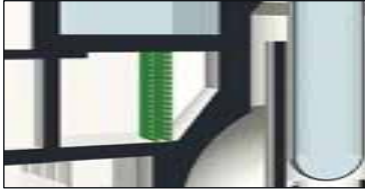











# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
IV. Countermeasures against aftershocks, etc. (7) Tsunami, reinforcement, etc.	<p><b>Expansion of countermeasures against Tsunami</b></p> <ul style="list-style-type: none"> <li>- Temporary EDGs were moved to the upland (Apr. 15)</li> <li>- Securing redundancy of water injection lines (by Apr. 15)</li> <li>- Setting fire engines on the upland (by Apr. 18)</li> <li>- Started installation of temporary tide barriers on May 18 and completed on Jun. 30</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="772 263 1355 630"> <p>Seaside area (height: 4m) Main building area (height: 10m) Areas for temporary tide barriers (white dotted line)</p> </div> <div data-bbox="1534 287 1982 582"> <p>Water proof sheet Container filled with stones etc. O.P. +14m Cross-section of temporary tide barrier (image)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div data-bbox="622 710 1034 981"> <p>Fire engine deployed on the hill</p> </div> <div data-bbox="1137 782 1456 981"> </div> <div data-bbox="1512 646 2049 981"> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div data-bbox="622 1045 1057 1380"> <p>Temporary tide barrier (1)</p> </div> <div data-bbox="1108 1045 1550 1380"> <p>Temporary tide barrier (2)</p> </div> <div data-bbox="1601 1045 2049 1380"> <p>Temporary tide barrier (3)</p> </div> </div>












## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
IV. Countermeasures against aftershocks, etc.	(7) Tsunami, reinforcement, etc.  Expansion of countermeasures against tsunami	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;">  <p>Temporary tide barrier (4)</p> </div> <div style="text-align: center;">  <p>Temporary tide barrier (5)</p> </div> <div style="text-align: center;">  <p>Tide barrier of Unit 5/6 (construction work)</p> </div> <div style="text-align: center;">  <p>Tide barrier of Unit 5/6 (1)</p> </div> <div style="text-align: center;">  <p>Tide barrier of Unit 5/6 (2)</p> </div> </div>

## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)	
IV. Countermeasures against aftershocks, etc.  (7) Tsunami, reinforcement, etc.	[Unit 4]  Installation of supporting structure under the bottom of the spent fuel pool  • Soundness of structure has been analyzed and evaluated.  • Securing the route to the area to install supporting structure (removing debris, assembling the scaffolding at hatch, removing shield blocks) • Removing obstacles at the area and installing shielding • Completion of installing steel pillars (Jun. 20) • Completion of concrete placement (Jul. 26) • Completion of pouring grout (completion of construction work) (Jul. 30)	<div style="border: 1px solid black; background-color: #d3d3d3; padding: 5px; margin-bottom: 10px;">Outline of supporting structure</div> <div style="border: 1px solid black; background-color: #d3d3d3; padding: 5px; margin-bottom: 10px;">Securing route</div>	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: center;">Steel pillar installation      Concrete wall installation</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: center;">Assembling the scaffolding at hatch</p>
	<div style="border: 1px solid black; background-color: #d3d3d3; padding: 5px; margin-bottom: 10px;">Installation of supporting structure under the bottom of spent fuel pool</div>	<div style="display: grid; grid-template-columns: repeat(4, 1fr); gap: 10px;">     </div> <p style="text-align: center;">Before work      Removing obstacles and installing shielding      Installing steel pillars (Jun. 15)      Steel pillar installation completed (Jun. 20)</p> <div style="display: grid; grid-template-columns: repeat(4, 1fr); gap: 10px;">     </div> <p style="text-align: center;">Installation of frame for concrete placement      Concrete placement      Installation of wire mesh reinforcement      Grout pouring completed (Jul. 30)</p>	

# Progress Status Classified by Issues (Photos and Figures)



















Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">IV. Countermeasures against aftershocks, etc.</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(7) Tsunami, reinforcement, etc.</p>	<p><b>Preparation of various countermeasures for radiation shielding</b></p> <p>&lt;Utilization of Slurry&gt;</p> <ul style="list-style-type: none"> <li>• Slurry production facility, transfer pipes and concrete pumping vehicles have been installed. (May 17)</li> <li>• Continue maintenance of equipment</li> <li>• Implemented water injection training of connecting the slurry production facility to concrete pumping vehicle "Elephant-3" (Jun. 16 and 17)</li> <li>• Developed procedure documents and confirmed organizational structure (Jun. 30)</li> </ul>	<div style="background-color: #d9ead3; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Preparation Status for Fukushima Daiichi Nuclear Power Station</b> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Overview of the facility</p> </div> <div style="text-align: center;">  <p>Slurry production facility</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>Installation of pipes</p> </div> <div style="text-align: center;">  </div> </div> <div style="background-color: #4f81bd; color: white; padding: 5px; text-align: center; margin-top: 10px;"> <b>Placement of equipment at Fukushima Daiichi Nuclear Power Station</b> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Installation of pipes</p> </div> <div style="text-align: center;">  <p>Installation of slurry plant at Fukushima Daiichi NPS</p> </div> <div style="text-align: center;">  <p>Preparation of equipment (sand)</p> </div> <div style="text-align: center;">  <p>"Elephant-3"</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  <p>High pressure concrete pumping vehicle</p> </div> </div>

## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
V. Environment Improvement (8) Living/working environment	Continuing and enhancing improvement of workers' living/working environment	 <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>Double-deck beds (full view)</span> <span>Double-deck bed</span> <span>Shower room</span> <span>Drinks</span> </div> <div style="background-color: #d8bfd8; text-align: center; padding: 5px; margin-top: 5px;">                     Gymnasium of Fukushima Daini                 </div>			
	 <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>Full view (1)</span> <span>Full view (2)</span> <span>Full view (3)</span> <span>Dormitory (Entrance)</span> </div>				
 <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>Inside of the Room (1)</span> <span>Inside of the Room (2)</span> <span>Inside of the Room (3)</span> <span>Inside of the Room (4)</span> </div>		 <p style="text-align: center;">Dormitory (Corridor)</p>			
		<div style="background-color: #d8bfd8; text-align: center; padding: 5px;">                     Shin Hirono Dormitory                 </div>			









# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(8) Living/working environment</p>	<p>Continuing and enhancing improvement of workers' living/working environment</p>				
	<p>Shin Hirono Dormitory</p>	<p>Toilet/Shower house (full view)</p>	<p>Inside of Toilet/Shower House (1)</p>	<p>Inside of Toilet/Shower House (2)</p>	<p>Outside Toilet</p>
					
	<p>Laundry house (full view)</p>	<p>Inside of laundry house (1)</p>	<p>Dining house (A area)</p>	<p>Inside of dining house (1)</p>	<p>Inside of dining house (2)</p>
					
	<p>Inside of dining house (3)</p>	<p>Inside of dining house (4): Kitchen - 1</p>	<p>Inside of dining house (5): Kitchen - 2</p>	<p>Dining house (B area)</p>	<p>Inside of dining house (1)</p>
					
	<p>Inside of dining house (2)</p>	<p>Inside of dining house (3)</p>	<p>Inside of dining house (4): Kitchen - 1</p>	<p>Inside of dining house (5): Kitchen - 2</p>	








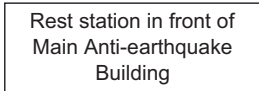




# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(8) Living/working environment</p>	<p>Continuing and enhancing improvement of workers' living/working environment</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>&lt;&lt; Breakfast &gt;&gt;</p>  <p>↓</p>  <p>Shin Hirono Dormitory/Dining House</p> </div> <div style="text-align: center;"> <p>&lt;&lt; Lunch &gt;&gt;</p>  <p>Office in Main Anti-earthquake Building, Fukushima Daini NPS</p> </div> <div style="text-align: center;"> <p>&lt;&lt; Dinner &gt;&gt;</p>  <p>↓</p>  <p>Shin Hirono Dormitory/Dining House</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Administration Office</p> </div> <div style="text-align: center;">  <p>Shop</p> </div> </div> <div style="text-align: center; margin-top: 20px;">  <p>Shin Hirono Dormitory</p> </div>













## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
V. Environment Improvement (8) Living/working environment	Continuing and enhancing improvement of workers' living/working environment				
		Outside of Dining Room	Inside of Dining Room (1)	Inside of Dining Room (2)	
					
		Outside of Shop	Inside of Shop		
					Inside of J Village








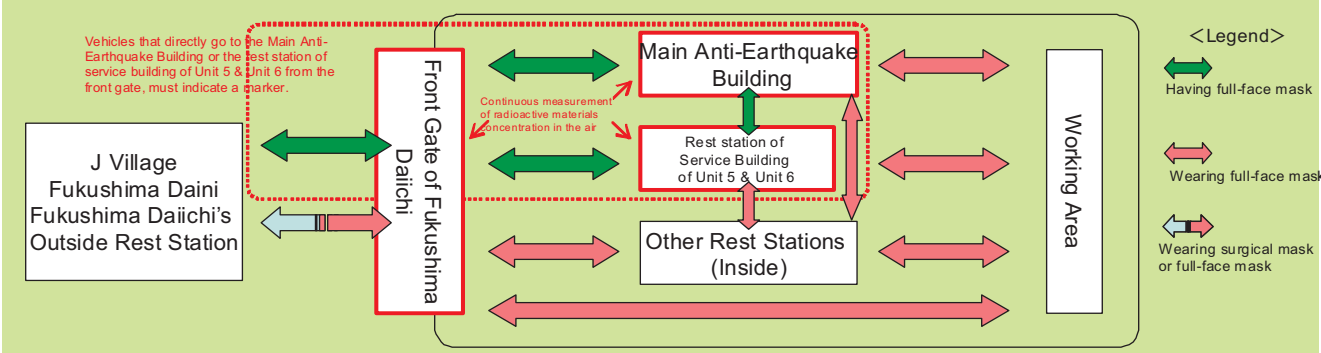
# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)		
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(8) Living/working environment</p>	<p><b>Improvement of workers' living/working environment</b></p> <ul style="list-style-type: none"> <li>• Installation of on-site rest stations</li> <li>• Enhancement of on-site rest stations and restoration of existing facilities</li> </ul>	 <p>Entrance of Main Anti-earthquake Building (Unit house for access control)</p>	 <p>Entrance of Main Anti-earthquake Building (from the inside)</p>	 <p>Radioactivity measurement in Main Anti-earthquake Building</p>
	 <p>Rest station (in front of Main Anti-earthquake Building)</p>  <p>Inside of rest station (1)</p>  <p>Inside of rest station (2)</p>	 <p>Drink server</p>  <p>Rest station in front of Main Anti-earthquake Building</p>	 <p>Outside of rest stations</p>  <p>Foot shower</p>  <p>Drink servers</p> <p>Rest station of a partner company (Toshiba)</p>	 <p>Inside of rest stations</p>

# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(8) Living/working environment</p>	<p><b>Improvement of workers' living/working environment</b></p>  <p>Outside</p>  <p>Entrance</p>  <p>Inside</p> <div data-bbox="264 1358 613 1453" style="border: 1px solid black; padding: 5px; width: fit-content;">             Rest station in Office of Main Anti-earthquake Building (second phase)         </div>	<div data-bbox="994 272 1361 520" style="text-align: center;">  <p>Outside of rest station</p> </div> <div data-bbox="1384 272 1738 520" style="text-align: center;">  <p>Inside (1): Drink server</p> </div> <div data-bbox="1760 272 2114 520" style="text-align: center;">  <p>Inside (2)</p> </div> <div data-bbox="1368 571 1715 632" style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: fit-content;">             Rest station near heliport         </div> <div data-bbox="819 603 1173 767" style="text-align: center;">  <p>Installation of rest stations</p> </div> <div data-bbox="813 823 1169 987" style="text-align: center;">  <p>Outside of rest station (1)</p> </div> <div data-bbox="1290 699 2123 991" style="text-align: center;">  <p>Outside</p> </div> <div data-bbox="712 1046 1272 1302" style="text-align: center;">  <p>Outside of rest station (2)</p> </div> <div data-bbox="801 1366 1171 1445" style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: fit-content;">             Rest station for workers engaged in covering reactor buildings         </div> <div data-bbox="1305 1046 1666 1362" style="text-align: center;">  <p>Survey</p> </div> <div data-bbox="1693 1046 2096 1362" style="text-align: center;">  <p>Inside</p> </div> <div data-bbox="1536 1414 1877 1474" style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: fit-content;">             Rest station of a partner company (Hitachi GE)         </div>

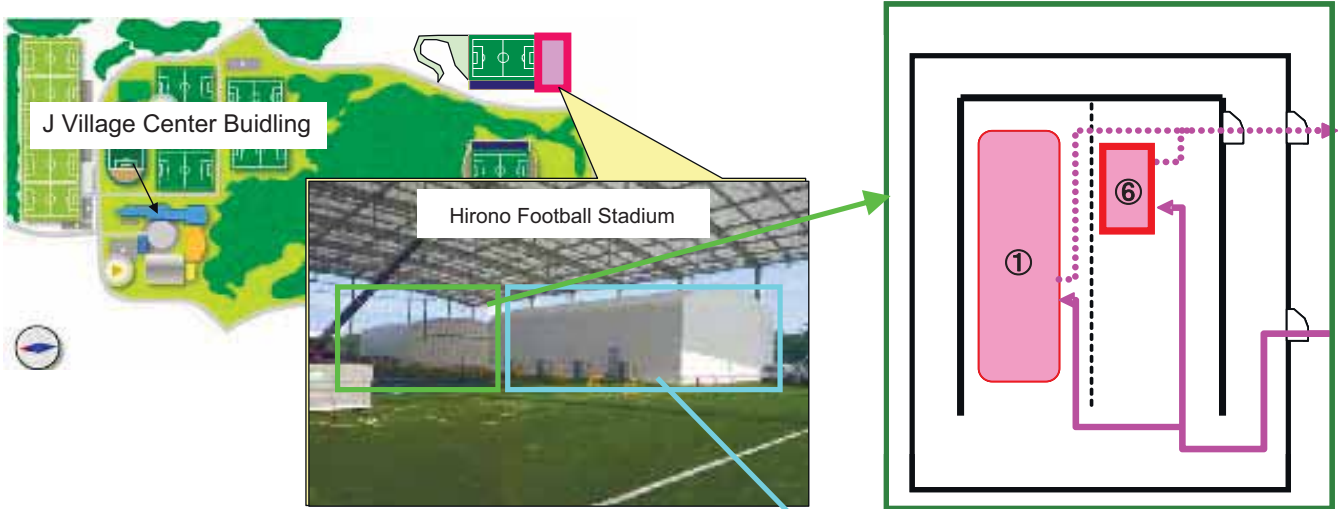
# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(9) Radiation control / Medical care</p>	<p><b>Enhancement of Radiation Control</b></p> <ul style="list-style-type: none"> <li>Improvement of protective equipment: Protective equipment appropriate to work environment is provided in order to secure safety during radiation work.</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="725 252 1339 639">  <p>Special protective gear: Protective suit which can be expected to shield beta ray and low-energy gamma ray <small>*Source: vendor catalogue</small></p> </div> <div data-bbox="1447 252 2051 639">  <p>Closed-circuit oxygen breathing apparatus: It can realize a long 120-minute usage, circulating aspirated air with oxygen inside the cylinder. It is suitable for usage in oxygen-less hazardous area. <small>*Source: vendor catalogue</small></p> </div> </div>	
	<div style="display: flex; justify-content: space-around;"> <div data-bbox="259 683 495 1070">  <p>Half-faced mask: In case that radioactivity concentration is low and stable, workers put on half-faced masks (with goggles), not full-face, which enables to lighten the workload of workers.</p> </div> <div data-bbox="533 683 875 1070">  <p><small>*Source: vendor catalogue</small></p> <p>Respiratory protective device with electric fan: The mask can blow in cleaned air which is filtered with electric fan. Internal pressure is kept higher than environmental pressure in order to reduce the risk of inhaling particulate. Also, it realizes to breathe freely and lighten loss of bodily strength.</p> </div> </div>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="891 683 1126 1070">  </div> <div data-bbox="1189 683 1480 1070">  <p><small>*Source: vendor catalogue</small></p> </div> </div>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="1541 683 1839 1070">  <p>Hood mask; Keeping the inner pressure positive, the mask prevents influx of outer air. Continuous ventilation helps exhausting the inner humidity and prevents heat injuries. <small>*Source: vendor catalogue</small></p> </div> </div>
	<ul style="list-style-type: none"> <li>Reduction of Worker's Load</li> </ul> <p>Since Nov. 8, we have begun to allow workers to work without wearing a full-face mask in the limited area during vehicle's transportation to the Main Anti-Earthquake Building, etc.</p>	 <p>Vehicles that directly go to the Main Anti-Earthquake Building or the rest station of service building of Unit 5 &amp; Unit 6 from the front gate, must indicate a marker.</p> <p>Continuous measurement of radioactive materials concentration in the air.</p> <p><b>&lt;Legend&gt;</b></p> <ul style="list-style-type: none"> <li>Having full-face mask (Green double-headed arrow)</li> <li>Wearing full-face mask (Red double-headed arrow)</li> <li>Wearing surgical mask or full-face mask (Blue double-headed arrow)</li> </ul>	

# Progress Status Classified by Issues (Photos and Figures)


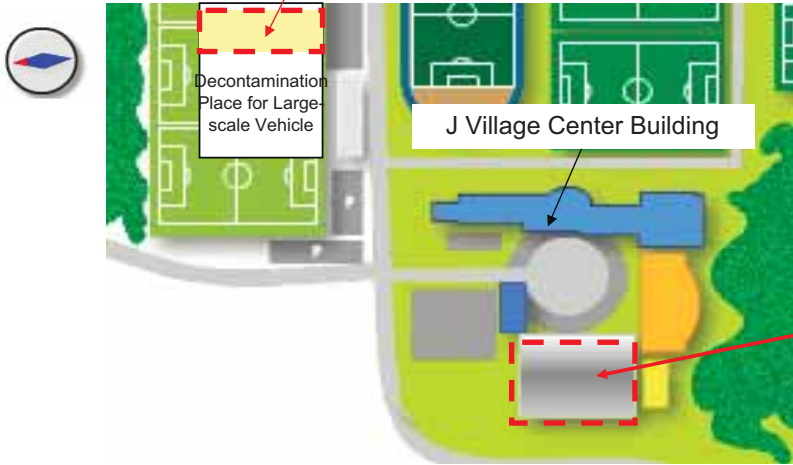

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(9) Radiation control / Medical care</p>	<p><b>Continuing Enhancement of Radiation Control</b></p> <ul style="list-style-type: none"> <li>- Setting up Decontamination Place at J Village</li> </ul> <p>[Screening Control]</p> <p>Implementation of necessary decontamination as per pre-set screening value for protection against contamination diffusion.</p> <p>Change of the screening value to unify with the related authorities and local governments on Sep. 16 (from 100,000cpm to 13,000cpm)</p> <p>*Setting up a self-standard value (6,000cpm)</p> <p>[Decontamination Facility]</p> <p>A decontamination place for workers and vehicles which exceeded the screening value as a result of radiation measurement at J Village was set up.</p> <ul style="list-style-type: none"> <li>-Decontamination Shower for Workers:             <ul style="list-style-type: none"> <li>Borrowing and operating 2 sets of Fire and Disaster Management Agency, and 1 set of Japanese Red Cross Society</li> </ul> </li> <li>-Decontamination Place for Large-scale Vehicles:             <ul style="list-style-type: none"> <li>In operation since Apr. 4 (A simple decontamination place was used until Apr. 3.)</li> <li>-Setting up a measurement place for rainy days:                 <ul style="list-style-type: none"> <li>In operation since Jul. 15.</li> </ul> </li> <li>-Setting up oil cleaning/cleanser decontamination place:                 <ul style="list-style-type: none"> <li>In operation since Jul. 31.</li> </ul> </li> </ul> </li> </ul> <p>[Certificate of Contamination Survey]</p> <p>Since setting the restricted area, certificates of contamination survey have been issued at J-Village, Fukushima Daini Nuclear Power Station and Shin Fukushima Substation (since May 7).</p>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="974 279 1388 526"> <p>Decontamination Place for Large-scale Vehicles</p> </div> <div data-bbox="1444 279 1792 526"> <p>大規模車両除染場所</p> </div> </div> <div style="text-align: center; margin: 20px 0;"> </div> <div style="display: flex; justify-content: space-around;"> <div data-bbox="761 1204 1108 1452"> <p>Measurement place for rainy days</p> </div> <div data-bbox="1232 1204 1579 1452"> <p>Oil cleaning/cleanser decontamination place</p> </div> <div data-bbox="1702 1204 2049 1452"> <p>作業員用除染シャワー設備</p> </div> </div>

# Progress Status Classified by Issues (Photos and Figures)



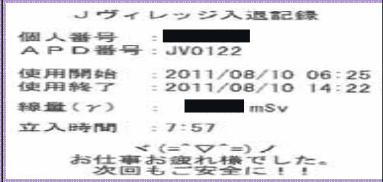
Issues	Progress etc.	Reference (Photos and Figures)																												
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(9) Radiation Control/ Medical Care</p>	<p><b>Continuing enhancement of radiation control (WBC)</b></p> <p>- Preparation of Measurement Infrastructure for Internal Radiation by Expansion of Whole Body Counter (WBC)</p> <p>In order to evaluate internal exposure for workers, etc., 12 WBCs and their buildings are prepared in Hirono Football Stadium.</p> <p>[Location]                      1. WBC Center (Hirono Football Stadium next to the stadium building; training facility on rainy days)                      2. Metropolitan Area: Tokyo Branch</p> <p>[Number of Unit]                      1. 12 sets: 1 set (in-vehicle type borrowed from JAEA-1), 11 sets (stationary type)*                      2. 1 set: 1 set (in-vehicle type borrowed from JAEA-2)                      * 4 sets were transferred from 1F/2F, and 7 sets were newly purchased</p> <p>[Operation Schedule]                      1. WBC Center (Hirono Football Stadium next to the stadium building; training facility on rainy days)                      In operation: 1 set (in-vehicle type borrowed from JAEA-1), and 11 sets (stationary type)                      2. Metropolitan Area: Tokyo Branch                      In operation: 1 set (in-vehicle type borrowed from JAEA)</p>	 <p style="text-align: center;">Operation Schedule of Whole Body Counters</p> <table border="1" data-bbox="750 901 1500 1364"> <tbody> <tr> <td>①</td> <td>Operation since Jul. 11</td> <td>In-vehicle type borrowed from JAEA</td> </tr> <tr> <td>②</td> <td>Operation since Jul. 13</td> <td>Stationary type transferred from 2F</td> </tr> <tr> <td>③</td> <td>Operation since Aug. 5</td> <td rowspan="2">Stationary type transferred from 1F</td> </tr> <tr> <td>④</td> <td>Operation since Aug. 6</td> </tr> <tr> <td>⑤</td> <td>Operation since Aug. 12</td> <td rowspan="7">Newly purchased</td> </tr> <tr> <td>⑥</td> <td>Operation since Jul. 25</td> </tr> <tr> <td>⑦</td> <td>Operation since Sep. 22</td> </tr> <tr> <td>⑧</td> <td>Operation since Sep. 22</td> </tr> <tr> <td>⑨</td> <td>Operation since Sep. 30</td> </tr> <tr> <td>⑩</td> <td>Operation since Sep. 30</td> </tr> <tr> <td>⑪</td> <td>Operation since Oct. 3</td> </tr> <tr> <td>⑫</td> <td>Operation since Oct. 3</td> </tr> </tbody> </table>	①	Operation since Jul. 11	In-vehicle type borrowed from JAEA	②	Operation since Jul. 13	Stationary type transferred from 2F	③	Operation since Aug. 5	Stationary type transferred from 1F	④	Operation since Aug. 6	⑤	Operation since Aug. 12	Newly purchased	⑥	Operation since Jul. 25	⑦	Operation since Sep. 22	⑧	Operation since Sep. 22	⑨	Operation since Sep. 30	⑩	Operation since Sep. 30	⑪	Operation since Oct. 3	⑫	Operation since Oct. 3
	①	Operation since Jul. 11	In-vehicle type borrowed from JAEA																											
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## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="text-align: center;">V. Environment Improvement</p> <p style="text-align: center;">(9) Radiation Control/ Medical Care</p>	<p><b>Continuing enhancement of radiation control</b></p> <ul style="list-style-type: none"> <li>- Proper Treatment of Radioactive Waste [Liquid Waste (Decontamination Liquid Waste)]</li> </ul> <p>Decontamination liquid waste is collected in J Village and purified by a purification facility. The purified liquid waste is used for decontamination water after checking contamination density.</p> <ul style="list-style-type: none"> <li>- Installation and operation of the purification facility: From Apr. 4</li> <li>- Reuse of purified water: From Dec. 1</li> </ul> <p>[Solid Waste]</p> <p>Waste of protection clothes, etc. used in J Village and other screening sites in Fukushima Prefecture, etc. are kept in J Village. The wastes are distinguished to combustible, fire-retardant and non-combustible type, and kept in special metal containers.</p>	<p style="text-align: center;">Purification Facility</p>   

# Progress Status Classified by Issues (Photos and Figures)



Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(9) Radiation control / Medical care</p>	<p><b>Continuing enhancement of radiation control</b></p> <p>- Reinforced radiation controlling Alarm Pocket Dosimeters had been lent through signing in a recording book and entered the data manually into database, but worker identification cards with barcodes have been provided since Jun. 8 so that it becomes possible to enter the data directly into the database with barcode readers.</p> <p>From Aug. 16, radiation exposure data are printed out in receipts.</p>	<p style="text-align: center;"><b>[Current management of personal exposure dose]</b></p> <div style="border: 1px solid black; padding: 10px; background-color: #e0e0e0;"> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Main Anti-Earthquake Building</b> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p>Access control for in-site work</p> <p>Measurement of personal exposure dose</p> <ul style="list-style-type: none"> <li>- Personal dosimeter rental</li> <li>- Recording by entries (until Apr. 13) ; by barcodes (since Apr. 14)</li> <li>- Notification of exposure dose by receipts (since Aug. 16)</li> </ul> </div> <div style="width: 45%; text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;"> <div style="text-align: center;"> <p>↑ ↓</p> </div> <div style="border: 1px solid black; background-color: yellow; padding: 5px; border-radius: 10px;"> <p><b>Workplaces</b></p> <p>[Worker identification card]</p>  <p>[Receipt]</p>  </div> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; text-align: center;"> <b>J-Village</b> </div> </div> <div style="border: 1px solid black; padding: 5px; width: 45%; margin-left: auto;"> <p>Access control for in-site work</p> <p>Measurement of personal exposure dose</p> <ul style="list-style-type: none"> <li>- Personal dosimeter rental</li> <li>- Recording: Entries Since Jun. 8 ~ by barcodes</li> <li>- Notification of exposure dose Since Aug. 16~ by receipts</li> </ul> </div> </div>

## Progress Status Classified by Issues (Photos and Figures)












Issues	Progress etc.	Reference (Photos and Figures)	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(9) Radiation control / Medical care</p>	<p><b>Continuing improvement of medical system</b></p> <ul style="list-style-type: none"> <li>- Continuously assignment of emergency specialists, nurses and radiation specialists in emergency medical room for Unit 5/6.</li> <li>- Enhancement of medical facilities and reinforcement of decontamination facilities have met the conditions to transport patients promptly; it has enabled us to transport seriously ill patients who are not contaminated to hospitals directly (preparation of three transportation vehicles including ambulances.)</li> <li>- Implementation of prevention and mitigation countermeasures against influenza. Starting vaccination for influenza from Nov. 1. (6,779 workers have been vaccinated as of the end of November)</li> <li>- Continuing checking of recent health condition and medical history of new site workers.</li> <li>- Countermeasures against heatstroke</li> </ul> <p>Notice board Cool vest Mask with blower Cool scurf</p>	 <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Medical Room at Main Anti-Earthquake Building</div>	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center; margin: 5px;">  <p>Poster for Caution against Heatstroke</p> </div> <div style="text-align: center; margin: 5px;">  <div style="border: 1px solid black; padding: 2px; width: 80px; margin: 0 auto;">Cool Vest</div> </div> <div style="text-align: center; margin: 5px;">  <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 0 auto;">Mask with blower</div> </div> <div style="text-align: center; margin: 5px;">  <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 0 auto;">Cool Scurf</div> </div> <div style="text-align: center; margin: 5px;">  <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 0 auto;">Wearing Cool Scurf</div> </div> <div style="text-align: center; margin: 5px;">  <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 0 auto;">Wearing Cool Pack for Neck (Freezed type)</div> </div> <div style="text-align: center; margin: 5px;">  <div style="border: 1px solid black; padding: 2px; width: 150px; margin: 0 auto;">Cool Pack for Neck (Freezed type)</div> </div> </div>

※Photos are from manufacturers' brochures. There are cases different from actual use.








# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
V. Environment Improvement (9) Radiation control / Medical care	Continuing improvement of medical system	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="width: 25%;">  </div> <div style="width: 25%;">  </div> <div style="width: 25%;">  </div> <div style="width: 25%;">  </div> </div> <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;">                     Emergency Room (ER) for Unit 5/6                 </div> <div style="display: flex; flex-wrap: wrap; justify-content: space-around; margin-top: 20px;"> <div style="width: 25%;">  <p style="text-align: center; background-color: #e0e0e0; padding: 2px;">Operation check of medical devices (doctor and nurse)</p> </div> <div style="width: 25%;">  <p style="text-align: center; background-color: #e0e0e0; padding: 2px;">Inventory check of medial drugs (doctor and nurse)</p> </div> <div style="width: 25%;">  <p style="text-align: center; background-color: #e0e0e0; padding: 2px;">Radiation dose measurement in the room (radiation specialist)</p> </div> <div style="width: 25%;">  <p style="text-align: center; background-color: #e0e0e0; padding: 2px;">ER for Unit 5/6 (medical space)</p> </div> </div> <div style="display: flex; flex-wrap: wrap; justify-content: space-around; margin-top: 20px;"> <div style="width: 33%;">  </div> <div style="width: 33%;">  </div> <div style="width: 33%;">  </div> </div> <p style="text-align: center; background-color: #e0e0e0; padding: 2px; margin-top: 10px;">Training of screening and decontamination of a patient (in front of the entrance of the service bldg of Unit 5/6)</p>			

# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
V. Environment Improvement (9) Radiation control / Medical care	Continuing improvement of medical system	 <p>JV Clinic External Appearance</p>	 <p>Operation Room in JV Clinic</p>	 <p>Consultation Room in JV Clinic</p>	 <p>Waiting Room in JV Clinic</p>
	 <p>Deployed Ambulance</p>	 <p>Ambulance and Patient Carrier</p>	 <p>Protective Vaccination against Influenza (1)</p>	 <p>Health Check Card for New Workers</p>	
	 <p>Protective Vaccination against Influenza (2)</p>	 <p>Mitigation Countermeasures against Influenza using thermography (1)</p>	 <p>Mitigation Countermeasures against Influenza using thermography (2)</p>		

## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(10) Staffing Plan</p>	<p><b>Systematic staff training and personnel allocation</b></p> <ul style="list-style-type: none"> <li>-Conducting training for staff engaged in radiation related work, who will be in great demand.</li> <li>-TEPCO has been conducting "Radiation survey staff training" targeted for TEPCO's and TEPCO group companies' employees and has already trained approx. 4,400 of personnel.</li> <li>-The national government has been conducting "Radiation survey staff trainings" (seven times for approx. 200 people in total up to Oct. 7) and "Radiation protection staff trainings" (for approx. 10 people from Aug. 8 to 12, approx. 30 people from Sep. 26 to 30 and approx. 30 people from Dec. 12 to 16). It has trained 270 personnel.</li> <li>-Launched a new framework of looking for workers widely through Japan Atomic Industrial Forum (JAIF), according to affiliated companies needs</li> <li>- Since this October, TEPCO has made some reshuffles of approx. 70 employees who have high radiation exposure dose.</li> <li>-TEPCO has implemented a survey concerning the improvement of working environment in terms of securing staff stably. Based on the results of this survey, TEPCO has implemented some improvements (reduction of full-face mask area, expeditious survey by utilizing a gate monitor, expansion of parking area at J-village, etc.)</li> <li>- Developing measures to reduce exposure dose in the main anti-earthquake building.</li> </ul>	<div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Radiation survey staff training course (at training center, TEPCO)</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Radiation survey staff training course (at J Village)</p> <div style="display: flex; justify-content: space-around;">    </div> <p style="text-align: center;">Radiation protection staff training course (at JAEA)</p>