



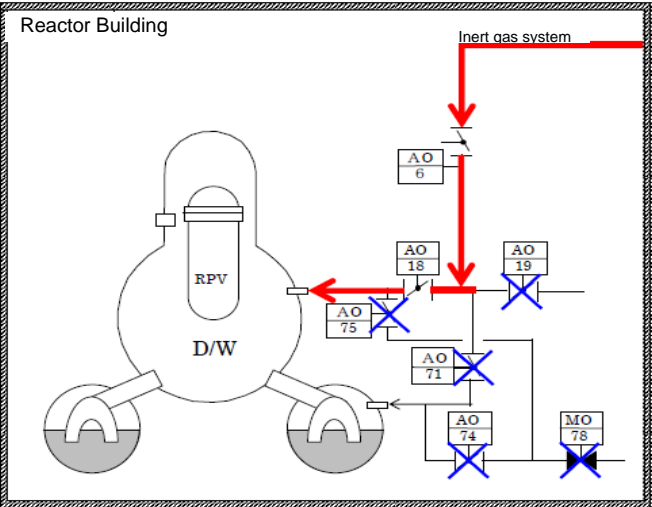

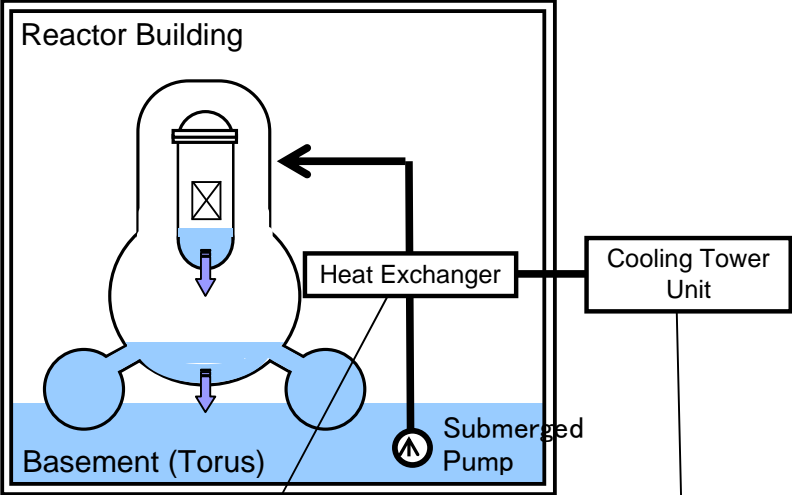






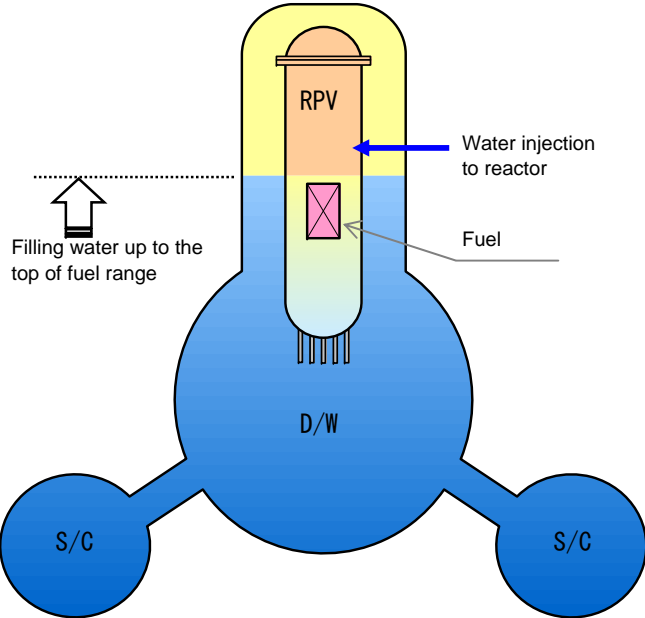

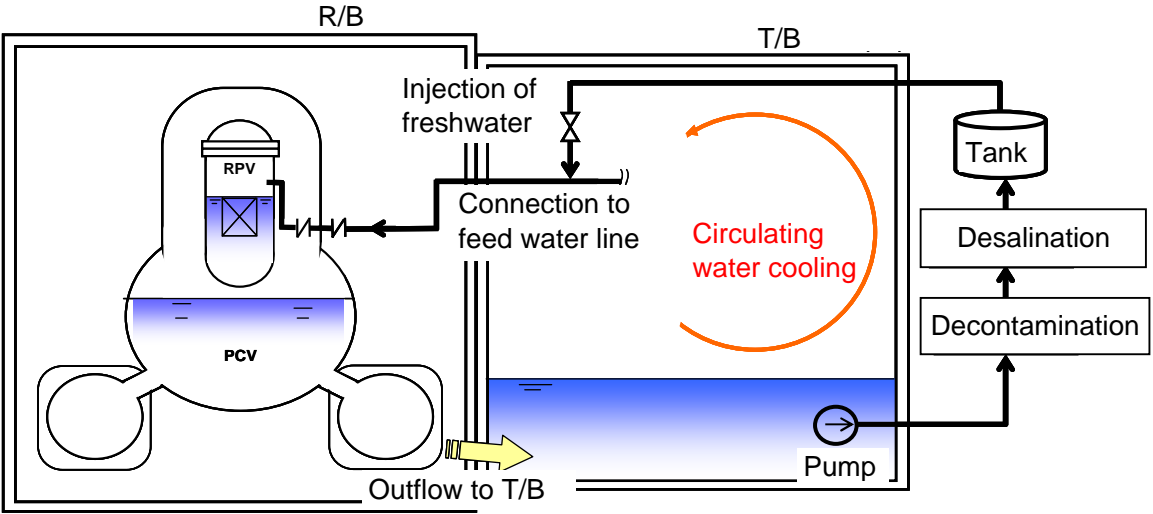
# Progress Status Classified by Issues (Photos and Figures)

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: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Installing temporary RPV pressure gauge</p> </div> <div style="text-align: center;">  <p>Nitrogen gas supply apparatus</p> </div> </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;">  </div> </div>

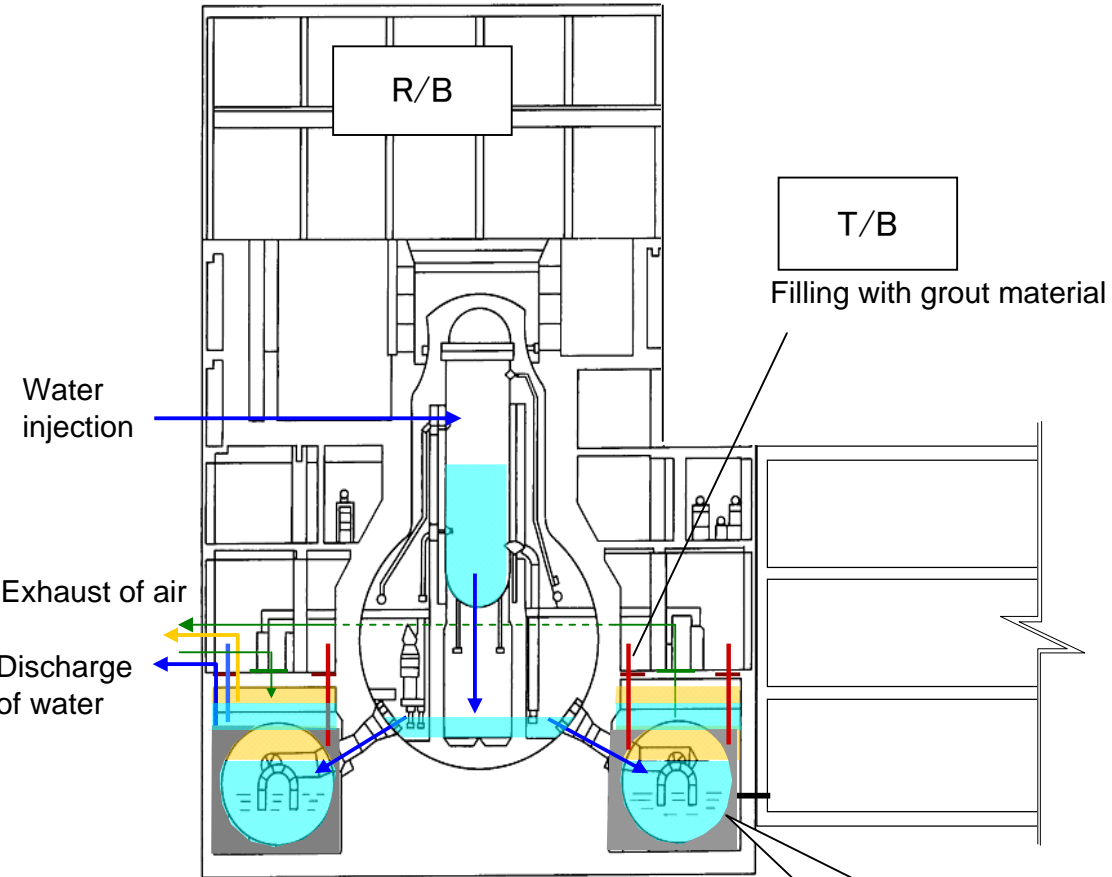
# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p>I. Cooling</p> <p>(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>	<p>[Under consideration] Outline of circulating cooling system within the reactor building</p>  <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>  <p>Inside reactor building of Unit 1 in front of the truck bay door</p>  <p>Plate-type heat exchanger</p>  <p>Cooling tower unit</p> <p>Jun. 3, Completed assembly of cooling unit on the trailer</p>  <p>Shielding equipment to reduce exposure dose during outdoor work</p>

# Progress Status Classified by Issues (Photos and Figures)






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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><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> <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>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="1359 405 1774 464" style="border: 1px solid black; padding: 2px;">Image of flooding the PCV</div> <div data-bbox="1941 405 2579 464" style="border: 1px solid black; padding: 2px;">Inspection of reactor water level gauge</div> </div> <div style="text-align: center; margin: 10px 0;">  </div> <div style="text-align: right; margin: 10px 0;">  </div>
	<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>- Started installation from Oct. 10.</li> </ul>	<div style="text-align: center; margin: 10px 0;">  </div> <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>System outline of water reuse as reactor coolant by processing accumulated water</p> </div>

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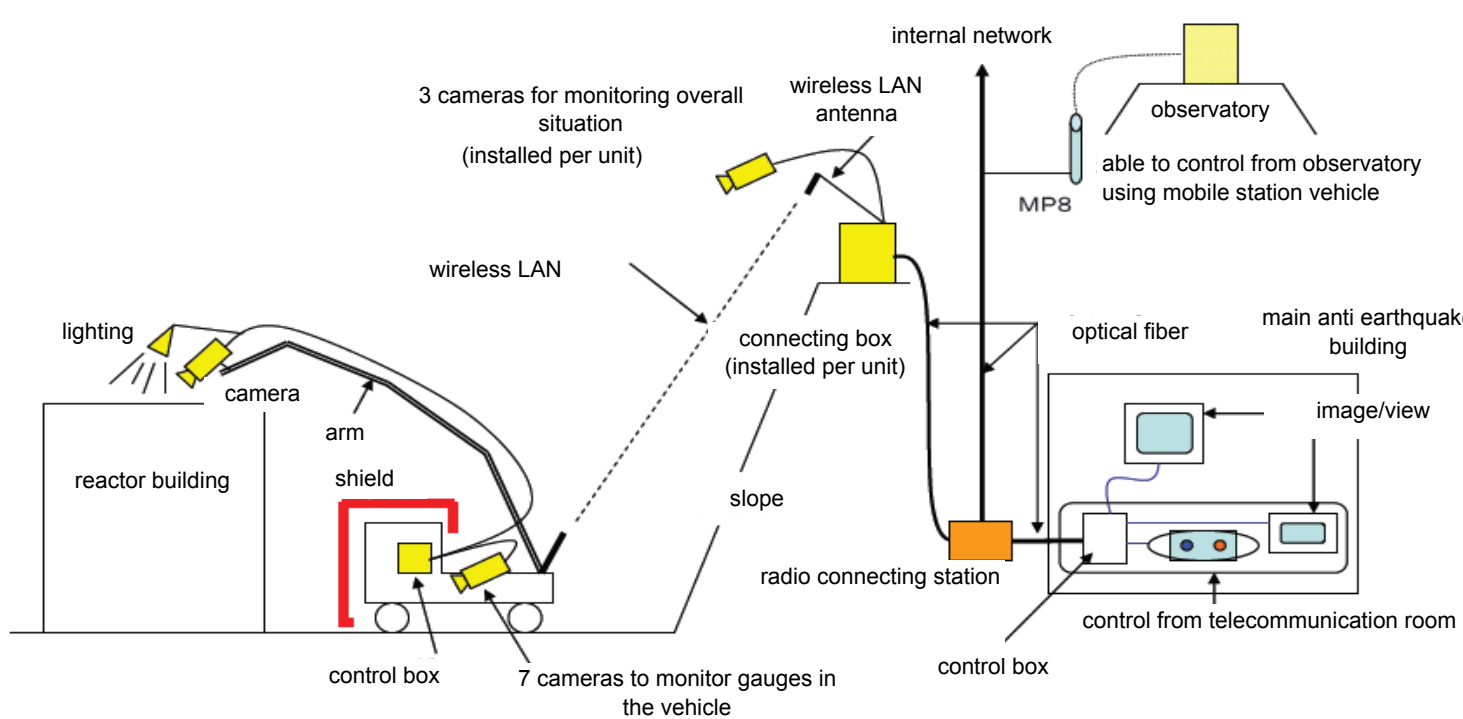
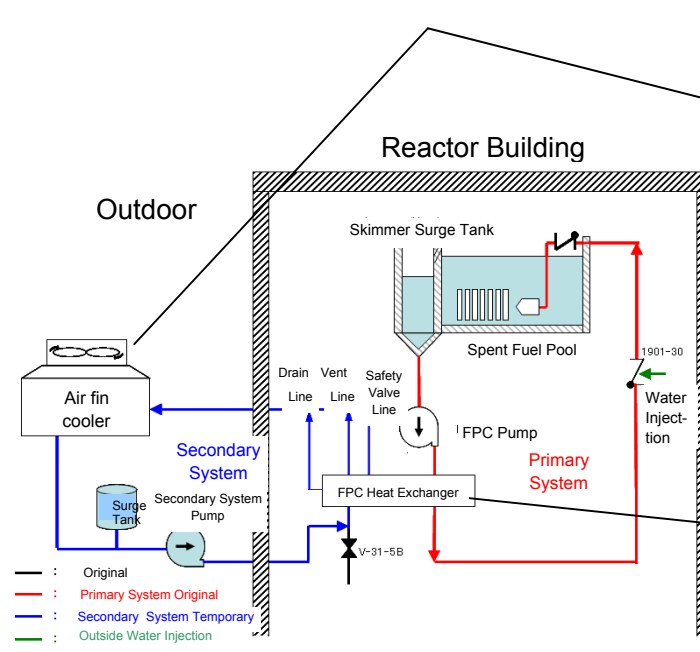
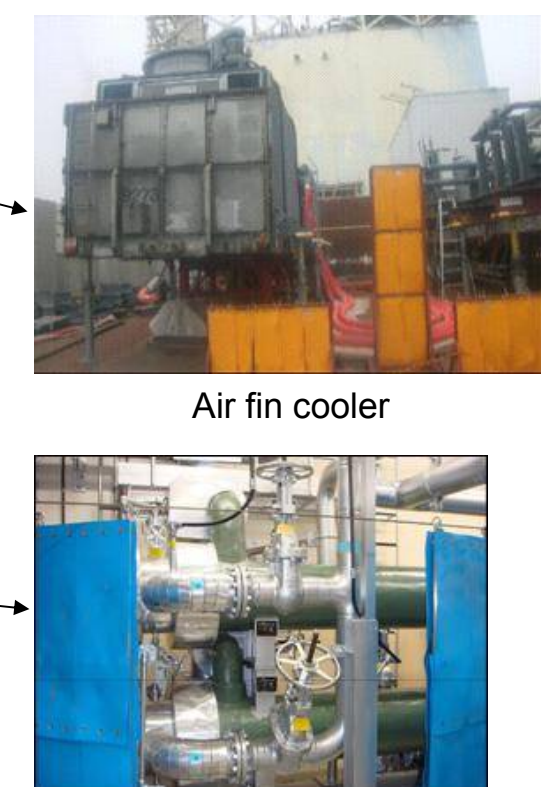
Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">I. Cooling</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(1) Reactor</p>	<p>[Unit 2]</p> <p><b>Improvement of working environment</b></p> <ul style="list-style-type: 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="1406 562 2288 688" 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="2021 1654 2549 1816" 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>



# Progress Status Classified by Issues (Photos and Figures)





Issues	Progress etc.	Reference (Photos and Figures)
I. Cooling (1) Reactor	<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 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;">    </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;">                 Situation of demolishing and removing debris             </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Removal of outside pillars using wirelessly-controlled backhoe</p> </div> <div style="text-align: center;">  <p>Removal of debris using Brokk (wired remote control)</p> </div> </div>

# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="text-align: center;">(2) Spent Fuel Pool</p> <p style="text-align: center;">I. Cooling</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="text-align: center;">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 γcamera 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 style="text-align: center;">Overview of SFP cooling function</p>
	<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="text-align: center;">Air fin cooler</p> <p style="text-align: center;">Existing heat exchanger</p>


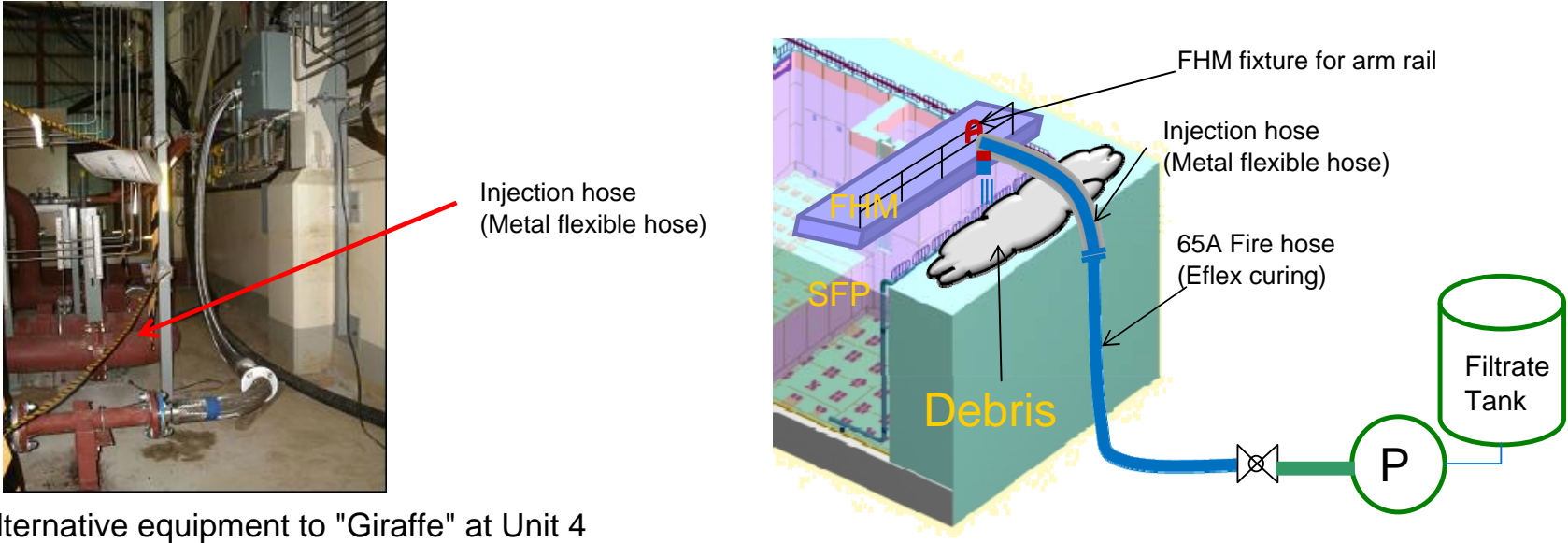




# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)	
I. Cooling (2) Spent Fuel Pool	<p><b>[Unit 2]</b></p> <p><b>Restoration of normal cooling system</b> - In progress</p> <p><b>Installation of heat exchanger</b> - Installation work of heat exchanger completed. Circulating cooling system is under operation (from May 31).</p> <p><b>Desalting water in Spent Fuel Pool</b> - Desalting water is in preparation</p>		
	<p><b>[Unit 3]</b></p> <p><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</p>	<p>Debris in Unit 2 Waste Treatment Building</p>	<p>Unit 2 Heat Exchanger Unit</p>
	<p><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)</p>		
	<p><b>Installation of heat exchanger</b> - Installation work of heat exchanger completed. Circulating cooling system is under operation (from Jun. 30).</p> <p><b>Desalting water in Spent Fuel Pool</b> - Desalting water is in preparation (sequential implementing)</p>	<p>Unit 3 Spent Fuel Pool</p>	<p>Unit 3 Heat Exchanger Unit</p>

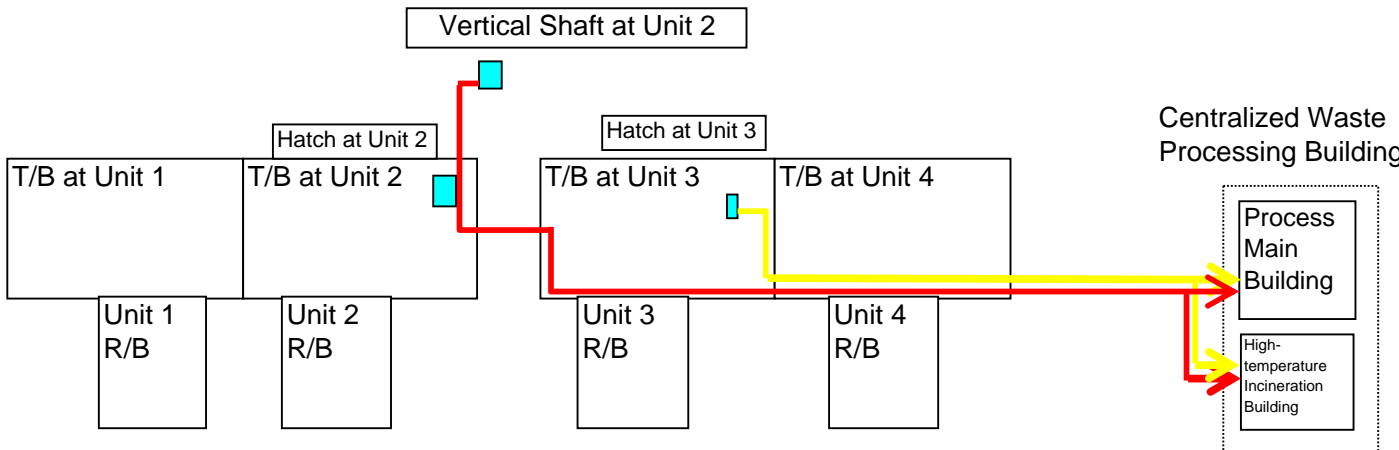

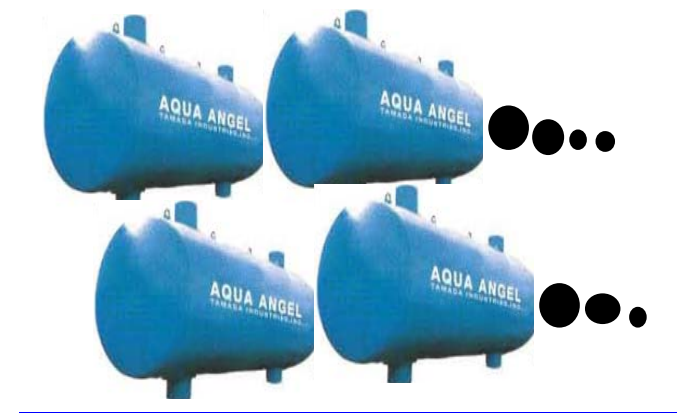

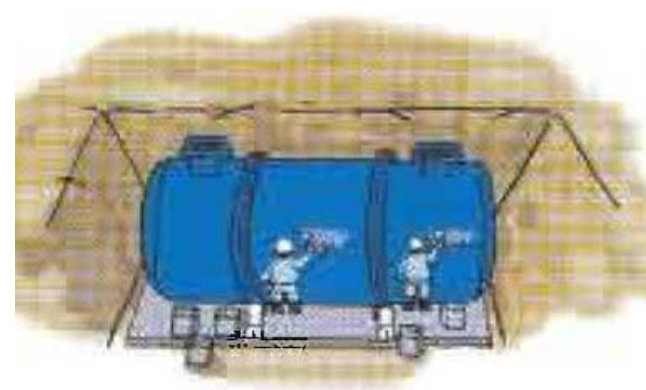




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Issues	Progress etc.	Reference (Photos and Figures)
I. Cooling (2) Spent Fuel Pool	<p><b>[Unit 4]</b></p> <p><b>Continuation of water injection by "Giraffe" etc</b></p> <ul style="list-style-type: none"> <li>- Reliability improvement: enhanced durability 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>Water injection by "Giraffe" at Unit 4</p>
	<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>Injection hose (Metal flexible hose)</p> <p>FHM fixture for arm rail</p> <p>Injection hose (Metal flexible hose)</p> <p>65A Fire hose (Eflex curing)</p> <p>Debris</p> <p>Filtrate Tank</p> <p>P</p> <p>Alternative equipment to "Giraffe" at Unit 4</p> <p>Alternative equipment to "Giraffe" at Unit 4 (removed)</p>
	<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>	 <p>Unit 4 Heat Exchanger Unit</p>
	<p><b>Desalting water in Spent Fuel Pool</b></p> <ul style="list-style-type: none"> <li>- Started to operate the desalting facility from Aug. 20.</li> </ul>	 <p>Air Fin Cooler</p>



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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>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> <p>May 10 : 11,000t May 22 : 2,000t Jul. 14 : 20,000t Aug. 13 : 22,000t Sep. 16 : 23,000t Oct. 8 : 15,000t Nov. 15 : 13,000t</p>	<p style="text-align: center;">&lt;Transferring into Centralized Waste Processing Building&gt;</p>  <div style="display: flex; justify-content: space-around;"> <div data-bbox="863 856 1466 1318">  <p style="text-align: center; background-color: blue; color: white; padding: 2px;">Tanks to receive processed water</p> </div> <div data-bbox="1501 856 2133 1318">  <p style="text-align: center; background-color: blue; color: white; padding: 2px;">Underground disaster prevention tanks to receive processed water (Image)</p> </div> <div data-bbox="2199 856 2813 1318">  <p style="text-align: center; background-color: blue; color: white; padding: 2px;">Tanks to receive processed water (H1 area)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div data-bbox="863 1402 1466 1864">  <p style="text-align: center; background-color: blue; color: white; padding: 2px;">Underground tanks for processed water (Highly contaminated water)</p> </div> <div data-bbox="1501 1402 2133 1864">  <p style="text-align: center; background-color: blue; color: white; padding: 2px;">Underground disaster prevention tanks for processed water (Highly contaminated water)</p> </div> <div data-bbox="2199 1402 2813 1864">  <p style="text-align: center; background-color: blue; color: white; padding: 2px;">Underground disaster prevention tanks for processed water (Highly contaminated water)</p> </div> </div>



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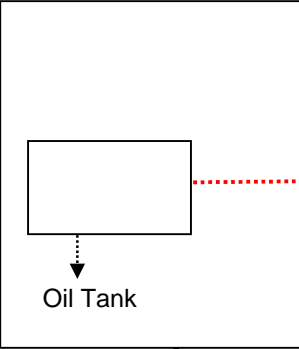
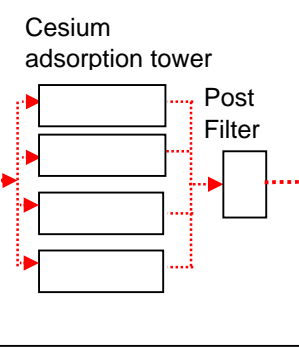
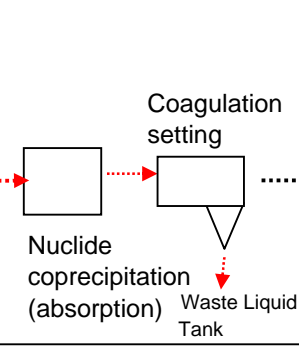
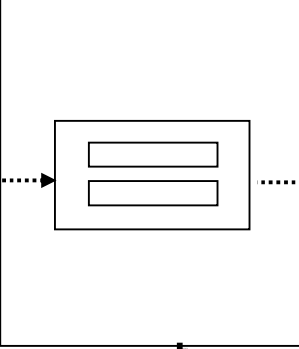
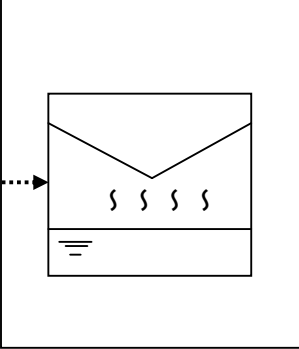







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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">II. Mitigation</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(3) Accumulated Water</p>	<p>[High level]</p> <p><b>Consideration of mitigation of contamination in 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> </ul> <ul style="list-style-type: none"> <li>- Work of placing steel pipe sheet piles (from Aug. 17 to Sep. 28) (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)</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="1181 367 1546 663"> <p>Decontamination agent (Zeolite)</p> </div> <div data-bbox="1665 388 2139 663"> <p>&lt;Adsorption of cesium by zeolite&gt;</p> <p>zeolite Watering pipe pump</p> </div> <div data-bbox="2205 357 2594 636"> <p>&lt;Appearance of the system&gt;</p> </div> </div> <p style="text-align: center; background-color: blue; color: white; padding: 5px;"><b>Circulating purification system</b></p> <div style="display: grid; grid-template-columns: repeat(3, 1fr); gap: 10px;"> <div data-bbox="1044 739 1599 1087"> <p>Silt fence at intake (Unit 1 to 4)</p> </div> <div data-bbox="1647 739 2202 1087"> <p>Silt fence at intake (Unit 2)</p> </div> <div data-bbox="2243 739 2798 1104"> <p>Sliding concrete wall at intake (Setting work)</p> </div> <div data-bbox="1044 1142 1599 1499"> <p>Sliding concrete wall at intake (Before construction)</p> </div> <div data-bbox="1647 1142 2202 1499"> <p>Sliding concrete wall at intake (After construction)</p> </div> <div data-bbox="2243 1142 2798 1499"> <p>Shipping steel pipe sheet pile</p> </div> <div data-bbox="1035 1551 1599 1908"> <p>Placing steel pipe</p> </div> <div data-bbox="1632 1551 2196 1908"> <p>After placing steel pipe sheet pile (1)</p> </div> <div data-bbox="2228 1551 2792 1908"> <p>After placing steel pipe sheet pile (2)</p> </div> </div>

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<p style="text-align: center;"><b>II. Mitigation</b></p> <p style="text-align: center;"><b>(3) Accumulated Water</b></p>	<p><b>[High Level]</b></p> <p><b>Containment of high level radioactive water</b></p> <p>- Closure of sea water piping vertical shaft            Unit 2: completed on Jun. 2            Unit 3: completed on May 26            Unit 4: completed on Apr. 6</p> <p>- Closure of pits, etc            Unit 1: completed on May 17            Unit 2: completed on Jun. 9            Unit 3: completed on Jun. 10            Unit 4: completed on Jun. 10</p>	<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>

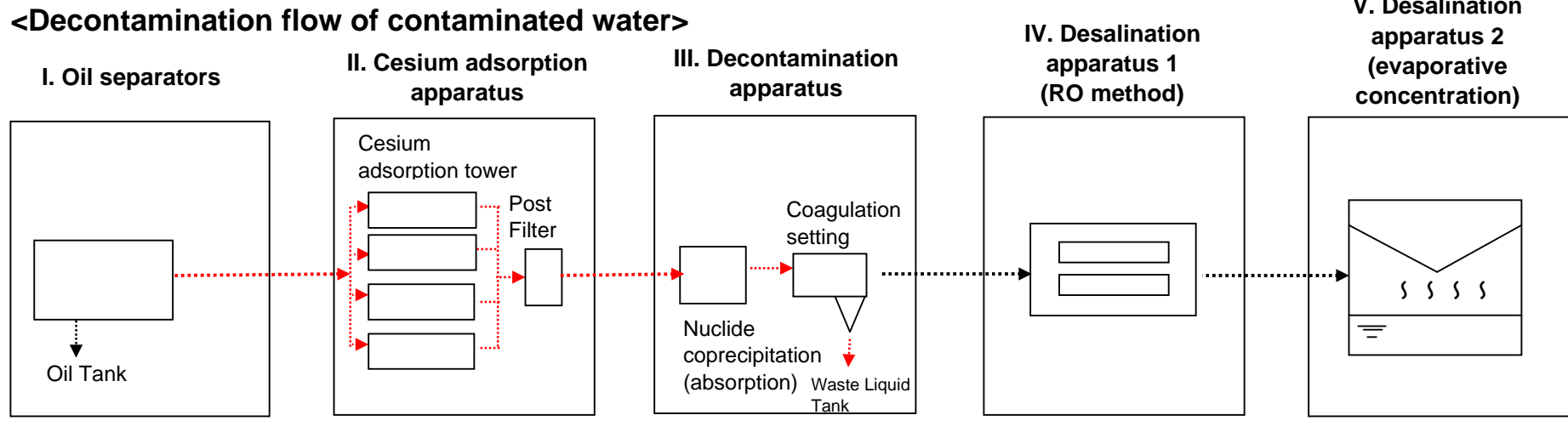
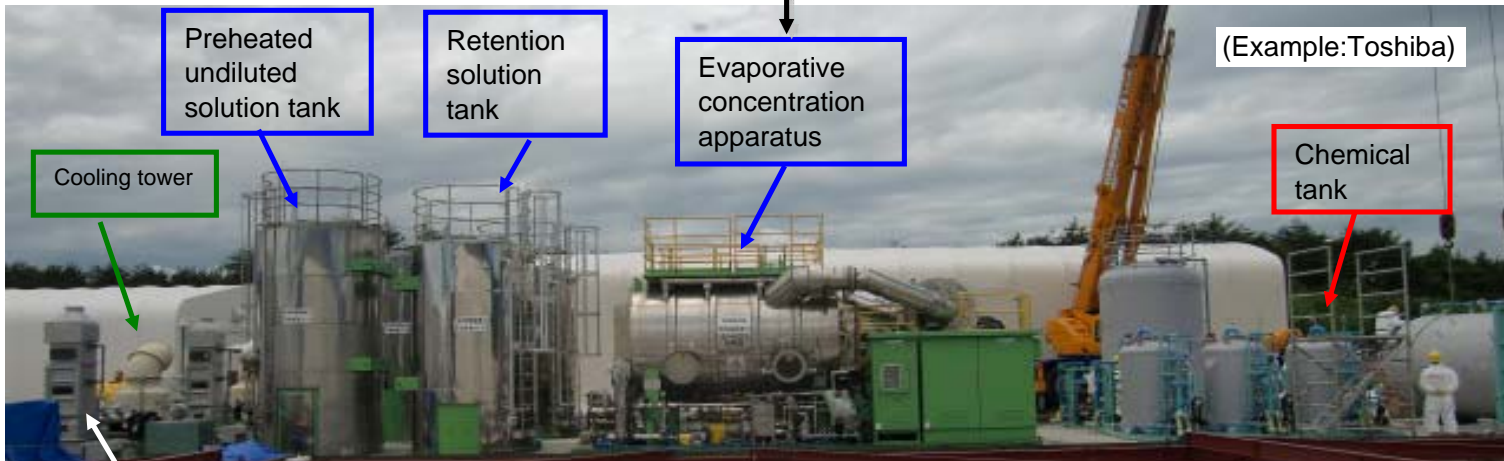
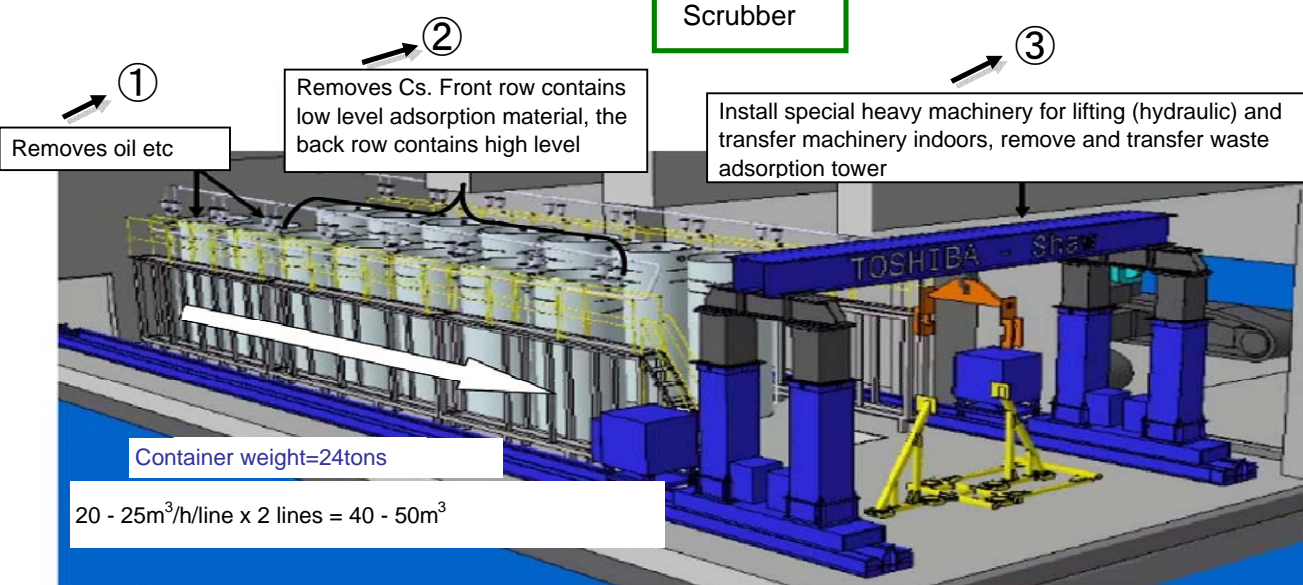






# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="text-align: center;"><b>II. Mitigation</b></p> <p style="text-align: center;"><b>(3) Accumulated Water</b></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, RO1B, RO2) processing started on Jun. 17</li> <li>Phase II (RO3) became available 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) became available 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>  </div> <div style="text-align: center;"> <p>II. Cesium adsorption apparatus</p>  </div> <div style="text-align: center;"> <p>III. Decontamination apparatus</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> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> <p>Checking components by TEPCO supervisor (at KURION factory in US)</p>  </div> <div style="text-align: center;"> <p>Scene of installing facilities at Fukushima Daiichi</p>  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="text-align: center; margin-top: 20px;">  <p>Processed water receiving tank</p> </div>




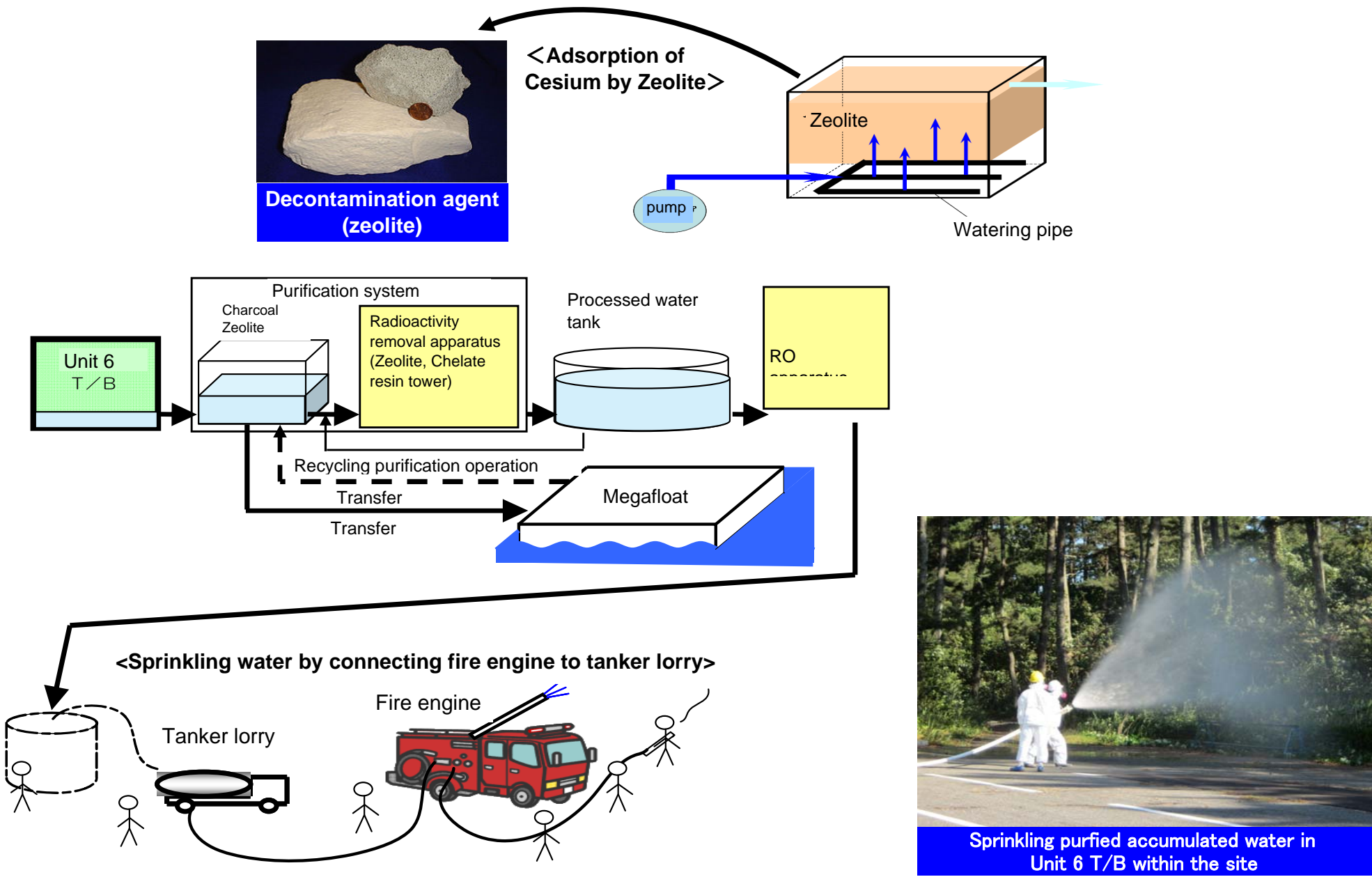


# Progress Status Classified by Issues (Photos and Figures)

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><b>&lt;Decontamination flow of contaminated water&gt;</b></p>  <p>I. Oil separators Oil Tank</p> <p>II. Cesium adsorption apparatus Cesium adsorption tower Post Filter</p> <p>III. Decontamination apparatus Coagulation setting Nuclide coprecipitation (absorption) Waste Liquid Tank</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>① Installation of cesium adsorption tower</p>  <p>② Cesium adsorption towers</p>  <p>③ Installation of lifter for changing 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 18,400t (May 31)</li> <li>- Megafloat 10,000t (May 21)</li> </ul>	<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>
	<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="text-align: center;"> <p>&lt;Adsorption of Cesium by Zeolite&gt;</p>  <p>Decontamination agent (zeolite)</p> <p>Zeolite</p> <p>Watering pipe</p> <p>Unit 6 T/B</p> <p>Purification system</p> <p>Charcoal Zeolite</p> <p>Radioactivity removal apparatus (Zeolite, Chelate resin tower)</p> <p>Processed water tank</p> <p>RO apparatus</p> <p>Transfer</p> <p>Transfer</p> <p>Recycling purification operation</p> <p>Megafloat</p> <p>&lt;Sprinkling water by connecting fire engine to tanker lorry&gt;</p> <p>Tanker lorry</p> <p>Fire engine</p> <p>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                              Unit 2: Completed on Jun. 2                              Unit 3: Completed on May 26                              Unit 4: Completed on Apr. 6</li> <li>- Closure of pits, etc.                              Unit 1: Completed on May 17                              Unit 2: Completed on Jun. 9                              Unit 3: Completed on Jun. 10                              Unit 4: Completed on Jun. 10</li> <li>- Restoration of sub drain pumps                              On T/B side                              Installation of pumps at sub drain pits. Completed at 7 points on Jul. 29                              Completed laying the transfer piping arrangement on Aug. 31                              On R/B side                              Considering locations to install the pumps</li> <li>- Restoration of sub drainage along with expansion plan of storage/ processing facility.</li> </ul>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="1074 346 1519 667"> <p>Putting in crushed stones</p> </div> <div data-bbox="1647 346 2092 667"> <p>Concrete placement</p> </div> <div data-bbox="2231 346 2677 667"> <p>Mortar placement</p> </div> </div> <div data-bbox="1291 777 2033 1186" style="text-align: center;"> <p>Image of restoration of sub drain pump</p> </div>
	<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>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="1240 1333 1795 1816"> <p>Overview</p> </div> <div data-bbox="1935 1333 2439 1816"> <p>Cross-section view</p> </div> </div> <p style="text-align: center;">Image for seaside water shielding wall</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 inhibitor</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 data-bbox="1291 877 1691 940">Dispersion of inhibitors around buildings of Units 1 to 4</p>	 <p data-bbox="2012 877 2635 909">Dispersion of inhibitors in the Power Station (flat)</p>
	 <p data-bbox="1142 1780 1834 1812">Dispersion of inhibitors by bending spray tower vehicle</p>	 <p data-bbox="2041 1780 2733 1812">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>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>	
	 <p>Dispersion of inhibitors in the Power Station (slope)</p>	 <p>After dispersion of inhibitors in the Power Station (slope)</p>	





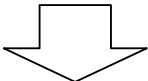
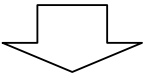
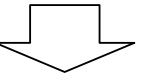
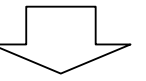






## Progress Status Classified by Issues (Photos and Figures)

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;                      - In order to mitigate exposure dose of the 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).                      - 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.                      - 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, etc at the ocean side of the turbine buildings of Units 1 to 4 etc. was removed.</p> <p>&lt;Record of removal of debris as of Nov. 17&gt;                      - Collected debris      Approx. 28,000 m<sup>3</sup>                      - Stored in Containers    Approx. 6,000 m<sup>3</sup>                        (Approx. 900 containers)</p> <p>&lt;Plan for further implementation&gt;                      - We will continue removing outside debris, which hinders work.</p> <p>&lt;&lt;Management of debris&gt;&gt;                      &lt;Management of the storage area&gt;                      - The debris is stored in containers and buildings according to its amount of radiation dose etc., and workers are not able to approach to them easily.                      - The approach lane to the waste storage area is marked off and a sign has been installed that prohibits unnecessary entrance of unauthorized personnel.</p> <p>&lt;Securing the storage area&gt;                      - Except for the accumulated water treatment facilities and the other areas under construction, the storage areas are kept by fully utilizing the land within the site.</p>	<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: center; 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: 5px;">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 data-bbox="427 1591 872 1667">Around Unit 1 turbine building, sea side road</p>	 <p data-bbox="1032 1591 1424 1667">Between reactor buildings of Unit 2 and Unit 3</p>	 <p data-bbox="1578 1591 2131 1667">Centralized Waste Processing Facility, bottom of south slope</p>	 <p data-bbox="2231 1591 2683 1667">Around Unit 4 turbine building, sea side road</p>





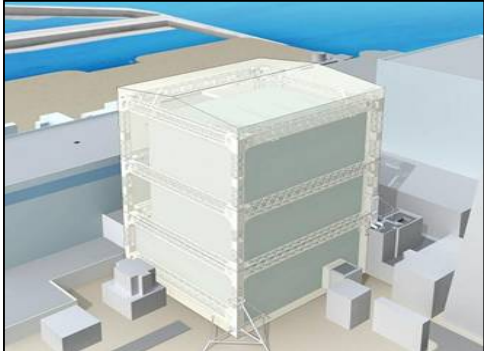



# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
II. Mitigation (5) Atmosphere / Soil	Removal /Storage of debris	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="width: 30%; text-align: center;">  <p>Storage container / Storage tent for debris (High radiation dose)</p> </div> <div style="width: 30%; text-align: center;">  <p>Storage container for debris</p> </div> <div style="width: 30%; text-align: center;">  <p>Container for small scale debris</p> </div> <div style="width: 30%; text-align: center;">  <p>Storage tent for debris (Low radiation dose)</p> </div> <div style="width: 30%; text-align: center;">  <p>Container for large scale debris</p> </div> <div style="width: 30%; text-align: center;">  <p>Inside the storage tent for debris</p> </div> <div style="width: 30%; text-align: center;">  <p>Storage yard in the power station (1)</p> </div> <div style="width: 30%; text-align: center;">  <p>Storage yard in the power station (2)</p> </div> <div style="width: 30%; text-align: center;">  <p>Storage yard in the power station (3)</p> </div> </div>











# 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> <div style="margin-top: 20px;">  <p>Image of installation of reactor building cover</p> </div> <div style="margin-top: 20px;">  <p>Model of constructing reactor building cover</p> </div>







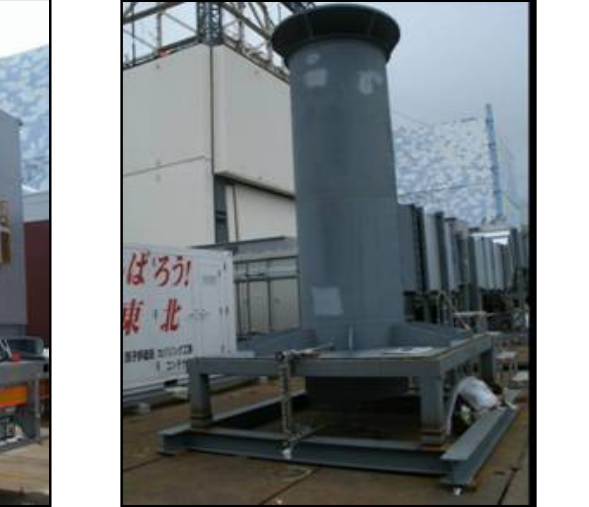


# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
II. Mitigation (5) Atmosphere / Soil	[Unit 1] Setting Reactor Building Cover	 <p data-bbox="418 978 926 1045">Temporary assembly of reactor building cover (at Onahama port)</p>	 <p data-bbox="1044 978 1546 1045">Temporary assembly of reactor building cover (at Onahama port)</p>	 <p data-bbox="1668 978 2119 1045">Beginning of main construction of reactor building cover</p>	 <p data-bbox="2199 999 2703 1031">Main steel-frame work of main structure</p>
	 <p data-bbox="418 1556 926 1587">Main steel-frame work of main structure</p>	 <p data-bbox="1044 1556 1546 1587">Start of steel-frame work on Aug. 10</p>	 <p data-bbox="1614 1734 2128 1801">Completion of steel-frame work on Sep. 9 (Northwest side)</p>	 <p data-bbox="2252 1745 2656 1812">Setting wall panel as of Sep. 15 (Northwest side)</p>	




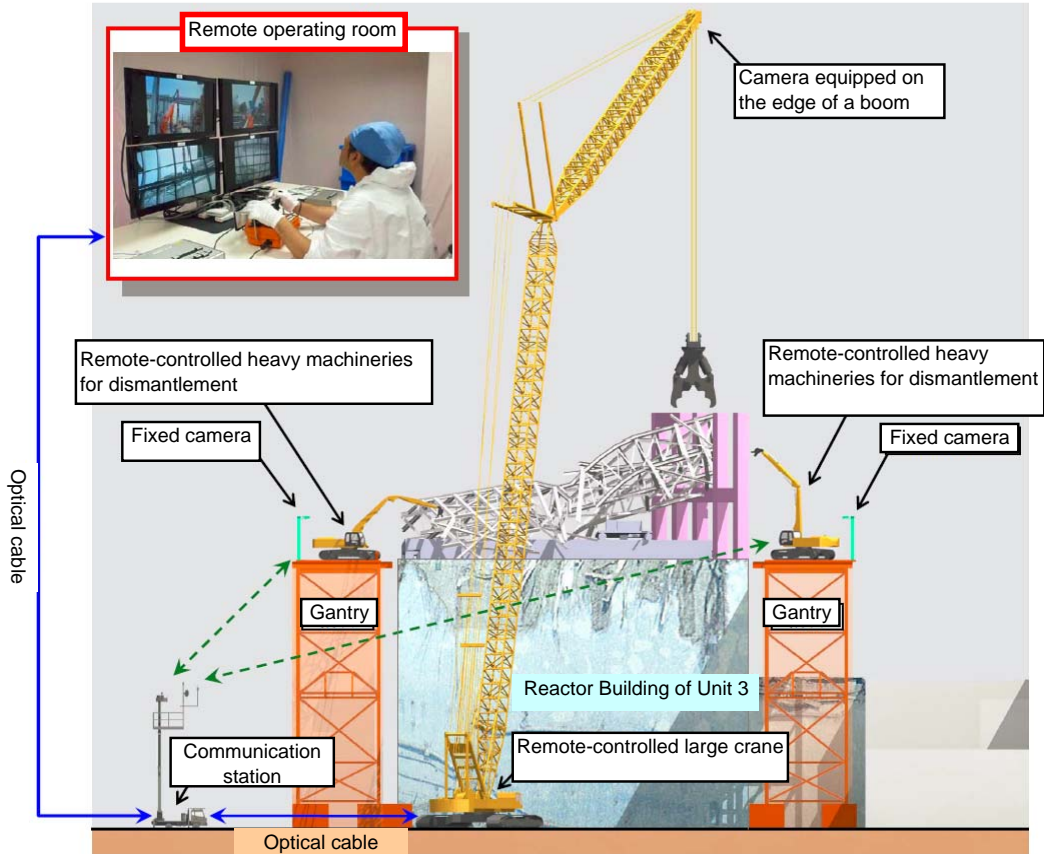

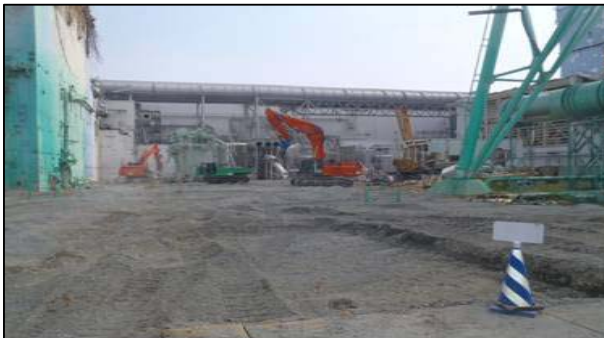






# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)			
II. Mitigation (5) Atmosphere / Soil	[Unit 1] Installing reactor building cover				
					






# 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 the south side and around the building</p>	 <p>Status of removal of debris on top of the reactor building (Demolition of pendant pillar at west side)</p>	 <p>Ground preparation status (Installation of pipe trench arrangement)</p>	

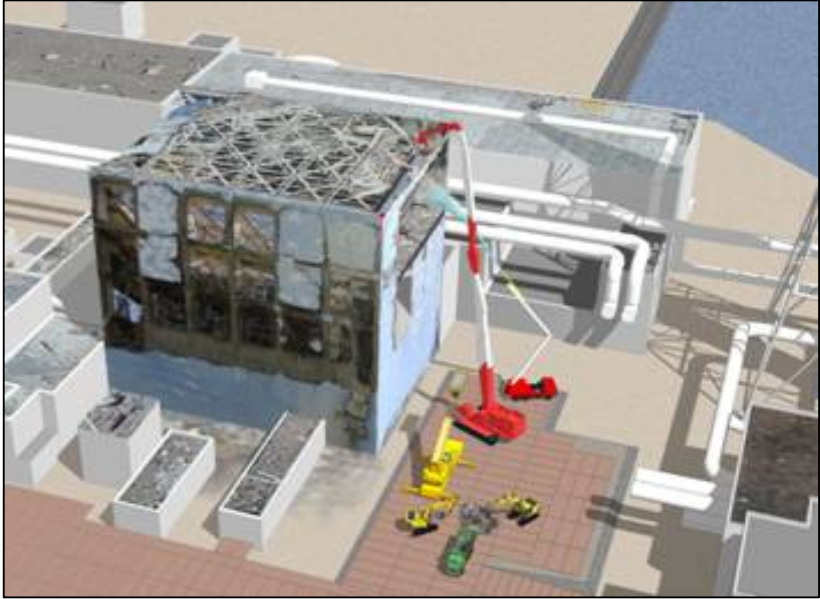



## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)		
II. Mitigation	(5) Atmosphere / Soil	<p>[Unit 3]</p> <p>Removal of debris on top of the reactor building</p>	 <p style="text-align: center;">Status of demolition of the exhaust pipe at the top of the turbine building</p>  <p style="text-align: center;">Status of preparation for steel-frame base yard</p>	 <p style="text-align: center;">Status of demolition of collapsed pillar at west side</p>






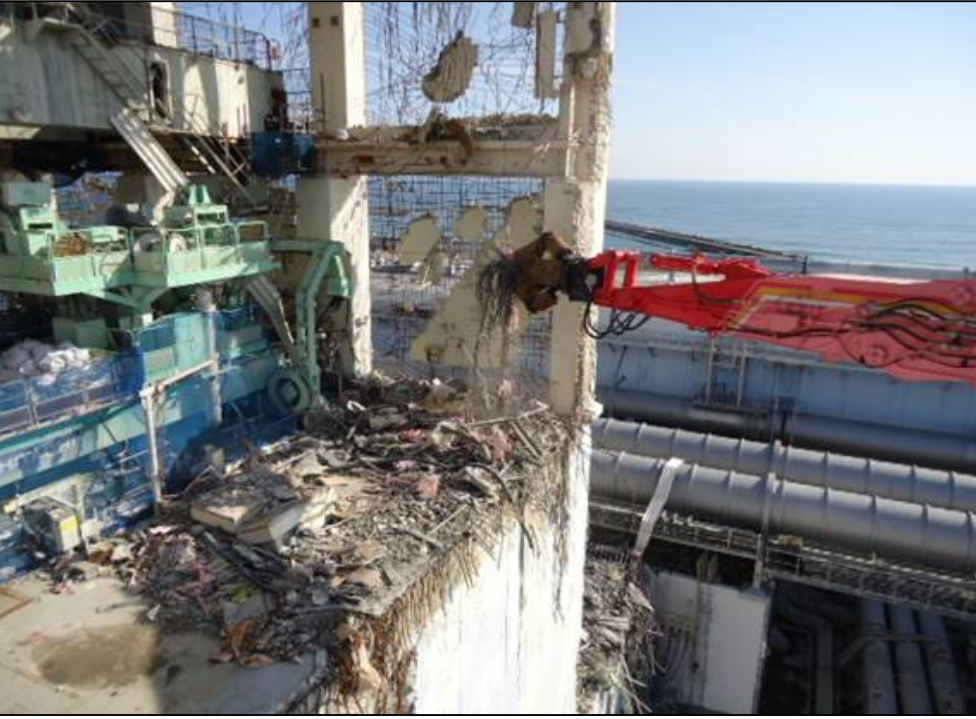



# Progress Status Classified by Issues (Photos and Figures)

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> <ul style="list-style-type: none"> <li>- Commencement of preparation work from Jun. 24</li> <li>- Commencement of main work from Sep. 21</li> </ul>				
	 <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 removing debris around the reactor building</p>	 <p>Installation of rest stations</p>	 <p>Preparation of roadbed at the work yard</p>

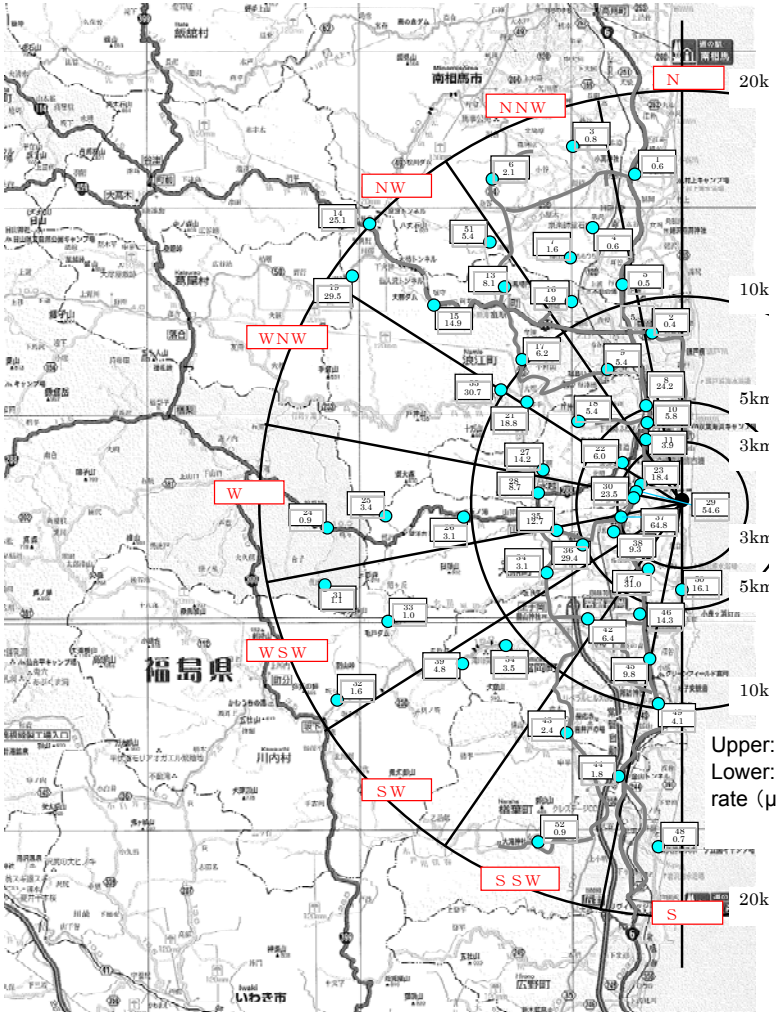
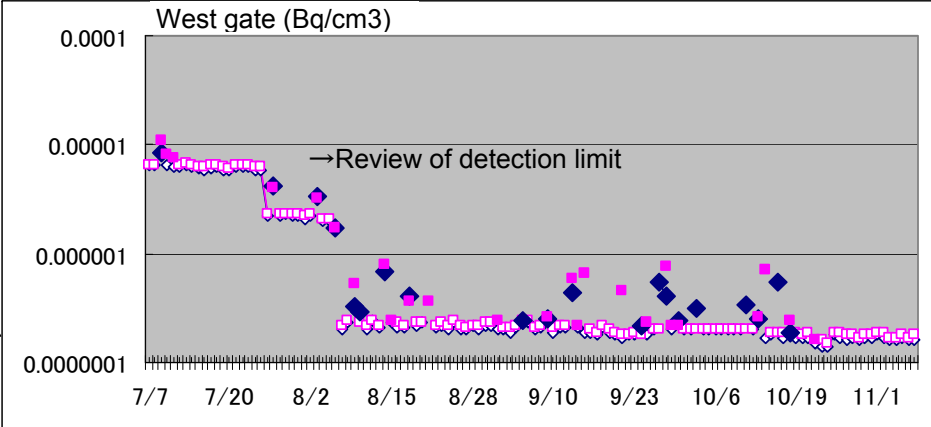
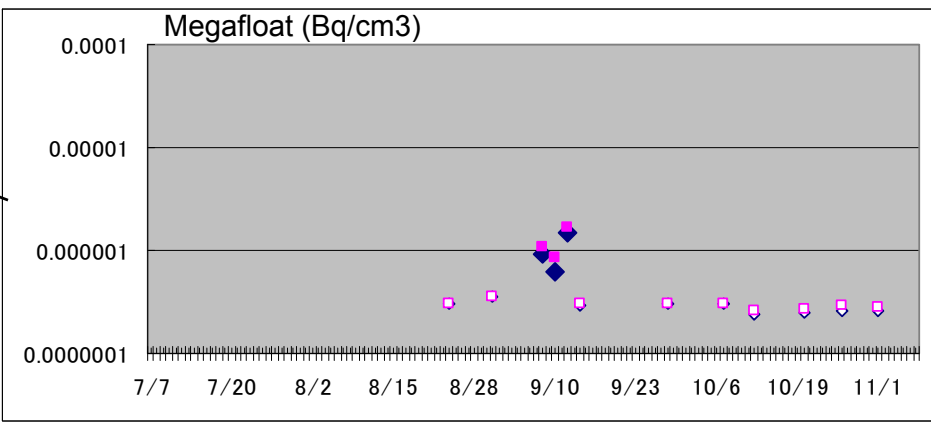
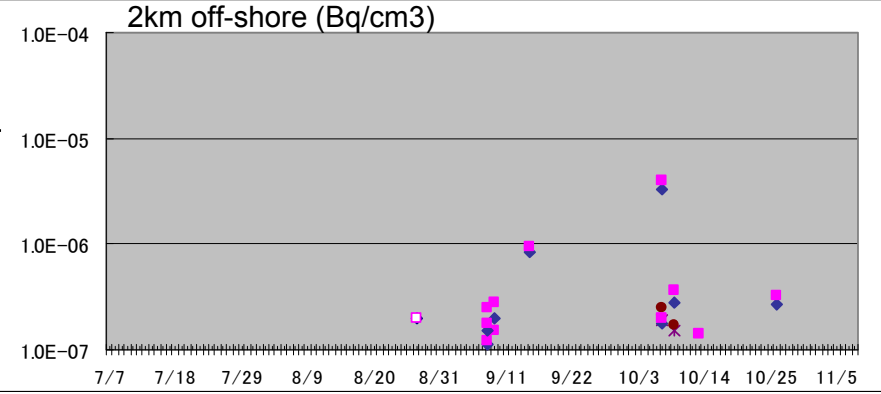
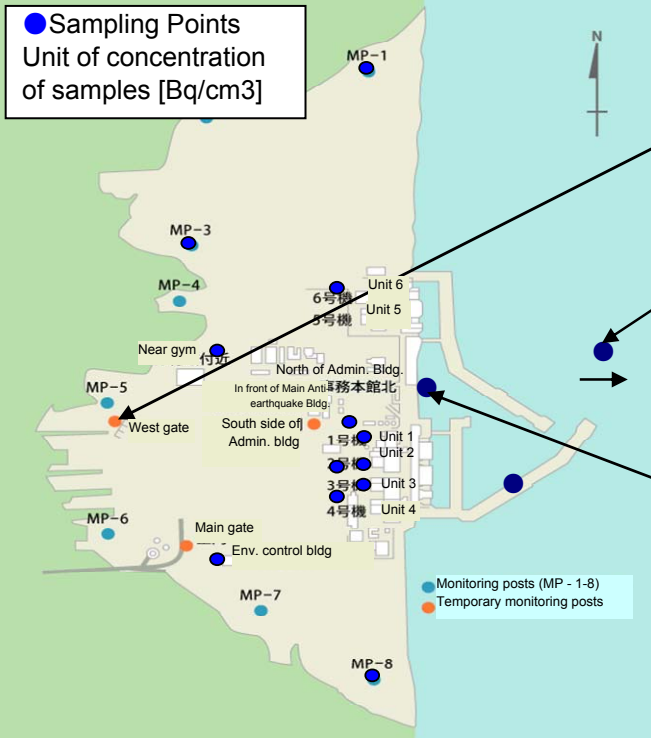


# Progress Status Classified by Issues (Photos and Figures)

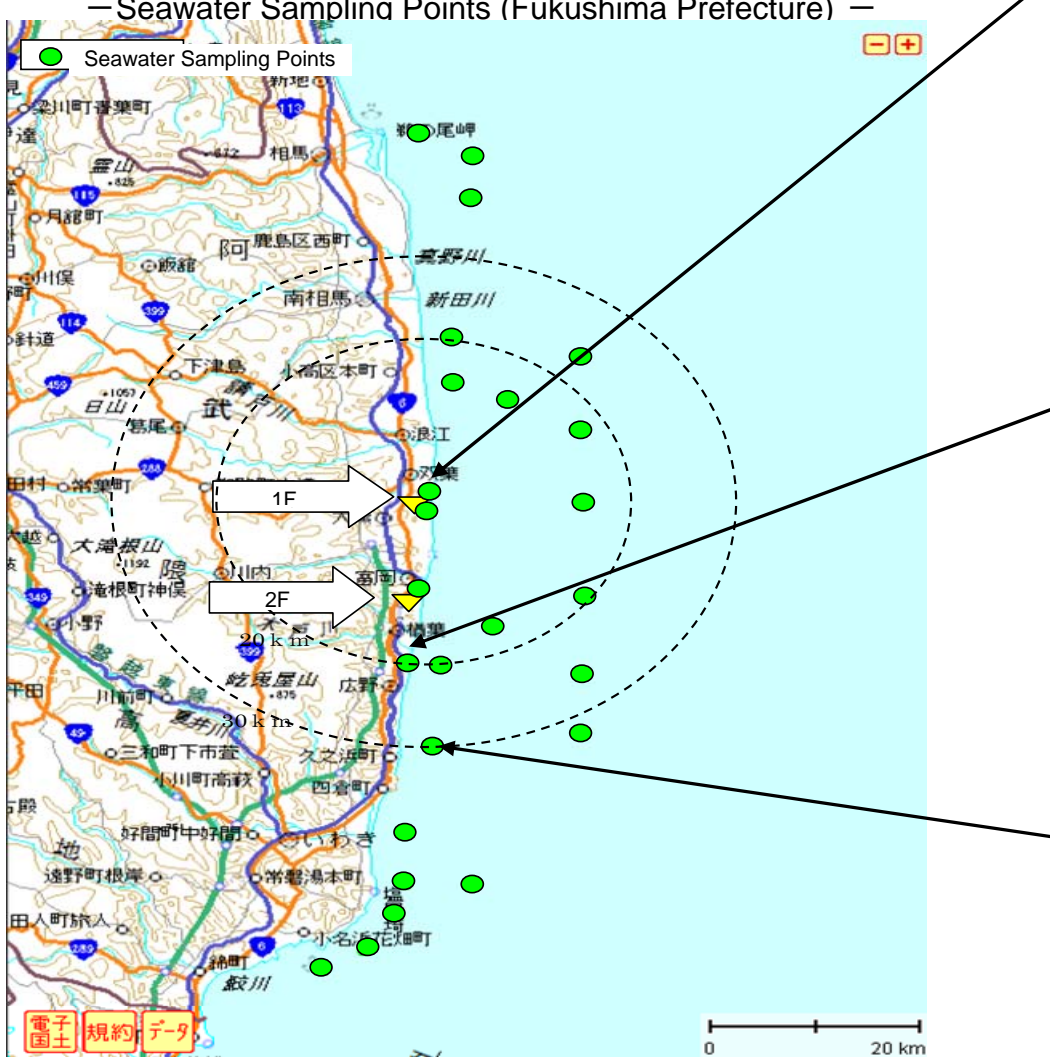
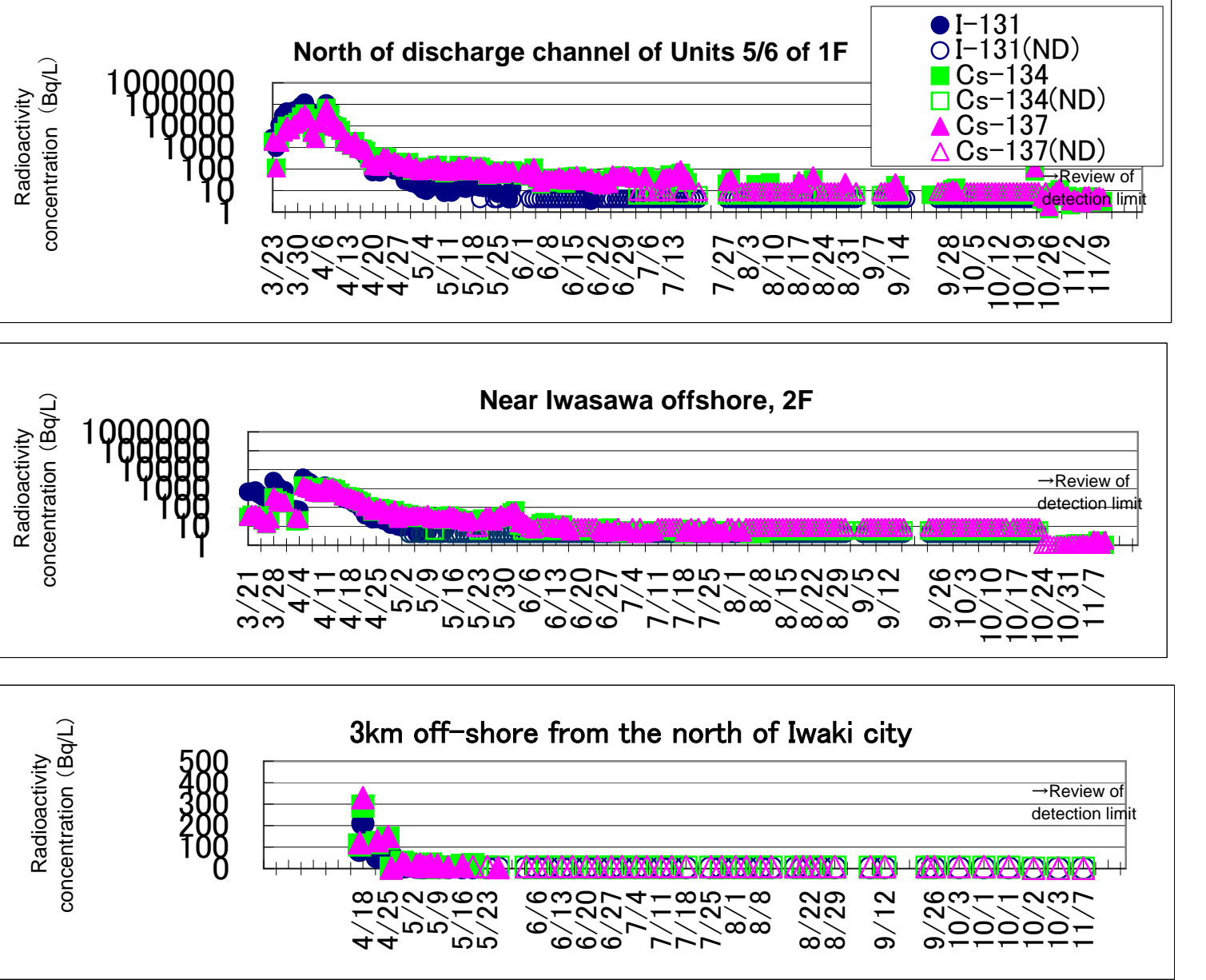
Issues	Progress etc.	Reference (Photos and Figures)			
II. Mitigation (5) Atmosphere / Soil	[Unit 4] Removal of debris on top of the reactor building				
	Retreat place and shielding wall	Removal of debris around the reactor building	Curing for spent fuel pool (Oct. 14)		
	Removal of debris on upper part of operating floor	Removal of debris on upper part of operating floor	Removal of debris on upper part of operating floor		
	Removal of debris on upper part of operating floor	Removal of debris on roof truss	Removal of debris on roof truss		



# Progress Status Classified by Issues (Photos and Figures)








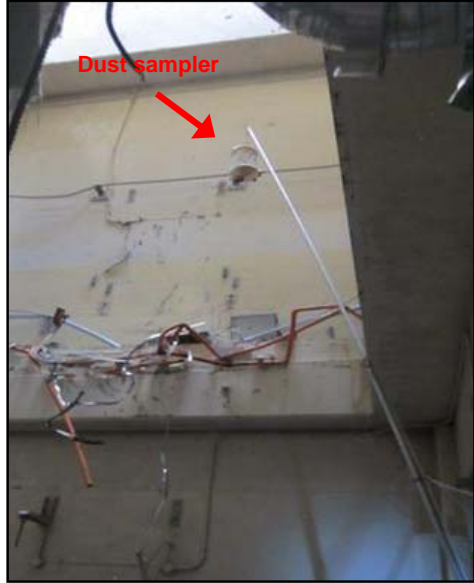
Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">III. Monitoring/Decontamination</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(6) Measurement, Reduction and Disclosure</p>	<p>Countermeasure [60,61] Expansion, 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 (Oct. 25, Nov. 4), Unit 2 (Oct. 25, Nov. 1), Unit 3 (Nov. 5, 9, 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>Measurement result of air dose rate of within 20 km radius (date: Nov. 8, 2011)</p>    <div data-bbox="2000 1814 2475 1940"> <ul style="list-style-type: none"> <li>CS-134</li> <li>Cs-137</li> <li>Cs-134 Detection limit concentration</li> <li>Cs-137 Detection limit concentration</li> </ul> </div>  <p>Fukushima Daiichi measuring points of airborne radioactivity concentration</p> <ul style="list-style-type: none"> <li>● Sampling Points</li> <li>Unit of concentration of samples [Bq/cm<sup>3</sup>]</li> <li>● Monitoring posts (MP - 1-8)</li> <li>○ Temporary monitoring posts</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);">III. Monitoring/Decontamination</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(6) Measurement, Reduction and Disclosure</p>	<p>Countermeasure [60,61] Expansion, enhancement and disclosure of monitoring</p> <p>[Ocean Area] &lt;Fukushima Prefecture&gt;</p> <ul style="list-style-type: none"> <li>Seawater 16 points (from Apr.17)</li> <li>Seawater 22 points (from May 5), Seabed soil 2 points (from Apr.29)</li> <li>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)</li> <li>Expansion of seabed soil sampling (2 points → 25 points, from Jul.12)</li> <li>Stop sampling at 4 points outside 30km radius (from Sep. 1), Regular sampling of seabed soil of 25 points (once a month)</li> <li>Supplementary sampling of seabed soil, 16 points (Sep. 26 - 28)</li> </ul> <p>— Seawater Sampling Points (Fukushima Prefecture) —</p> 	<div style="display: flex; justify-content: space-between;"> <div data-bbox="786 294 1365 798"> <p>&lt;Ibaraki Prefecture&gt;</p> <ul style="list-style-type: none"> <li>Seawater 5 points (from Apr.29: once a week)</li> <li>from Jun. 7: twice a week</li> <li>from Sep. 1: once a week</li> </ul> </div> <div data-bbox="786 798 1365 1302"> <p>&lt;Miyagi Prefecture&gt;</p> <ul style="list-style-type: none"> <li>Seawater 6 points (from Jun. 21: twice a month)</li> </ul> </div> </div> <div style="margin-top: 20px;">  </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	 <p>Dust sampling apparatus for openings of R/B, Units 1 and 3 (Sep. 9)</p>	 <p>Dust sampling by the concrete pumping truck (May 22) Upper part of R/B, Unit 1</p>	 <p>Dust sampling by the concrete pumping truck (Jun. 22) Upper part of R/B, Unit 1</p>	 <p>Dust sampling (Jul. 24) Above R/B, east side, Unit 1 (T-HAWK)</p>
	 <p>Dust sampling (Aug. 28) Opening of the equipment hatch, R/B, Unit 1</p>	 <p>Dust sampling (Sep. 11) Opening of the equipment hatch, R/B, Unit 1</p>	 <p>Dust sampling (Oct. 3) Opening of the equipment hatch, R/B, Unit 1</p>	 <p>Dust sampling (Oct. 7) Opening of the equipment hatch, R/B, Unit 1</p>	



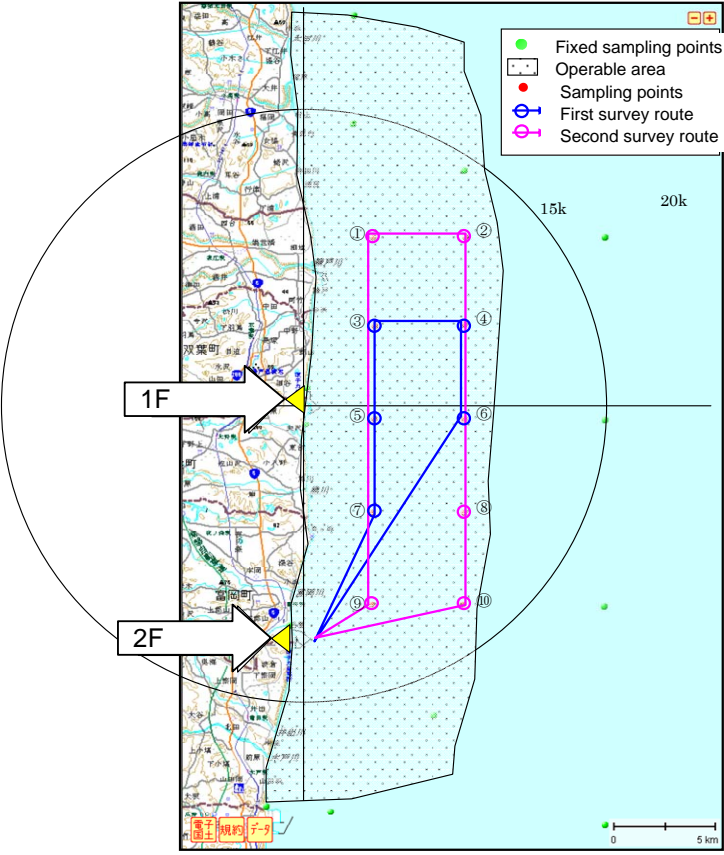
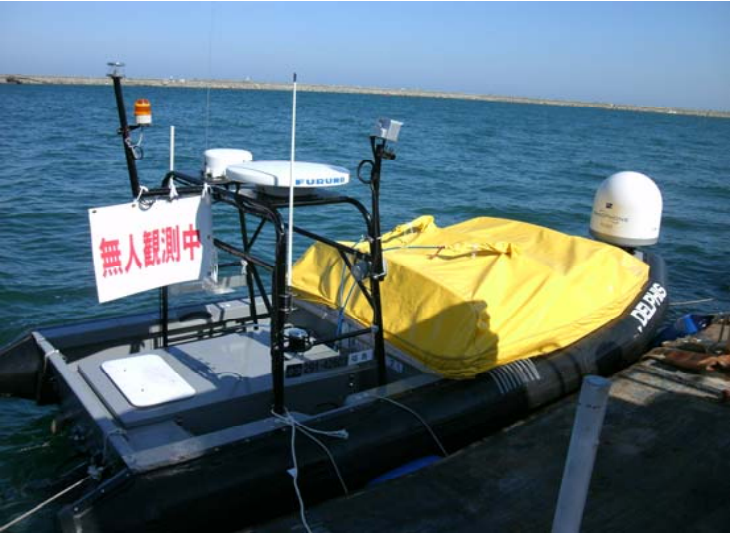




## Progress Status Classified by Issues (Photos and Figures)

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 (Jul. 22) Blow-out panel, Unit 2 (T-HAWK)</p> </div> <div style="text-align: center;">  <p>Dust sampling (Aug. 29) Opening of the equipment hatch, R/B, Unit 2</p> </div> <div style="text-align: center;">  <p>Dust sampling by the concrete pumping truck (May 23) Upper part of R/B, Unit 4</p> </div> </div>
		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Dust sampling by the concrete pumping truck (Jun. 13) Upper part of R/B, Unit 3</p> </div> <div style="text-align: center;">  <p>Dust sampling (Jul. 23) Above R/B, west side, Unit 3 (T-HAWK)</p> </div> <div style="text-align: center;">  <p>Dust sampling (Aug. 24) Opening of the equipment hatch, R/B, Unit 3</p> </div> <div style="text-align: center;">  <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; justify-content: space-around;"> <div style="text-align: center;">  <p>Soil sampling by the support team from electric power companies (land area within 20 km radius)</p> </div> <div style="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> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Sampling area by an unmanned survey boat</p> </div> <div style="text-align: center;">  <p>Overview of an unmanned survey boat [DELPHIS]</p> </div> <div style="text-align: center;">  <p>Wide Area Monitoring</p> </div> </div> <div style="text-align: right; margin-top: 20px;">  </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);">IV. Countermeasures against aftershocks, etc.</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(7) Tsunami, reinforcement, etc.</p>	<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="1023 346 1795 829"> <p>Planned temporary tide barrier (white dotted line)</p> </div> <div data-bbox="2033 378 2626 766"> <p>Cross-section of temporary tide barrier (image)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div data-bbox="825 934 1365 1291"> <p>Fire engine deployed on the hill</p> </div> <div data-bbox="1507 1039 1929 1291"> </div> <div data-bbox="2003 850 2715 1291"> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div data-bbox="825 1375 1400 1816"> <p>Temporary tide barrier (1)</p> </div> <div data-bbox="1469 1375 2053 1816"> <p>Temporary tide barrier (2)</p> </div> <div data-bbox="2122 1375 2715 1816"> <p>Temporary tide barrier (3)</p> </div> </div>

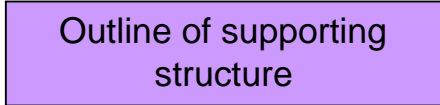
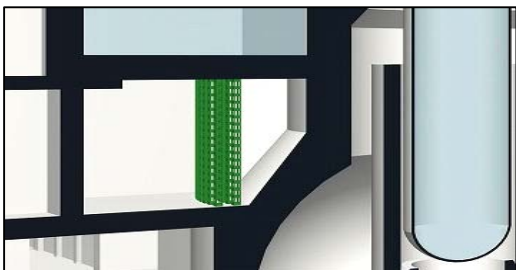

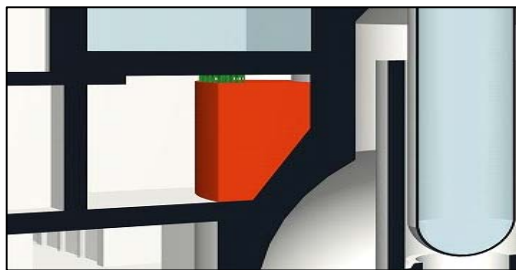
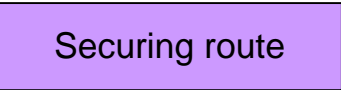



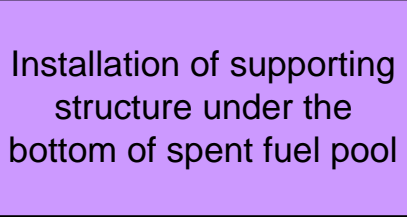










## Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">IV. Countermeasures against aftershocks, etc.</p>	<p>Expansion of countermeasures against tsunami</p>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; justify-content: space-around; width: 100%;"> <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> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 20px;"> <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> </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 a 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)						
					Assembling a scaffolding at hatch		
							
				Installation of frame for concrete placement	Concrete placement	Installation of wire mesh reinforcement	Grout pouring completed (Jul. 30)



# Progress Status Classified by Issues (Photos and Figures)

Issues	Progress etc.	Reference (Photos and Figures)
<p>IV. Countermeasures against aftershocks, etc.</p> <p>(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 data-bbox="943 331 2813 394" style="background-color: #e0ffe0; border: 1px solid black; padding: 2px; text-align: center;"> <b>Preparation Status for Fukushima Daiichi Nuclear Power Station</b> </div> <div style="display: flex; justify-content: space-around;"> <div data-bbox="1169 415 1745 760">  <p>Overview of the facility</p> </div> <div data-bbox="2000 415 2576 760">  <p>Slurry production facility</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div data-bbox="1145 814 1561 1180">  </div> <div data-bbox="1662 814 2083 1180">  <p>Installation of pipes</p> </div> <div data-bbox="2184 814 2605 1180">  </div> </div> <div data-bbox="967 1255 2813 1318" style="background-color: #e0ffff; border: 1px solid black; padding: 2px; 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 data-bbox="379 1142 902 1474">  <p>Installation of pipes</p> </div> <div data-bbox="1003 1356 1442 1860">  <p>Installation of slurry plant at Fukushima Daiichi NPS</p> </div> <div data-bbox="1531 1407 2107 1768">  <p>Preparation of equipment (sand)</p> </div> <div data-bbox="2196 1348 2754 1583">  <p>"Elephant-3"</p> </div> <div data-bbox="409 1545 955 1915">  </div> <div data-bbox="2196 1646 2754 1894">  <p>High pressure concrete pumping vehicle</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);">(8) Living/working environment</p>	<p>Continuing and enhancing improvement of workers' living/working environment</p>	 <p style="text-align: center;">Gymnasium of Fukushima Daini</p>			
	 <p style="text-align: center;">Shin Hirono Dormitory</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>				
	<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>	<p style="text-align: center;">&lt;&lt; Breakfast &gt;&gt;</p>  <p style="text-align: center;">↓</p>  <p style="text-align: center;">Shin Hirono Dormitory/Dining House</p>	<p style="text-align: center;">&lt;&lt; Lunch &gt;&gt;</p>  <p style="text-align: center;">Office in Main Anti-earthquake Building, 2F</p>	<p style="text-align: center;">&lt;&lt; Dinner &gt;&gt;</p>  <p style="text-align: center;">Shin Hirono Dormitory/Dining House</p>
		 <p style="text-align: center;">Administration Office</p>	 <p style="text-align: center;">Shop</p>	<p style="text-align: center;">Shin Hirono Dormitory</p>








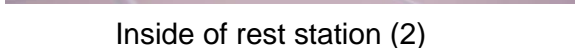






# Progress Status Classified by Issues (Photos and Figures)

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>	 <p>Outside of Dining Room</p>	 <p>Inside of Dining Room (1)</p>	 <p>Inside of Dining Room (2)</p>
		 <p>Outside of Shop</p>	 <p>Inside of Shop</p>	
		<p>Inside of J Village</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> <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>Drink server</p>  <p>Rest station in front of Anti-earthquake Building</p>  <p>Inside of rest station (2)</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>		






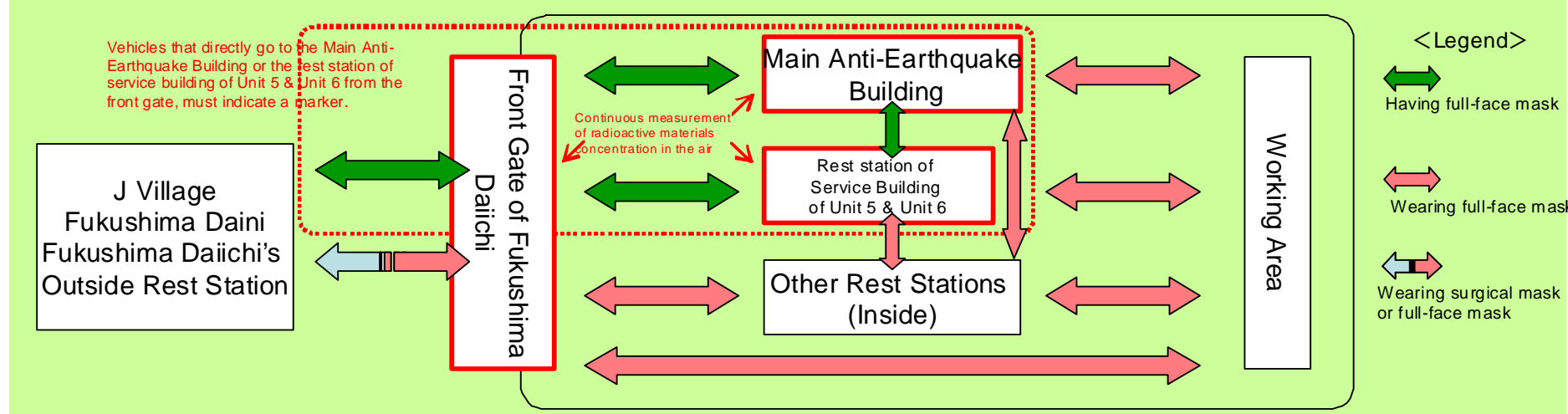


# Progress Status Classified by Issues (Photos and Figures)

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>Outside of rest station</p>  <p>Inside (1): Drink server</p> <p>Inside (2)</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;">Rest station near heliport</div>
	 <p>Entrance</p>	 <p>Installation of rest stations</p>  <p>Outside of rest station (1)</p>  <p>Outside</p>
	 <p>Inside</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;">Rest station in Office of Main Anti-earthquake Building (second phase)</div>	 <p>Outside of rest station (2)</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;">Rest station for workers for covering reactor buildings</div>  <p>Survey</p>  <p>Inside</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;">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</li> </ul> <p>Protective equipment appropriate to work environment is provided in order to secure safety during radiation work.</p>	 <p>Special protective gear: Protective suit which can be expected to shield beta ray and low-energy gamma ray *Source: vendor catalogue</p>	 <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. *Source: vendor catalogue</p>
	 <p>Half-faced mask: In case that radioactivity density is low and stable, workers put on half-faced masks (with goggles), not full-face, which enables to lighten the workload of workers.</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>	 <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. *Source: vendor catalogue</p>
	<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>Legend</b></p> <ul style="list-style-type: none"> <li>Having full-face mask</li> <li>Wearing full-face mask</li> <li>Wearing surgical mask or full-face mask</li> </ul>	

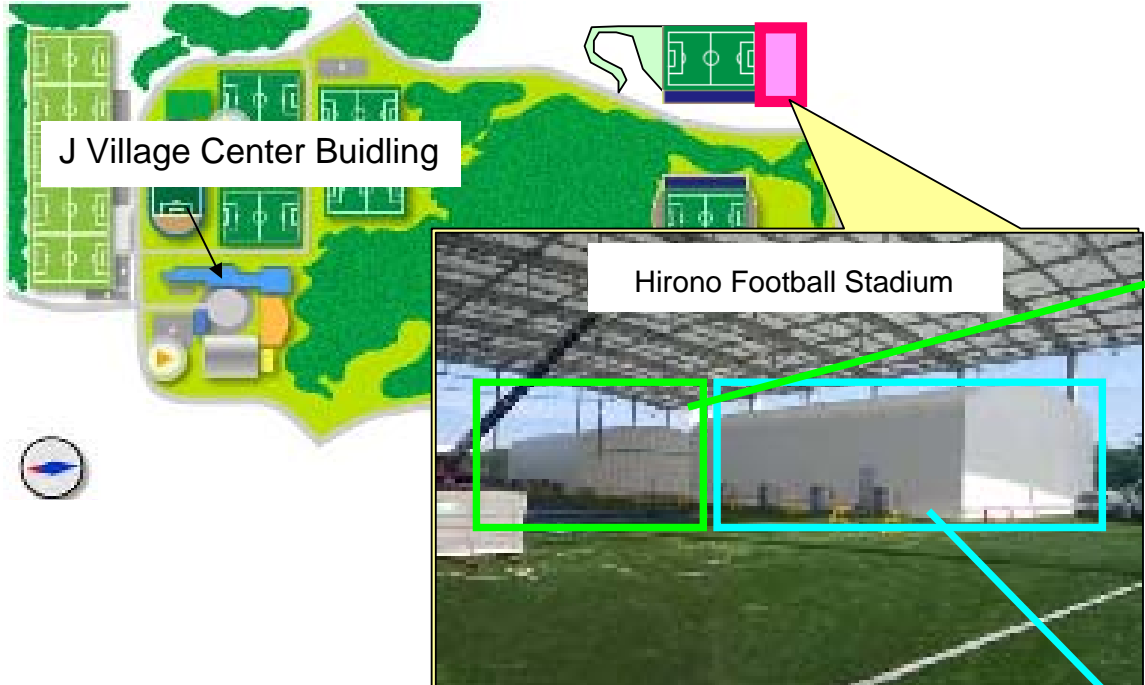
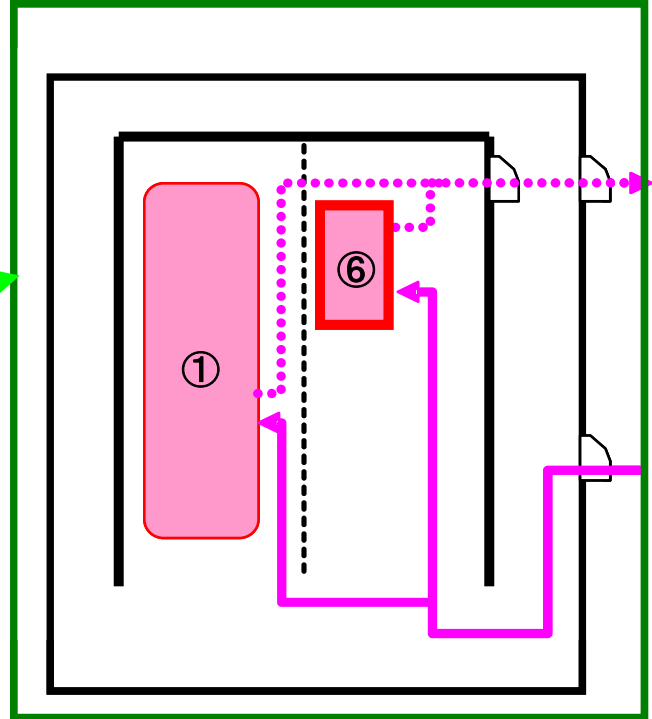
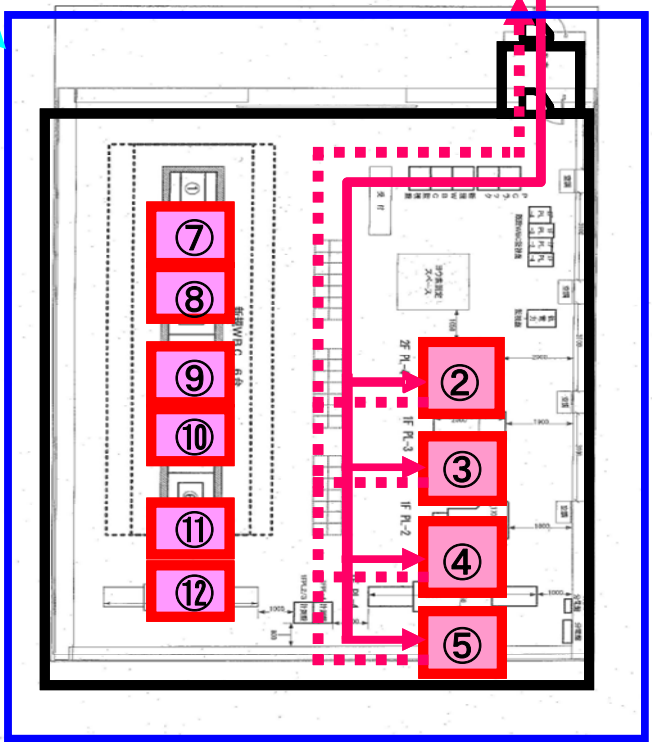


# Progress Status Classified by Issues (Photos and Figures)

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] Implementation of necessary decontamination as per pre-set screening value for protection against contamination diffusion. Change of the screening value to unify with the related authorities and local governments on Sep. 16 (from 100,000cpm to 13,000cpm) *Setting up a self-standard value (6,000cpm)</p> <p>[Decontamination Facility] A decontamination place for workers and vehicles which exceed 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: Borrowing and operating 2 sets of Fire and Disaster Management Agency, and 1 set of Japanese Red Cross Society</li> <li>-Decontamination Place for Large-scale Vehicles: In operation since Apr. 4 A simple decontamination place was used until Apr. 3. Waste water of decontamination is stocked in a storage tank through a treatment facility.</li> <li>-Setting up a measurement place for rainy days: In operation since Jul. 15.</li> <li>-Setting up oil cleaning/cleanser decontamination place: In operation since Jul. 31.</li> </ul> <p>[Certificate of Contamination Survey] 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="1291 367 1840 693"> <p>Decontamination Place for Large-scale Vehicles</p> </div> <div data-bbox="1914 367 2374 693"> <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="1009 1585 1469 1921"> <p>Measurement place for rainy days</p> </div> <div data-bbox="1632 1585 2092 1921"> <p>Oil cleaning/cleanser decontamination place</p> </div> <div data-bbox="2255 1585 2715 1921"> <p>作業員用除染シャワー設備</p> </div> </div>



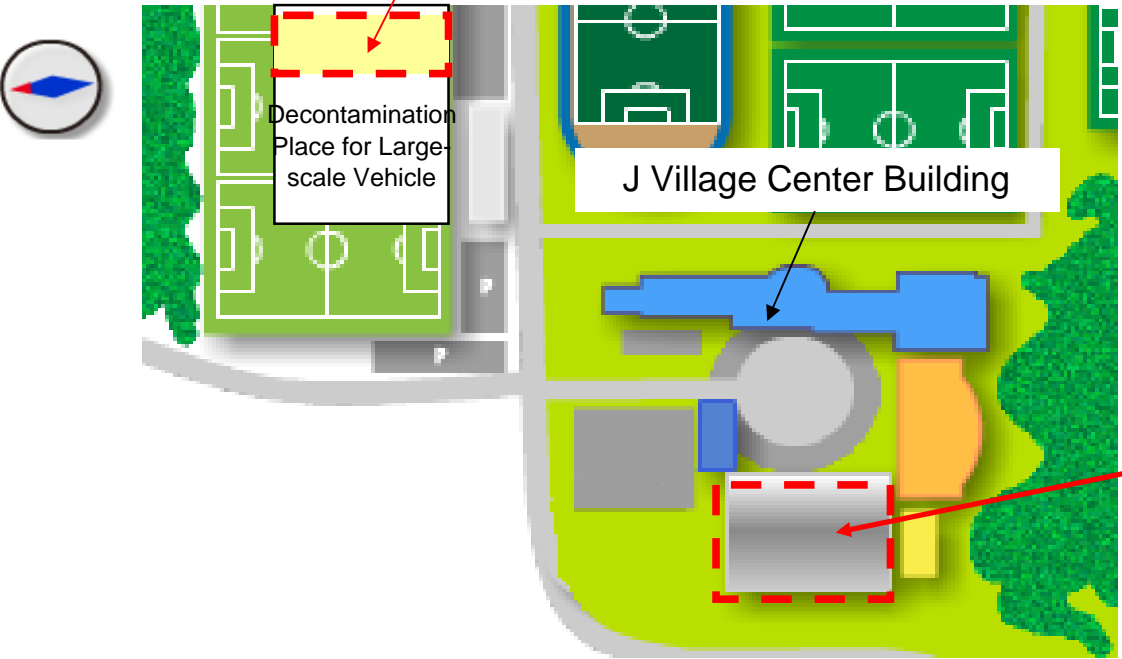


# Progress Status Classified by Issues (Photos and Figures)

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<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 (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)                      1 set (stationary type) which was planned to borrow from another company has been cancelled because we have confirmed that the 12 sets in operation have enough capacity considering the current operational situation and work environment.                      2. Metropolitan Area: Tokyo Branch                      In operation: 1 set (in-vehicle type borrowed from JAEA)</p>	<div style="display: flex; flex-direction: column; align-items: center;">  <p style="text-align: center;">Operation Schedule of Whole Body Counters</p> <table border="1" data-bbox="994 1186 1988 1795"> <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>   </div>	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
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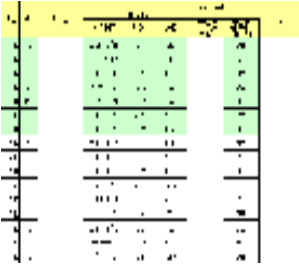


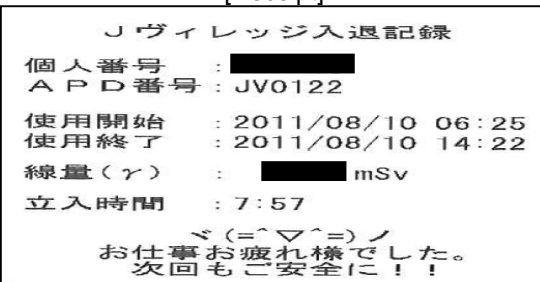


# Progress Status Classified by Issues (Photos and Figures)

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>- Proper Treatment of Radioactive Waste [Liquid Waste (Decontamination Liquid Waste)] Decontamination liquid waste is collected in J Village and purified by a purification facility. The purified liquid waste is planned to be used for decontamination water after checking contamination density. * Installation and operation of the purification facility: From Apr. 4 Reuse: From November (planned)</p> <p>[Solid Waste] 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>  <p style="text-align: center;">Status of Separation and Storage of Solid Waste</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>	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p style="text-align: center; background-color: #e0e0ff; padding: 5px;">[Immediately after the Earthquake (previously)]</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>1. Lending Alarm Pocket Dosimeter and signing in a recording book</p>  <p>- Lending pocket dosimeter and signing the names, time, etc. in a recording book to manage personal in-and-out.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>2. Working with pocket dosimeter and measuring radiation dose</p>  <p>- Measurement with pocket dosimeter each time</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>3. Entering measurement results in the book and PC</p>  <p>- Entering data of time, radiation exposure, etc. in the book or PC when leaving the area</p> </div> </div> <div style="width: 45%;"> <p style="text-align: center; background-color: #e0e0ff; padding: 5px;">[After Improvement (now)]</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">Main Anti-Earthquake Building</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Control workers in-and-out of the site</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Measure personal radiation dose</div>  <ul style="list-style-type: none"> <li>- Lending pocket dosimeter</li> <li>- Record by signing (until Apr. 13) by barcodes (since Apr. 14)</li> <li>- Notification of radiation exposure data by receipts (since Aug. 16)</li> </ul> </div> <p style="text-align: center;">J-Village</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px; background-color: yellow; text-align: center; width: 20%;"> <p>Working Area</p> <p>[Worker identification card]</p>  <p>[Receipt]</p>  </div> <div style="border: 1px solid black; padding: 5px; width: 20%; text-align: center;"> <p>Control workers in-and-out of the site</p> <p>Measure personal radiation dose</p> <ul style="list-style-type: none"> <li>- Lending pocket dosimeter</li> <li>- Record: Signing Since Jun. 8 ~ by barcodes</li> <li>- Notification of radiation exposure data Since Aug. 16~ by receipts</li> </ul> </div> </div> </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, etc. from Nov. 1.)</li> <li>- Check of recent health condition and medical history of new site workers (from Oct. 24)</li> <li>- Countermeasures against heatstroke                             <ul style="list-style-type: none"> <li>Notice board</li> <li>Cool vest</li> <li>Mask with blower</li> <li>Cool scurf</li> </ul> </li> </ul>	<div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center; border: 1px solid black; padding: 5px;">Medical Space at Main Anti-Earthquake Building</p> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Poster for Caution against Heatstroke</p> </div> <div style="text-align: center;">  <p style="border: 1px solid black; padding: 2px;">Cool Vest</p> </div> <div style="text-align: center;">  <p style="border: 1px solid black; padding: 2px;">Mask with blower</p> </div> <div style="text-align: center;">  <p style="border: 1px solid black; padding: 2px;">Cool Scurf</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p style="border: 1px solid black; padding: 2px;">Wearing Cool Scurf</p> </div> <div style="text-align: center;">  <p style="border: 1px solid black; padding: 2px;">Wearing Cool Pack for Neck (Freezed type)</p> </div> <div style="text-align: center;">  <p style="border: 1px solid black; padding: 2px;">Cool Pack for Neck (Freezed type)</p> </div> </div> <p style="text-align: center; font-size: small;">※Photos are from manufacturers' brochures. There are cases different from actual use.</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 data-bbox="1231 793 2041 844">Emergency Room (ER) for Unit 5/6</p>			
	 <p data-bbox="510 1255 1023 1333">Operation check of medical devices (doctor and nurse)</p>	 <p data-bbox="1092 1255 1605 1333">Inventory check of medical drugs (doctor and nurse)</p>	 <p data-bbox="1676 1255 2190 1333">Radiation dose measurement in the room (radiation specialist)</p>	 <p data-bbox="2258 1255 2772 1333">ER for Unit 5/6 (medical space)</p>	
	 <p data-bbox="1023 1871 2288 1921">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)			
(9) Radiation control / Medical care V. Environment Improvement	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>				



# 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. 3,700 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 and approx. 30 people from Sep. 26 to 30). It will train 250 of 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 50 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; flex-wrap: wrap;"> <div style="width: 50%; text-align: center;">   <p>Radiation survey staff training course (at training center, TEPCO)</p> </div> <div style="width: 50%; text-align: center;">   <p>Radiation survey staff training course (at J Village)</p> </div> <div style="width: 100%; text-align: center;">    <p>Radiation protection staff training course (at JAEA)</p> </div> </div>