


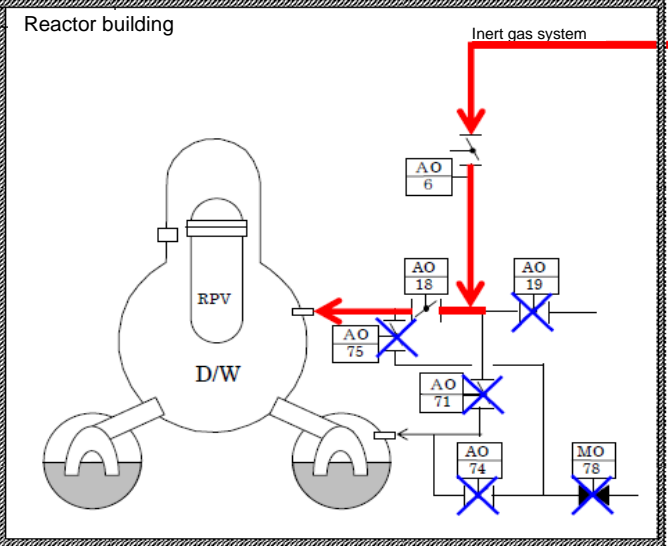

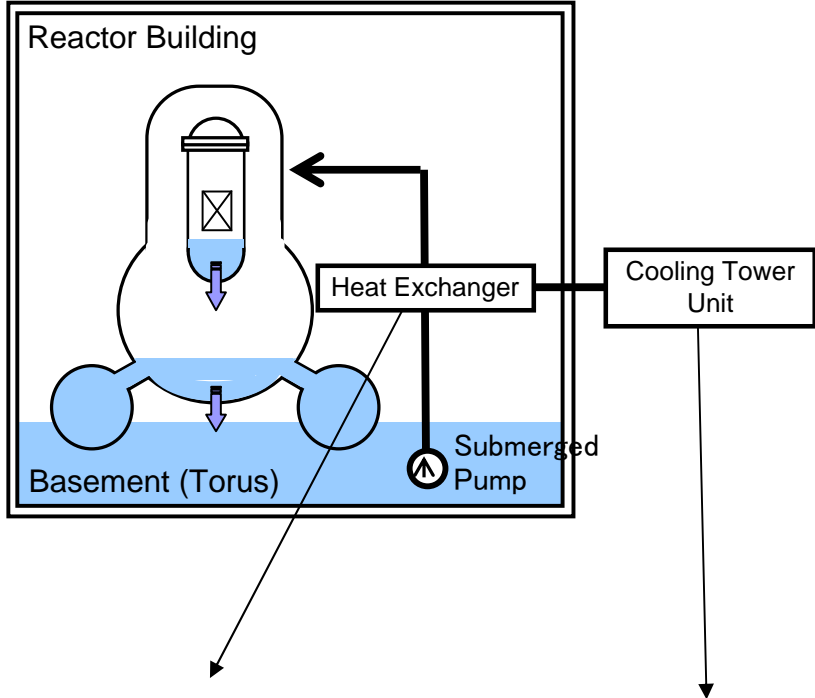






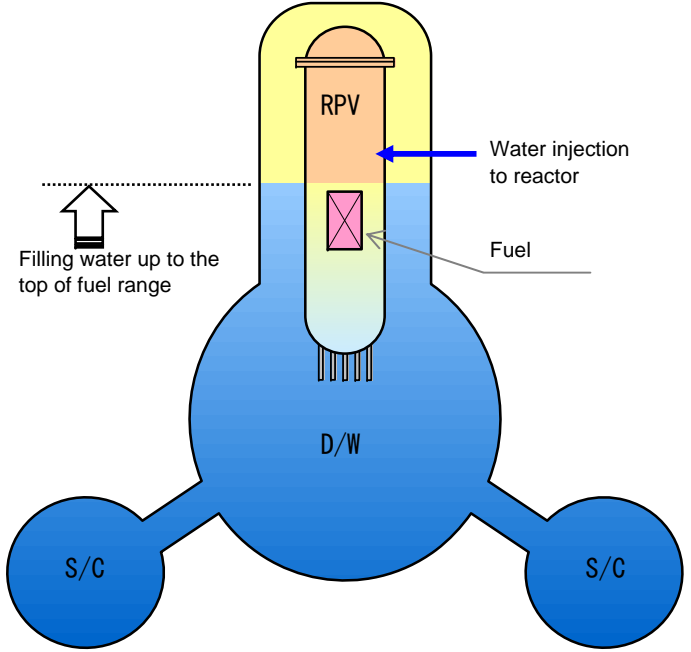

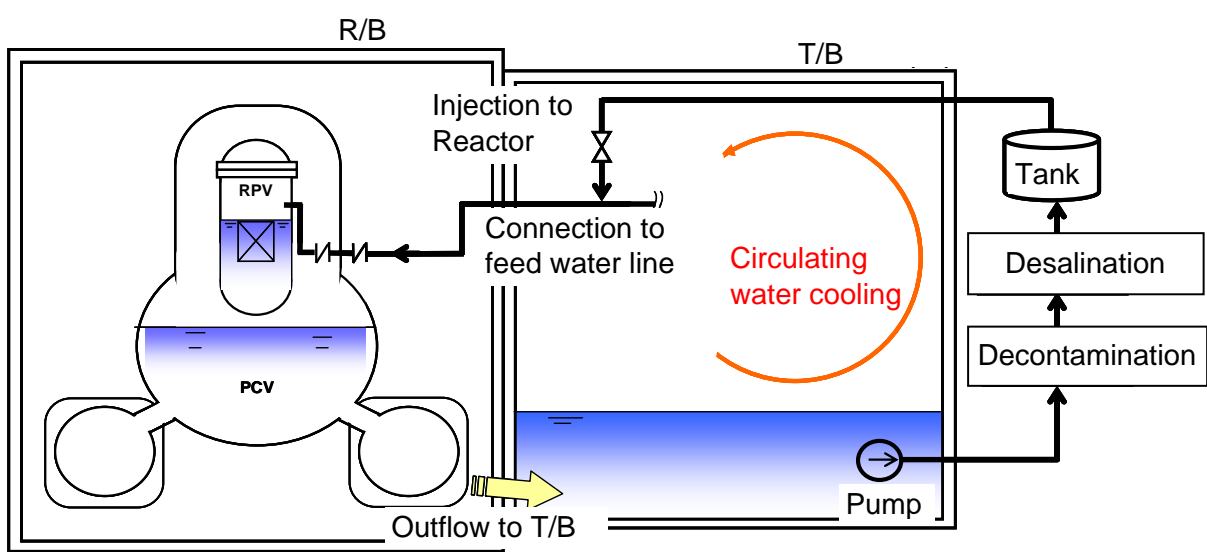
Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	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>Countermeasure [76] Improvement of working environment</p>	<p>Removal of debris, Measurement of radiation dose, Entrance into the building (May 9) RPV water level gauge calibration (May 10) PCV pressure gauge calibration (May 11) Installation of water level gauge at basement of Reactor Building (May 27) 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>
	<p>Countermeasure [11] Nitrogen gas injection</p>	<p>Implementing from Apr. 6</p>	<div style="text-align: center; margin-bottom: 10px;"> <p>Nitrogen gas supply apparatus</p> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">  <p>System outline of nitrogen gas injection</p> </div> <div style="width: 35%; text-align: center;">  </div> </div>

Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
I. Cooling (1) Reactor	Unit 1 Countermeasure [13] Securing heat exchange function for the reactor	<p>- Due to the leakage from the primary containment vessel (PCV), we judged that it is difficult to secure water level of PCV.</p> <p>- Therefore, we changed the plan to give priority to the establishment of circulating water cooling for the reactor.</p> <p>- We are studying the reactor cooling system by using heat exchanger as a mid to long term solution.</p> <p>(work implemented)</p> <p>- Completed the assembly of cooling tower unit and shielding equipment to reduce exposure dose for outdoor work (from May 17 to Jun. 17)</p>	<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, Completion of assembly of cooling unit on the trailer</p>  <p>Shielding equipment to reduce exposure dose for outdoor work</p>







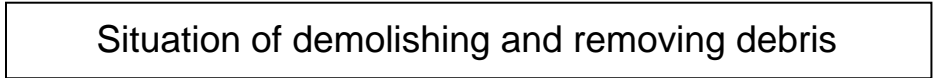



Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)	
I. Cooling (1) Reactor	Unit 1	Countermeasure [14] Cooling by minimum water injection rate (Cooling by water injection)	- Implementing water injection at the rate of approx. 3.5m ³ /h from Jun. 22	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Image of flooding the PCV</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">Inspection of water level gauge</div> </div>  
	Countermeasure [16] Sealing the leakage location	- Under examination on the implementation as mid to long term measures.		
	Countermeasure [9] Flooding the PCV	- Under examination on the implementation as mid to long term measures.		
	Countermeasures [12,45] Consideration and preparation of reuse of processed water	- Work on injection line (from May 21) - Started circulating water cooling from Jun. 27		
	Countermeasures [12,14,45] Initiation and implementation of circulating water cooling	- Started circulating water cooling from Jun. 27		
			 <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;">System outline of water reuse as reactor coolant by processing accumulated water</div>	

Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
I. Cooling (1) Reactor Unit 2	Countermeasure [76] Improvement of working environment	Check radiation dose, entry into buildings. (May 18, May 26, Jun. 4, Jun. 11) Started local exhausters, purification operation (from Jun. 11 to Jun. 19).	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Image of the countermeasure: Sealing the damaged location of Primary Containment Vessel. </div>
	Countermeasure [11] Nitrogen gas injection	In operation from Jun. 28.	
	Countermeasure [13] Secure heat exchange function	- Prioritize the achievement of circulation cooling of reactors by circulating water cooling. For the reactor cooling system using heat exchanger, under examination on its implementation as mid to long term measures.	
	Countermeasure [6] Consider on sealing methodology of leakage location of Primary Containment Vessel.	- Conducted laboratory test on sealing methodology.	
	Countermeasure [16] Sealing the leakage location	- Under examination on the implementation as mid to long term measures.	
	Countermeasure [9] Flooding the PCV	- Under examination on the implementation as mid to long term measures.	
	Countermeasure [14] Cooling at minimum water injection rate (cooling by water injection)	- Implementing water injection at the rate of approx. 3.5 m ³ /h from Jun. 22.	
	Countermeasures [12, 45] Consideration and preparation of reuse of accumulated water	- Construction of water injection line (from Apr. 9) - Started circulating water cooling from Jun. 27.	
Countermeasures [12, 14, 45] Initiation and implementation of circulating water cooling	- Started circulating water cooling from Jun. 27.		




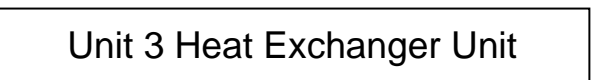


Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
I. Cooling (1) Reactor Unit 3	Countermeasure [76] Improvement of working environment	- Removal of debris, check exposure dose, entry into buildings. (May 18, Jun. 9) - Clearance work using robots (Jul. 1) - Placement of steal boards at truck bay door (Jul. 4)	Demolished and removed debris at the truck bay door, which would have been obstacles for installation of alternative cooling facilities for Unit 3's reactor. Truck bay door/ collapsed outside pillars Truck bay door/ Inside Machine hatch space on the 1st floor of the reactor building
	Countermeasure [11] Nitrogen gas injection	In operation from Jul. 14.	
	Countermeasure [13] Secure heat exchange function	- Prioritize the achievement of circulation cooling of reactors by circulating water cooling. For the reactor cooling system using heat exchanger, under examination on its implementation as mid to long term measures.	
	Countermeasure [16] Sealing the leakage location	- Under examination on the implementation as mid to long term measures.	
	Countermeasure [9] Flooding the PCV	- Under examination on the implementation as mid to long term measures.	
	Countermeasure [14] Cooling at minimum water injection rate (cooling by water injection)	- Implementing water injection at the rate of approx. 9 m ³ /h from Jun. 24.	
	Countermeasures [12, 45] Consideration and preparation of reuse of accumulated water	- Construction of water injection line (from Apr. 16) - Started circulating water cooling from Jun. 27.	
	Countermeasures [12, 14, 45] Initiation and implementation of circulating water cooling	- Started circulating water cooling from Jun. 27.	
			  
			<p style="text-align: center;">Removal of outside pillars using wirelessly-controlled backhoe</p> <p style="text-align: center;">Removal of debris using Brokk (wired remote control)</p> <p style="text-align: center;">Container loading using shielded forklift</p>


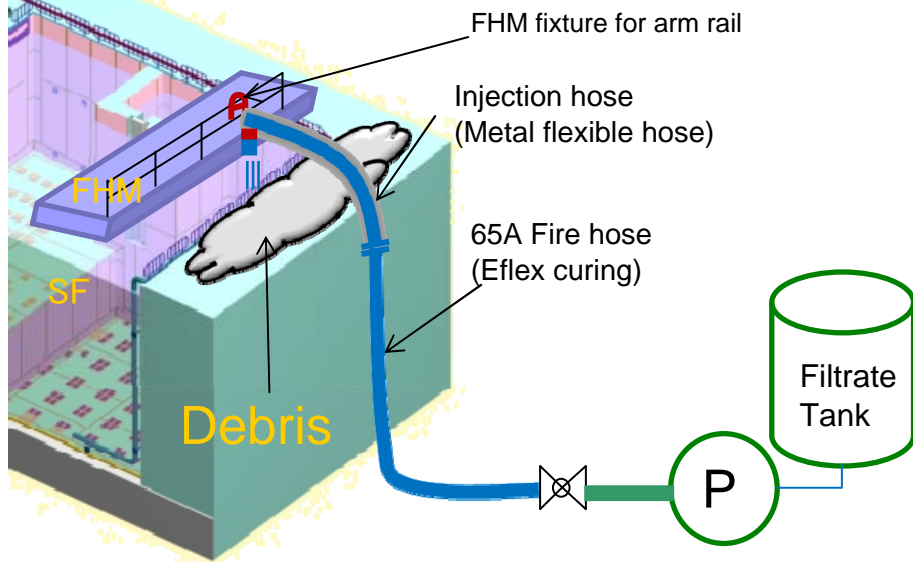

Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation status	Reference (Photos and Figures)	
I. Cooling (2) Spent Fuel Pool	Unit 1	Countermeasure [22] Continuation of water injection by "Giraffe", etc	<ul style="list-style-type: none"> - 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 (arm, water injection operation) 	<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 10px;"> Image of remote control operation of concrete pumping vehicle </div>
	Countermeasure [24] Restoration of normal cooling system	<ul style="list-style-type: none"> - Radiation measurement by camera and robot (from Apr. 30 to May 6) - Radiation reduction by flushing and shielding facility (from May 11 to May 15) - Water injection through normal cooling system (from May 29) 	<p style="text-align: center;">Air fin cooler</p>	
	Countermeasures [25,27] Installation of heat exchanger	-Circulating cooling system is under operation (from Aug. 10.)	<div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> Overview of SFP cooling function </div>	<p style="text-align: center;">Existing heat exchanger</p>

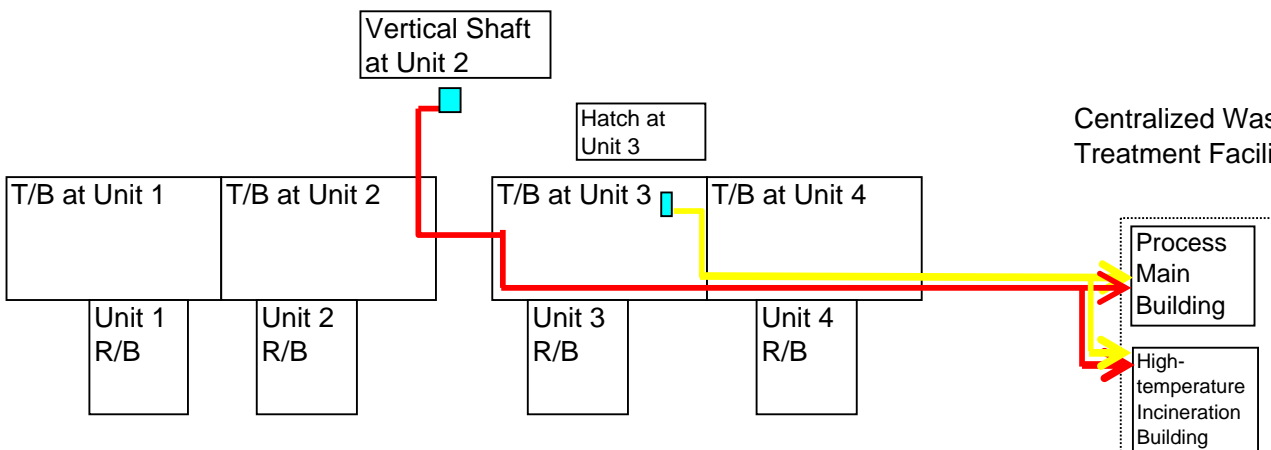


Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation status	Reference (Photos and Figures)	
I. Cooling (2) Spent Fuel Pool	Unit 2 Countermeasure [23] Restoration of normal cooling system	- Continuing	 	
		- Installation work of heat exchanger completed. Circulating cooling system is under operation (from May 31).		
	Unit 3 Countermeasure [22] Continuation of water injection by "Giraffe" etc	- 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		
		Unit 3 Countermeasure [24] Restoration of normal cooling system	- 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)	 
	Countermeasures [25,27] Installation of heat exchanger		- Installation work of heat exchanger completed. Circulating cooling system is under operation (from Jun. 30).	




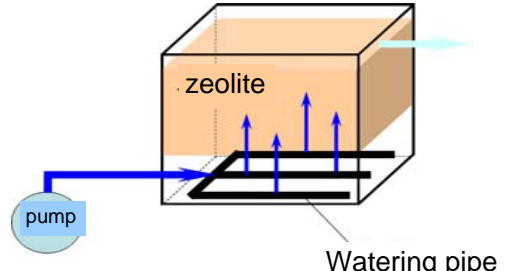



Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation status	Reference (Photos and Figures)
I. Cooling (2) Spent Fuel Pool	Countermeasure [22] Continuation of water injection by "Giraffe" etc	- Reliability improvement: enhanced durability of hoses - Measures to reduce radiation dose: switch to remote-controlled operation - Installation of water level gauge (from Apr. 22)	 <p style="text-align: center;">Water injection by "Giraffe" at Unit 4</p>
	Countermeasure [24] Restoration of normal cooling system	- Water injection by installing alternative equipment of "Giraffe" (from Jun. 17)	 <p style="text-align: center;">Alternative equipment to "Giraffe" at Unit 4</p>
	Countermeasures [25,27] Installation of heat exchanger	- Installation work of heat exchanger completed. Circulating cooling system is under operation (from Jul. 31).	 <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Unit 4 Heat Exchanger Unit</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">Air Fin Cooler</div> </div>

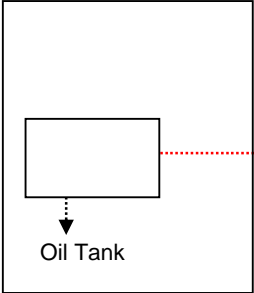
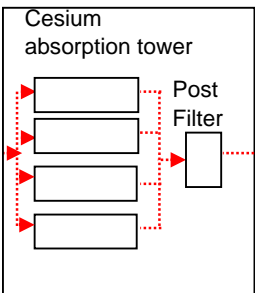
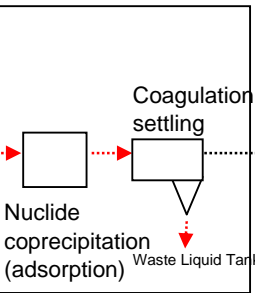
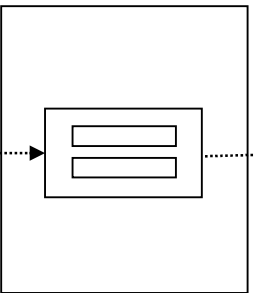
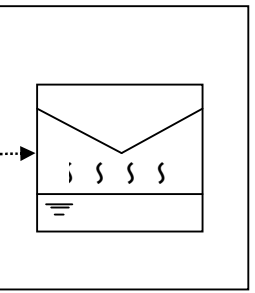




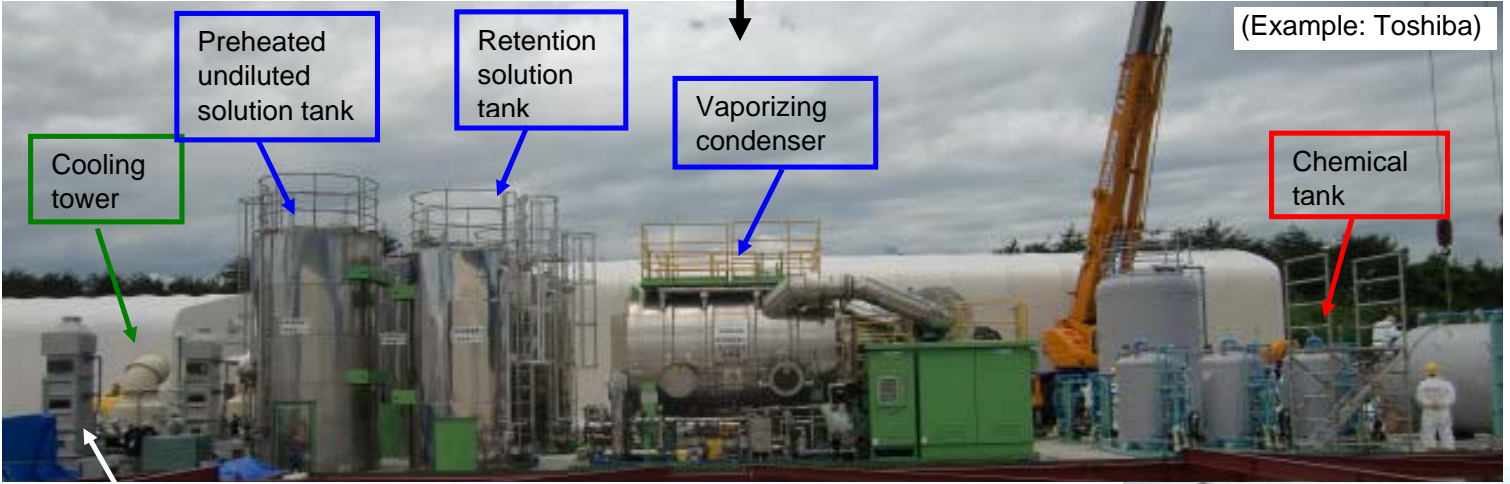

Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation status	Reference (Photos and Figures)
II. Mitigation (3) Accumulated Water	High level	<p>Countermeasures [37, 39, 42] Securing sufficient places to store contaminated water</p> <p>- Transferring to Centralized Waste Treatment Facility (Process Main Building and High-temperature Incineration Building) after checking non-existence of water leakage</p> <p>o Process Main Building: After checking non existence of water leakage etc., resumed transferring accumulated water from Unit 2 Turbine Building. (April 19)</p> <p>o High-temperature Incineration Building: After checking non existence of water leakage etc., resumed transferring accumulated water from Unit 3 Turbine Building. (May 17)</p>	<p style="text-align: center;"><Transferring into Centralized Waste Treatment Facility></p>  <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div data-bbox="1484 1008 2018 1386">  <p style="text-align: center; background-color: blue; color: white; padding: 5px;">Tanks to receive processed water (H1 area)</p> </div> <div data-bbox="2077 1008 2700 1386">  <p style="text-align: center; background-color: blue; color: white; padding: 5px;">Underground tanks for processed water (Highly contaminated water)</p> </div> </div>




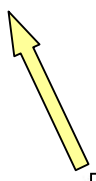
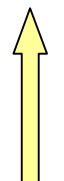

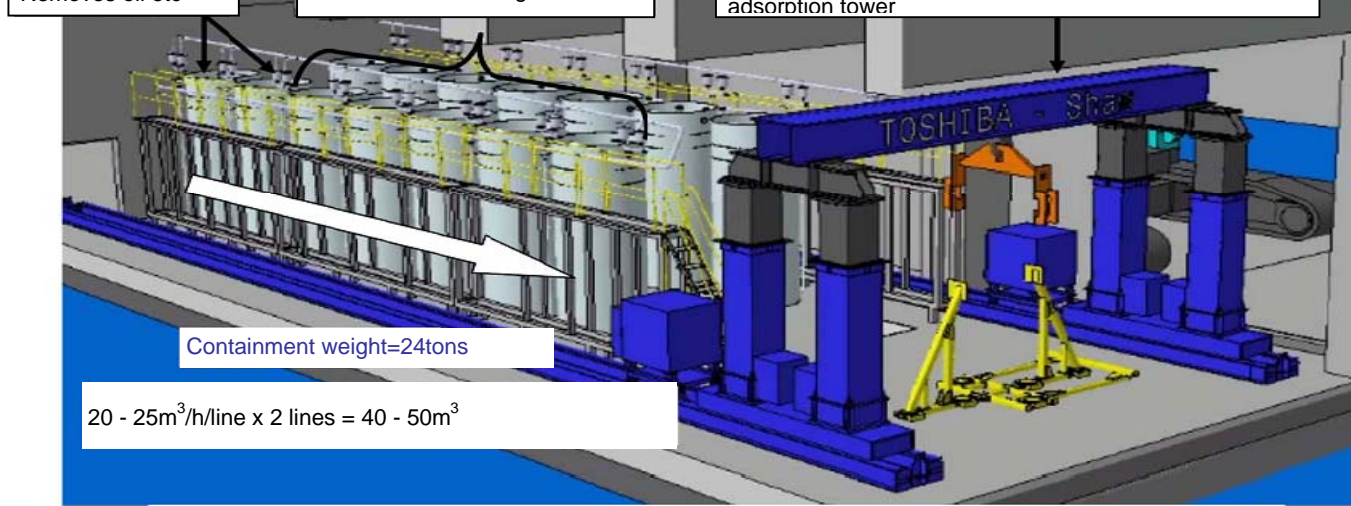
Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation status	Reference (Photos and Figures)
II. Mitigation (3) Accumulated Water	High level	<p>Countermeasure[64] Consideration of mitigation of contamination in the ocean</p> <ul style="list-style-type: none"> - Completed setting up silt fence (Apr. 14) - Preparation construction for setting steel pipe sheet piles [Completed removing curtain wall] - Purification of sea water by circulating purification system (from Jun. 13) - Completed setting up sliding concrete wall at intake of Unit 1 to 4 (Jun. 29) - Started shipping steel pipe sheet pile (from Aug. 10) (Shipping steel pipe sheet pile the port in order to implement translucent prevention work and repair the blocks damaged by tsunami at the south side of intake canal of Unit 1 to 4) 	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Sliding concrete wall at intake (Unit 2)</p> </div> <div style="text-align: center;">  <p>Sliding concrete wall at intake (Setting work)</p> </div> </div> <div style="text-align: center; margin-top: 10px;">  <p>Shipping steel pipe sheet pile</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p><Adsorption of cesium by zeolite></p>  <p>zeolite pump Watering pipe</p> </div> <div style="text-align: center;"> <p><Appearance of the system></p>  </div> </div>
		<p>Countermeasure [65] Containment of high level radioactive water</p> <ul style="list-style-type: none"> - 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 - Closure of pits and others Unit 1: completed on May 17 Unit 2: completed on Jun. 9 Unit 3: completed on Jun. 10 Unit 4: completed on Jun. 10 	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Closure of sea water piping vertical shaft (left: before closure, right: after closure)</p> </div> <div style="text-align: center;">  <p>Closure of pit (left: before closure, right: after closure)</p> </div> </div>





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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 style="writing-mode: vertical-rl; transform: rotate(180deg);">High level</p>	<p>Countermeasures [38, 43] Installation of Treatment Facility/Continuance of Elimination and Treatment of Contaminated Water in the Building</p> <p>[Decontamination of Contaminated Water] Started on Jun. 17 - Cesium adsorption instruments (Kurion) + Radioactivity treatment apparatus (Areva) Processing started on Jun. 17 - 2nd Cesium adsorption apparatus (SARRY): Planned to start on Aug. 18</p> <p>[Desalting of Contaminated Water] - Water Desalinations (RO method): Processing started on Jun. 17 Second phase of construction completed on Jul. 20 - Water Desalinations (Distilling equipment): Start treatment on Aug. 7 (Toshiba portion) Plan to start treatment on Aug. 20 (Areva portion)</p> <p>[Storage of sludge waste] - Storing sludge waste in the pellet storage tank - Additional sludge waste storage tanks are under preparation</p>	<p><Decontamination flow of contaminated water></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 (Reverse osmosis)</p>  </div> <div style="text-align: center;"> <p>V. Desalination apparatus 2 (distillation)</p>  </div> </div> <p style="text-align: center;">↓ ↓ ↓ ↓ ↓</p> <div style="display: flex; justify-content: space-around;">     </div> <p style="text-align: center;">↓</p>  




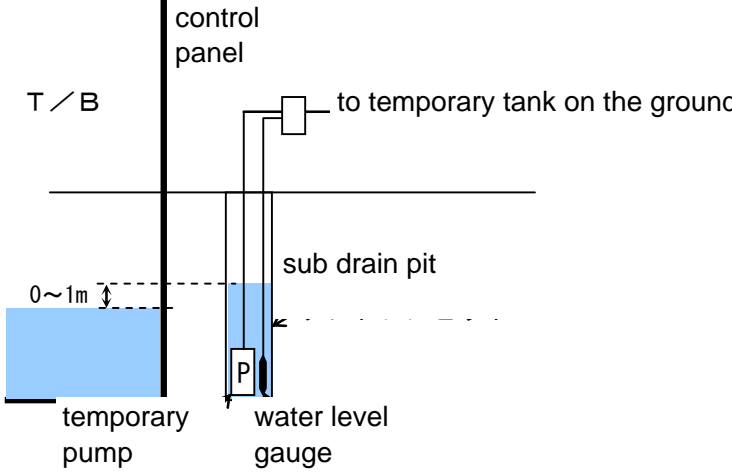
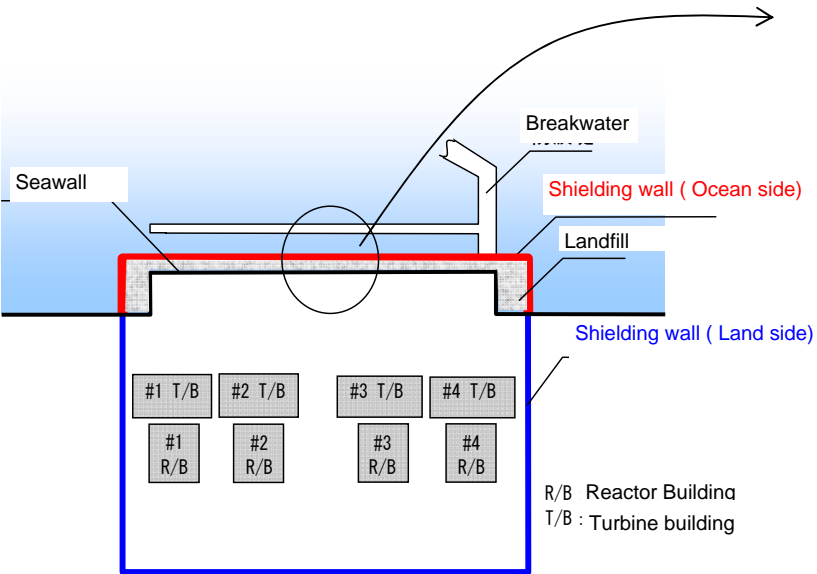
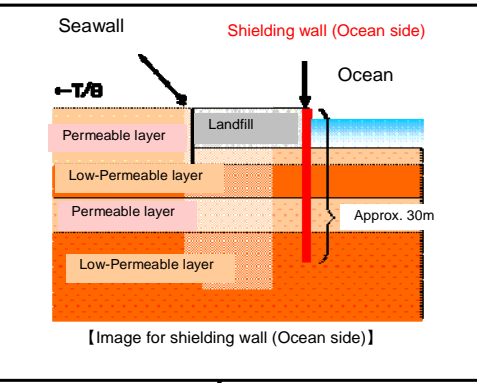
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<p style="text-align: center;">II. Mitigation</p> <p style="text-align: center;">(3) Accumulated Water</p>	<p style="text-align: center;">High level</p> <p>Countermeasures [38, 43] Installation of Treatment Facility/Continuance of Elimination and Treatment of Contaminated Water in the Building</p>		<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>Installation of Cesium adsorption tower</p>  </div> <div style="text-align: center;"> <p>Cesium adsorption towers</p>  </div> <div style="text-align: center;"> <p>Installation of lifter for changing adsorption towers</p>  </div> </div> <div style="margin-top: 20px;">  <p>Removes oil etc</p> <p>Removes Cs. Front row contains low level adsorption material, the back row contains high level</p> <p>Install special heavy machinery for lifting (hydraulic) and transfer machinery indoors, remove and transfer waste adsorption tower</p> <p>Containment weight=24tons</p> <p>20 - 25m³/h/line x 2 lines = 40 - 50m³</p> </div> <div style="margin-top: 20px; border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Expansion of Decontamination Capacity</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Kurion (USA)</div> <div style="font-size: 2em;">↔</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">AREVA (France)</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="font-size: 2em;">↙</div> <div style="border: 2px solid black; padding: 5px; text-align: center;">SARRY (USA, Japan)</div> <div style="font-size: 2em;">↘</div> </div> </div>






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II. Mitigation (3) Accumulated Water	Low level	<p>Countermeasure [40, 41] Increase storage capacity / decontamination</p> <p>Increase of storage capacity and continuation of decontamination of contaminated water</p> <ul style="list-style-type: none"> - Installation of tanks for processed water: Waste liquid RO Supply B Area 6,200t (May 31) RO processed water temporary storage tank D Area 5,000t (May 10) RO condensed water temporary storage tank E Area 8,000t (May 22) RO condensed water storage tank H Area 32,000t (Aug 15) Evaporation treatment fresh water storage tank H Area 5,000t (Jul 21) Evaporation waste liquid storage tank H Area 5,000t (Jul 31) - Low level tank F Area 12,200t (May 31) - Megafloat 10,000t (May 21) 	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p><Megafloat></p>  </div> <div style="text-align: center;"> <p><F Area Tanks></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><Square shape tanks></p>  </div> <div style="text-align: center;"> <p><Round shape tanks></p>  </div> </div> </div> </div>
		<p>Utilization of decontaminant (zeolite)</p> <p>Setting in water, self-circulation and adsorption of Cesium by zeolite</p> <p>Decontamination of accumulated water in Unit 6 T/B after transferring to receiver tanks for low level water</p> <p>Full-scale operation (from May 1)</p>	 <p style="background-color: blue; color: white; padding: 5px; display: inline-block;">Decontaminant (zeolite)</p>



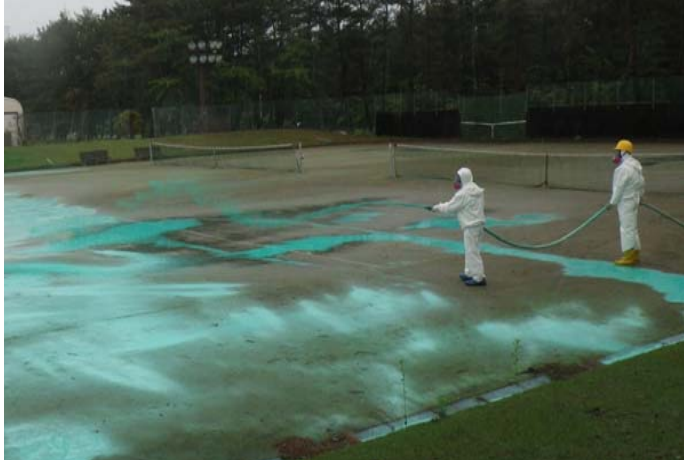




Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation status	Reference (Photos and Figures)
II. Mitigation (4) Groundwater	Countermeasure [66] Consideration of mitigation measures of groundwater contamination	<ul style="list-style-type: none"> - Closing of vertical shaft of sea water pipe <ul style="list-style-type: none"> Unit 2: Completed on Jun. 2 Unit 3: Completed on May 26 Unit 4: Completed on Apr. 6 - Closure of pits, etc. <ul style="list-style-type: none"> Unit 1: Completed on May 17 Unit 2: Completed on Jun. 9 Unit 3: Completed on Jun. 10 Unit 4: Completed on Jun. 10 	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Putting in crushed stone</p> </div> <div style="text-align: center;">  <p>Concrete placement</p> </div> <div style="text-align: center;">  <p>Mortar placement</p> </div> </div>
	Countermeasure [67] Implementation of mitigation measures of groundwater contamination	<ul style="list-style-type: none"> - Restoration of sub drain pump <ul style="list-style-type: none"> Installation of pumps at sub drain pits on T/B side. Completed at 7 points on Jul. 29 Laying the transfer piping arrangement Considering locations to install the pumps on R/B side - Sub drain management along with expansion plan of storage/processing facility. 	<div style="text-align: center;">  <p>Image of sub drain pump control</p> </div>
	Countermeasure [68] Construction of shielding wall of groundwater	<ul style="list-style-type: none"> -Considering underground water flow based on seepage analysis -Under investigation of underground water level, water quality, etc. by boring. <next step> -Evaluate the water shield effect, earthquake resistance, durability, etc. then consider the most appropriate method to shield underground water -Implement study for optimization of shielding section, installation plan. -Start construction for sea side area during Step 2 -Investigate and study for landward area by the end of Step 2 	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p style="font-size: small;">R/B : Reactor Building T/B : Turbine building</p> </div> <div style="width: 45%;"> <p style="text-align: center;">Image of groundwater shielding</p>  <p style="font-size: x-small;">[Image for shielding wall (Ocean side)]</p> </div> </div>

Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
II. Mitigation (5) Atmosphere / Soil	Countermeasure [52] Dispersion of inhibitors	<p>[Present Status] Completed dispersion of inhibitor</p> <p>○Record of dispersion : Approx. 560,000m²</p> <p><Inside power station (flat land and slope)> : Approx. 400,000m² -Test dispersion (Apr. 1 to Apr. 25) : Approx. 30,000m² -Full dispersion (Apr. 26 to Jun. 28) : Approx. 370,000m²</p> <p><Around buildings> : Approx. 160,000m² -Dispersion using crawler dump truck (Apr. 26 to Jun. 27) Around buildings of Unit 1 to 4, 5 and 6 : Approx. 120,000m² -Dispersion by bending spray tower vehicle (May 27 to Jun. 4, Jun. 10) Turbine building of Unit 1 to 4, roof and wall of reactor building of Unit 2 : Approx. 30,000m² -Dispersion by concrete pumping vehicle (Zebra) (Jun. 8,9,18) Roof and wall of reactor building of Unit 1,3,4 : Approx. 10,000m²</p> <p>Hereafter, we keep monitoring status of solidification and others at dispersed area.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Dispersion of inhibitors in the Power Station (slope)</p> </div> <div style="text-align: center;">  <p>Dispersion of inhibitors around buildings of Unit 1 to 4 by crawler dump</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> <div style="text-align: center; margin-top: 20px;">  <p>Dispersion of inhibitors by bending spray tower vehicle</p> </div>




Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)			
II. Mitigation (5) Atmosphere / Soil	Countermeasure [52] Dispersion of inhibitors				Dispersion of inhibitors in the Power Station (slope)	Dispersion of inhibitors in the Power Station (slope)
					Dispersion of inhibitors in the Power Station (flat surface)	After dispersion of inhibitors in the Power Station (slope)
					After dispersion of inhibitors in the Power Station (slope)	After dispersion of inhibitors in the Power Station (flat surface)
				After dispersion of inhibitors in the Power Station (flat surface)		

Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
II. Mitigation (5) Atmosphere / Soil	Countermeasure [53] Removal of debris	<ul style="list-style-type: none"> - 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, bulldozer) (from Apr. 6). - Almost all of the debris in highly-radioactive area, outside the buildings of Unit 1 to 4 (airborne radiation 10mSv/h or higher) are removed . <Record of removing debris as of Aug. 17> - Approx.700 containers of debris are removed. <Plan for further implementation> - We will continue removing outside debris, that hinders work. 	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Removing debris with remote-controlled heavy machinery</p> </div> <div style="text-align: center;">  <p>(Container : 3.2×1.6×1.1m、Approx.4m³)</p> </div> </div> <div style="text-align: center; margin-top: 20px;">  <p>Around reactor building of Unit 1 (Jun. 9)</p> </div>
			<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Around reactor building of Unit 1</p> </div> <div style="text-align: center;">  <p>Between reactor buildings of Unit 2 and Unit 3</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Bottom of the slope at the south side of Centralized Waste Treatment</p> </div> <div style="text-align: center;">  <p>Road at the ocean-side near Unit 1 Turbine Building</p> </div> </div>

Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
II. Mitigation (5) Atmosphere / Soil	Countermeasure [54] Installation of reactor building cover	《Unit 1》 ・ Started preparation work ※ (from May 13) ※ { ・ Maintenance of roads for crane ・ Creation of slope for crane to crawl ・ Maintenance of shallow draft quay ・ Began main structure construction work (from Jun.28) ・ Began steel frame work (from Aug.10)	《Unit 1 progress status》  <p style="text-align: center;">Before Laying pavement and leveling Laying steel plates</p>  <p style="text-align: center;">Preparation work (Improvement of condition of shallow draft quay, completion of laying steel plates (finished on Jun. 11))</p>  <p style="text-align: center;">Preparation work (road for crawler crane)</p>

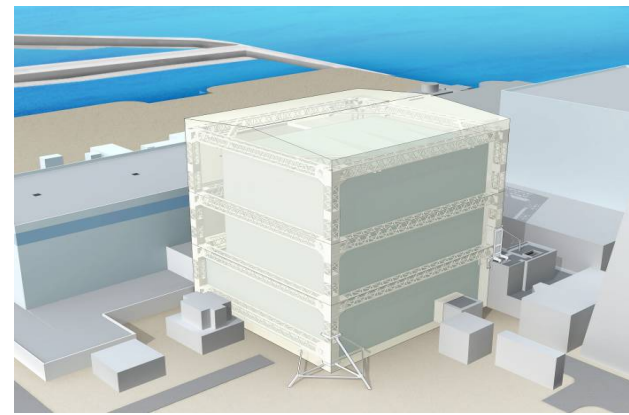







Image after installation of reactor building cover for Unit 1









Installation model of reactor building cover for Unit 1

Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
II. Mitigation (5) Atmosphere / Soil	Countermeasure [54] Installation of reactor building cover		<div style="text-align: center;">  <p>Status of preparation work (shallow draft quay ~ road for crawler crane)</p> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Temporary assembly of reactor building cover for Unit 1 (at Onahama Port)</p> </div> <div style="text-align: center;">  <p>Assembly of steel frames</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Assembly of steel frames</p> </div> <div style="text-align: center;">  <p>Assembly of steel frames</p> </div> </div>

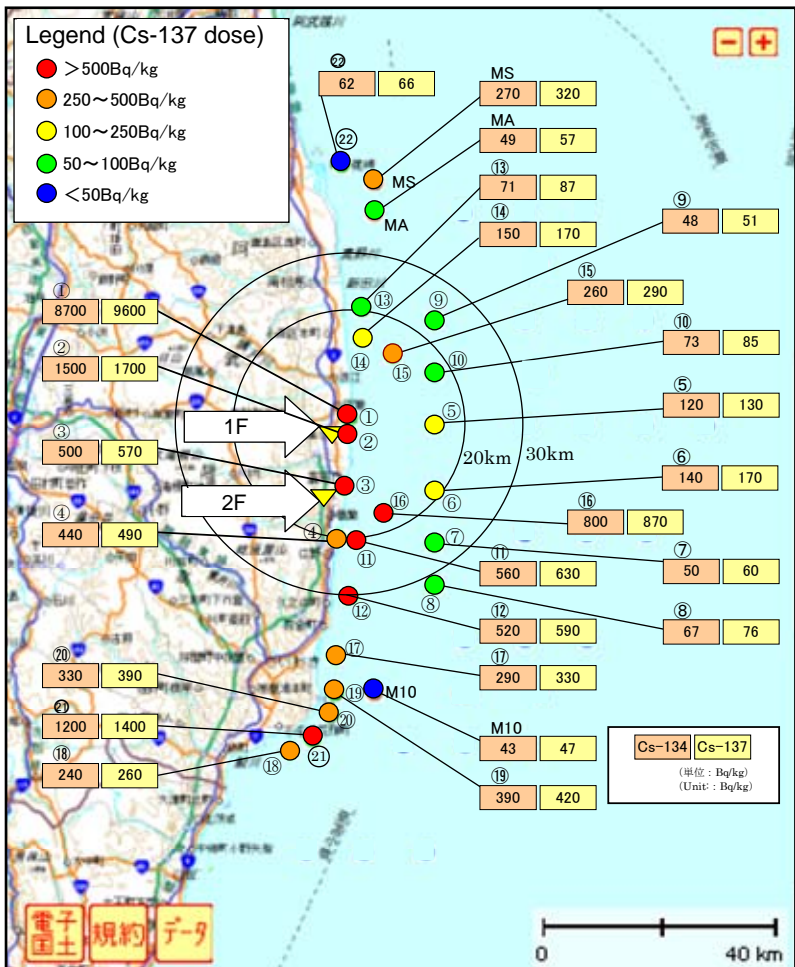

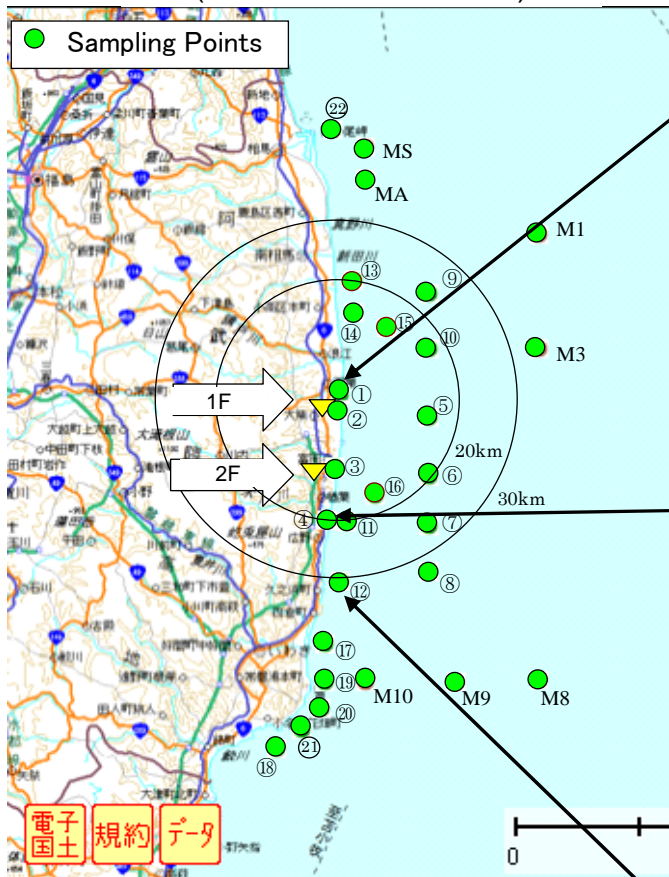
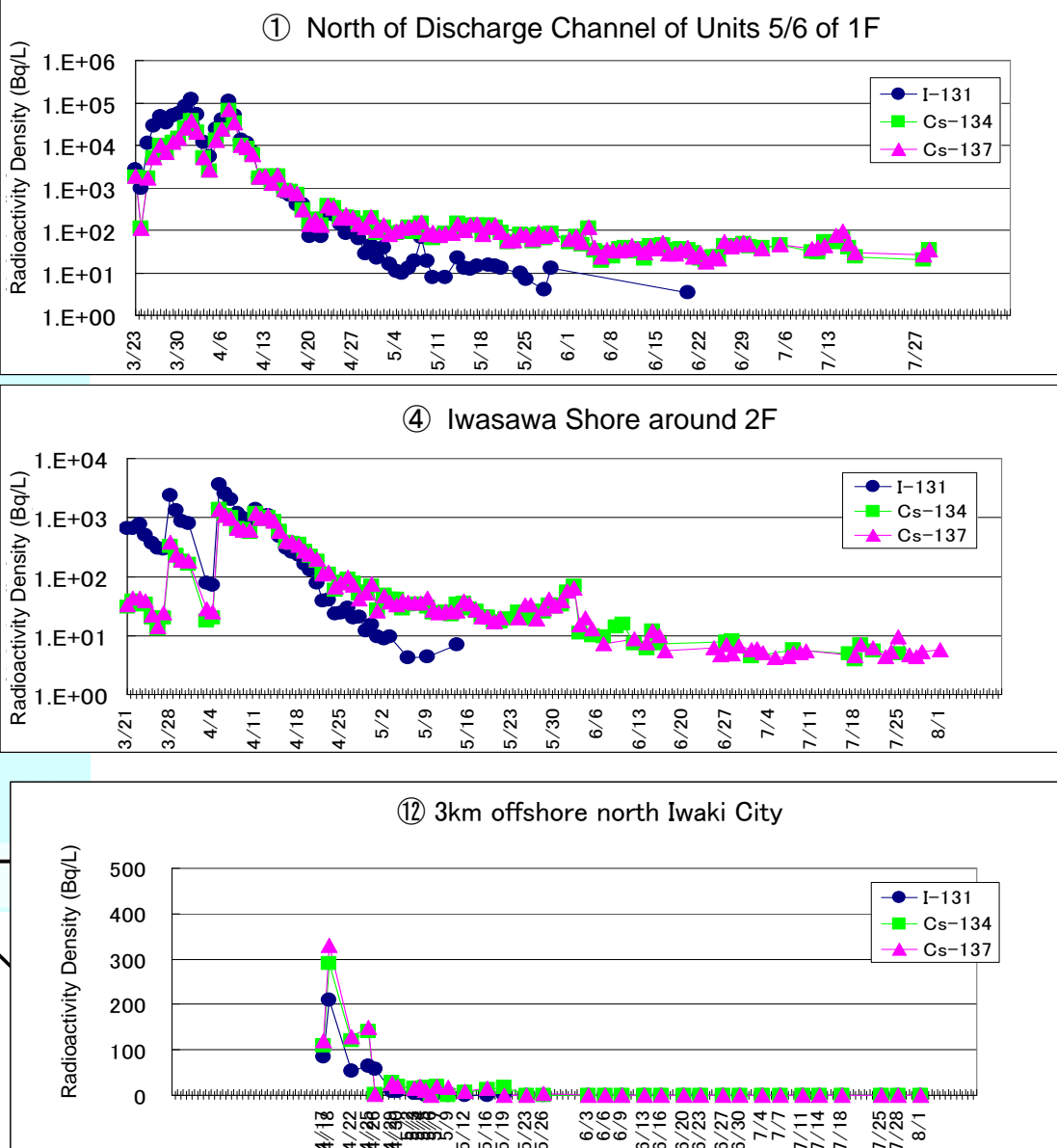
Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)	
II. Mitigation (5) Atmosphere / Soil	Countermeasure [84] Removal of debris on top of reactor buildings	<Unit 3,4> - Commencement of preparation work Unit 3; from Jun. 20 Unit 4; from Jun. 24	<p>Preparation work for reactor building cover for Unit 3</p>  <p>Maintenance of roads for large-size crane</p>  <p>Maintenance of working area for assembling steel frames</p>  <p>Assembling heavy machinery for dismantling debris around buildings</p>	<p>Preparation work for reactor building cover for Unit 4</p>  <p>Maintenance of working area for large-size crane</p>  <p>Removal of debris</p>  <p>Assembling heavy machinery for dismantling debris around buildings</p>

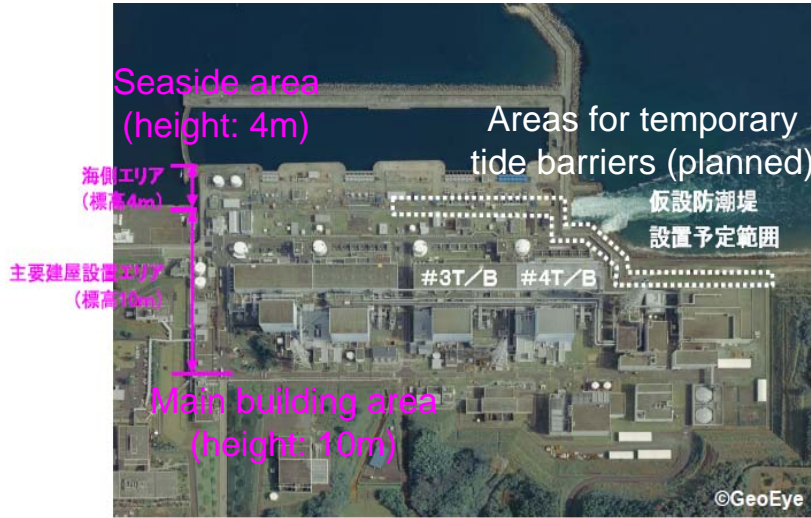
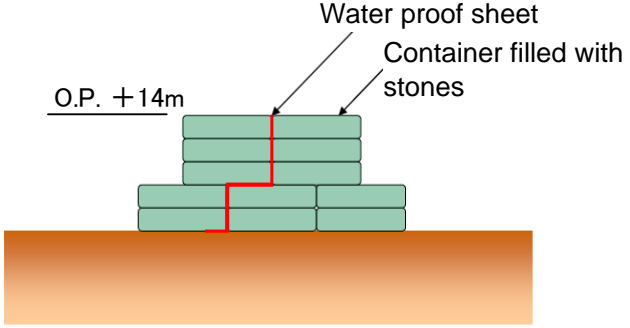




Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	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 announcement of monitoring</p>	<p>Continue monitoring in and out of the power station</p> <p>[Land area] <Monitoring within 20km radius of the periphery></p> <ul style="list-style-type: none"> Monitoring of aerial radiation dose rate at 50 points by Utility Support Team (once a week) Land sampling at 50 points and additional points (approx. 50 points) by Utility Support Team (Jun. 10, 13, 30, Jul. 2 and 8) Dust sampling at 5 points near 10 km radius of the periphery (Aug. 5) Monitoring at the time of nitrogen injection to the PCV of Unit 3 (Jul.13 ~29) <p><Monitoring within the site></p> <ul style="list-style-type: none"> Monitoring of airborne radioactivity concentration around the West Gate (everyday) Monitoring of radioactivity concentration at the upper part of reactor buildings by a concrete pumper, etc.(every 1 month): Unit 1 (May 22, Jun. 22, and Jul. 24), Unit 4 (May 23, Jun.18), Unit 3 (Jun.13, Jul. 12, 13, and 23), Unit 2 (Jul.22) Measurement of airborne radioactivity concentration at 12 points in the site (once a week, once a month) Measurement of radioactive material fallout in the air (once or twice a month) at 10 points outside of the site Mitigation measures on backgrounds of monitoring posts (mitigation of the impact from land etc.) MP8 (done on May 20), MP3 (done on May 23) 	<p>Upper: Point No. Lower: Radiation dose rate (µSv/h)</p>
	<p>Trend of density of radioactive materials in the air at Fukushima Daiichi</p> <p>Notification concentration (Bq/cm³) Cs-137 3E-5 Cs-134 2E-5 I-131 5E-6</p>	<p>Sampling by concrete pumping vehicle</p> <p>Soil sampling by the Utility Support Team (Within 20 km radius)</p>	

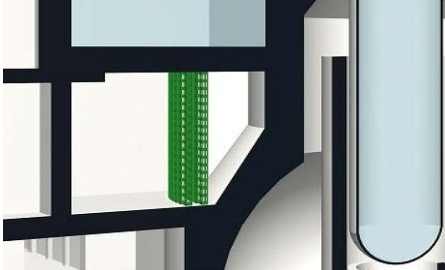
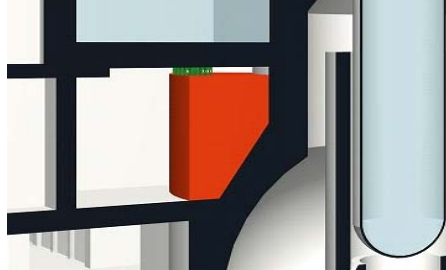








Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	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 announcement of monitoring</p>	<p>[Ocean Area] <Fukushima Prefecture> • Seawater 16 points(Apr.17~) ↓ • Seawater 22 points(May 5~), Marine soil 2 points (Apr.29~) ↓ • Outside 30km radius, 7 points (succession from MEXT); within 30 km radius, at the lower layer additional 11 points; sampling frequency change (Jun.4~) • Expansion of marine soil sampling (2 points → 23 points, Jul.12~)</p> <p><Ibaraki Prefecture> • Seawater 5 points (Apr.29~once a week) ↓ Jun. 7~ twice a week</p> <p><Miyagi Prefecture> • Seawater 6 points (Jun.21~ twice a month)</p>	<p>Offshore Fukushima marine soil survey results (Samples collected from Jul. 14 to Aug. 10, 2011)</p>   <p><Introduction of unmanned survey boat > Planning to sample and measure radiation dose of seawater and marine soil a few km offshore of the front of NPS (planned commencement: late Aug.)</p>
	<p>— Seawater Sampling Points — (Fukushima Prefecture)</p> 		












Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">IV. Countermeasures for aftershocks, etc.</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(7) Tsunami, reinforcement, etc.</p>	<p>Countermeasure [69] Countermeasures against tsunami</p>	<p>-Temporary DGs were moved to the upland (Apr. 15) -Securing redundancy of water injection line (by Apr. 15) -Setting fire engines in the upland (by Apr. 18)</p>	
	<p>Countermeasure [70] Enhancement of countermeasures against tsunami</p>	<p>-Started installation of temporary tide barrier on May 18 and completed on June 30</p>	<div style="display: flex; justify-content: space-around;"> <div data-bbox="2092 430 2680 735">  <p>Cross-section of temporary tide barrier (image)</p> </div> <div data-bbox="1365 861 1944 1291">  <p>Temporary tide barrier (1)</p> </div> <div data-bbox="2003 861 2597 1291">  <p>Temporary tide barrier (2)</p> </div> <div data-bbox="1365 1375 1944 1816">  <p>Temporary tide barrier (3)</p> </div> <div data-bbox="2003 1375 2597 1816">  <p>Temporary tide barrier (4)</p> </div> </div>













Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">IV. Countermeasures for aftershocks, etc.</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Unit 4</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(7) Tsunami, reinforcement, etc.</p>	<p>Countermeasure [26] Installation of supporting structure under the bottom of spent fuel pool</p> <ul style="list-style-type: none"> - Soundness of structure was 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 work) (Jul. 30) 	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Outline of supporting structure installation</div> <div style="text-align: center;">  <p>Steel pillar installation</p> </div> <div style="text-align: center;">  <p>Concrete wall installation</p> </div> </div> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 20px;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Removing debris</div> <div style="text-align: center;">  <p>Removing debris at truck-bay door</p> </div> <div style="text-align: center;">  <p>Assembling a scaffolding at hatch</p> </div> </div> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 20px;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Securing route</div> <div style="text-align: center;">  <p>Securing route</p> </div> <div style="text-align: center;">  <p>Assembling a scaffolding at hatch</p> </div> </div> <div style="display: flex; justify-content: center; margin-top: 20px;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Installation of supporting structure under the bottom of spent fuel pool</div> </div> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 20px;"> <div style="text-align: center;">  <p>Completion of steel pillar installation (Jun. 20)</p> </div> <div style="text-align: center;">  <p>Installation of concrete shuttering</p> </div> <div style="text-align: center;">  <p>Installation status of reinforcing mesh</p> </div> <div style="text-align: center;">  <p>Completion of pouring grout (Jul. 30)</p> </div> </div> </div>







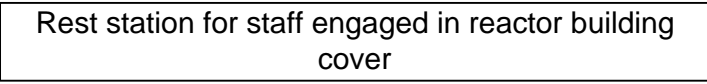


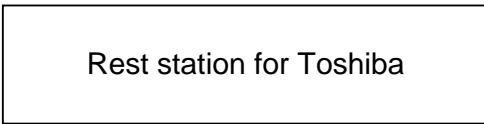
Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
IV. Countermeasures for aftershocks, etc. (7) Tsunami, reinforcement, etc.	Countermeasure [72] Preparation of various countermeasures for radiation shielding	<Utilization of Slurry> - Slurry production facility, transfer pipe, concrete pumping vehicles have been installed (May 17)	<div style="background-color: #e0ffe0; padding: 5px; text-align: center; border: 1px solid black;"> Installation of equipment at Fukushima Daini Nuclear Power Station </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Overview of the facility</p> </div> <div style="text-align: center;">  <p>Slurry production facility</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="background-color: #e0ffff; padding: 5px; text-align: center; border: 1px solid black; margin-top: 10px;"> Placement of equipment at Fukushima Daiichi Nuclear Power Station </div>
	- Maintenance of equipment - Implementing water injection training by connecting slurry production facility and concrete pumping vehicle "Elephant-3" (Jun. 16 and 17) - Making procedure documents and confirming organizational structure (Jun. 30)	<div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Installation of slurry plant at Fukushima Daiichi</p> </div> <div style="text-align: center;">  <p>"Elephant-3"</p> </div> <div style="text-align: center;">  <p>High pressure concrete pumping vehicle</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Transfer pipe</p> </div> <div style="text-align: center;">  <p>Preparation of equipment (sand)</p> </div> <div style="text-align: center;">  </div> </div>	










Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	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>Countermeasure [74] Improvement of workers' like/work environment</p>	<p>- Improvement of meals, upgrade of lodging facility - Securing water for daily use</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Full view</p> </div> <div style="text-align: center;">  <p>Outside (1)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Inside (1)</p> </div> <div style="text-align: center;">  <p>Inside (2)</p> </div> <div style="text-align: center;">  <p>Inside (3)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Inside (4)</p> </div> <div style="text-align: center;">  <p>Inside (5)</p> </div> <div style="text-align: center;">  <p>Inside (6)</p> </div> </div> <div style="text-align: center; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;">Dormitory</div> </div>
	<p>Countermeasure [75] Continuing and enhancement of improvement of workers' life/work environment</p>	<p>- Expansion of temporary dormitory - Increasing available amount of water for daily use</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Bunk bed (whole)</p> </div> <div style="text-align: center;">  <p>Bunk bed</p> </div> <div style="text-align: center;">  <p>Shower room</p> </div> <div style="text-align: center;">  <p>Drinking water</p> </div> </div> <div style="text-align: center; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;">Fukushima Daini Gym</div> </div>






Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	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>Countermeasure [74] Improvement workers' life/work environment Countermeasure [75] Continuing and enhancement of improvement of workers' life/work environment</p>	<ul style="list-style-type: none"> - Installation of rest stations at the site - Expansion of rest stations at the site and restoration of original rest stations 	<div style="text-align: center;"> <p>Rest station installation status at Fukushima Daiichi</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Place</th> <th>Space</th> <th>Spec</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>Apr.22</td> <td>1st floor of service building of Unit 5/6</td> <td>120m²</td> <td>—</td> <td>Jul.1- as Medical room</td> </tr> <tr> <td>May10</td> <td>Rest station for Toshiba</td> <td>400m²</td> <td>260</td> <td></td> </tr> <tr> <td>May13</td> <td>Rest station in front of Main Anti-Earthquake building</td> <td>340m²</td> <td>110</td> <td></td> </tr> <tr> <td>May28</td> <td>Rest station in Company Center Training Building</td> <td>190m²</td> <td>60</td> <td></td> </tr> <tr> <td>May29</td> <td>Rest station in Company Center Welfare Building</td> <td>180m²</td> <td>60</td> <td></td> </tr> <tr> <td>Jun.9</td> <td>Rest station of former Emergency Response measure Room</td> <td>560m²</td> <td>180</td> <td></td> </tr> <tr> <td>Jun.9</td> <td>Rest station for Operators of Water treatment facility</td> <td>180m²</td> <td>12</td> <td></td> </tr> <tr> <td>Jun.9</td> <td>Rest station for Hitachi GE</td> <td>180m²</td> <td>120</td> <td></td> </tr> <tr> <td>Jun.28</td> <td>2nd floor of service building of Unit5/6</td> <td>280m²</td> <td>90</td> <td></td> </tr> <tr> <td>Jul.1</td> <td>Rest station near heliport</td> <td>90m²</td> <td>20</td> <td></td> </tr> <tr> <td>Jul.1</td> <td>Rest station near Forest of wild birds</td> <td>90m²</td> <td>20</td> <td></td> </tr> <tr> <td>Jul.2</td> <td>Rest station for the Unit1 reactor building cover</td> <td>140m²</td> <td>100</td> <td></td> </tr> <tr> <td>Jul.23</td> <td>2nd floor of service building of Unit 5/6</td> <td>220m²</td> <td>60</td> <td></td> </tr> <tr> <td>Jul.26</td> <td>Rest station at Main Entrance</td> <td>20m²</td> <td>6</td> <td></td> </tr> <tr> <td>Aug.1</td> <td>Rest station at sludge facility</td> <td>160m²</td> <td>70</td> <td></td> </tr> <tr> <td>Aug.1</td> <td>Prefab rest station for staff in charge of reactor</td> <td>120m²</td> <td>40</td> <td></td> </tr> <tr> <td>Aug.4</td> <td>Rest station for work space</td> <td>240m²</td> <td>30</td> <td></td> </tr> </tbody> </table> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="width: 30%;">  <p style="text-align: center;">Rest stations in front of Main Anti-Earthquake Building</p> </div> <div style="width: 30%;">  <p style="text-align: center;">Foot-wash station</p> </div> <div style="width: 30%;">  <p style="text-align: center;">Drinking water</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="width: 30%;">  <p style="text-align: center;">Outside of a rest station (1)</p> </div> <div style="width: 30%;">  <p style="text-align: center;">Status of rest station construction</p> </div> <div style="width: 30%;">  <p style="text-align: center;">Outside of a rest station (2)</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="width: 30%;">  <p style="text-align: center;">Rest station for staff engaged in reactor building cover</p> </div> <div style="width: 30%;">  <p style="text-align: center;">Inside of a rest station</p> </div> </div> <div style="display: flex; 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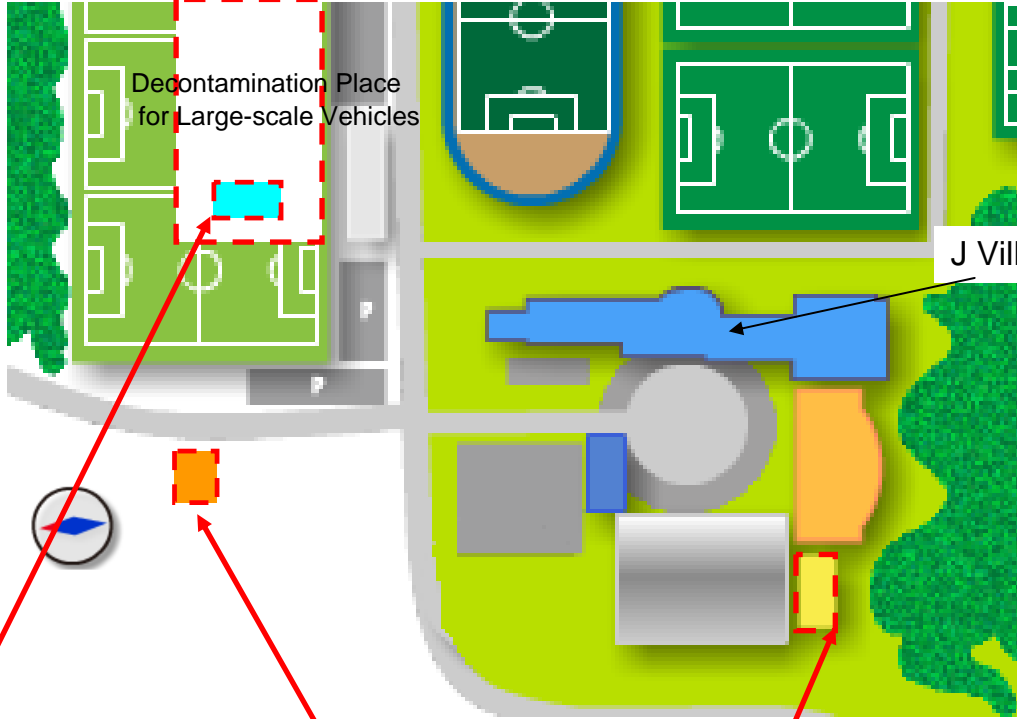






Progress Status Classified by Issues (Photos and Figures)

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<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>Countermeasure [74] Improvement workers' life/work environment</p> <p>Countermeasure [75] Continuing and enhancement of improvement of workers' life/work environment</p>		 <p>Outside of a rest station</p>  <p>Inside (1) Drinking water</p>  <p>Inside (2)</p>
			<p style="text-align: center;">Rest station near the heliport</p>
	 <p>Entrance</p>	 <p>Inside</p>	 <p>Survey</p>  <p>Inside</p>
		 <p>Outside</p> <p style="text-align: center;">Rest station in front of Main Anti-Earthquake Building (term 2)</p>	 <p>Outside</p> <p style="text-align: center;">Rest station for Hitachi GE</p>

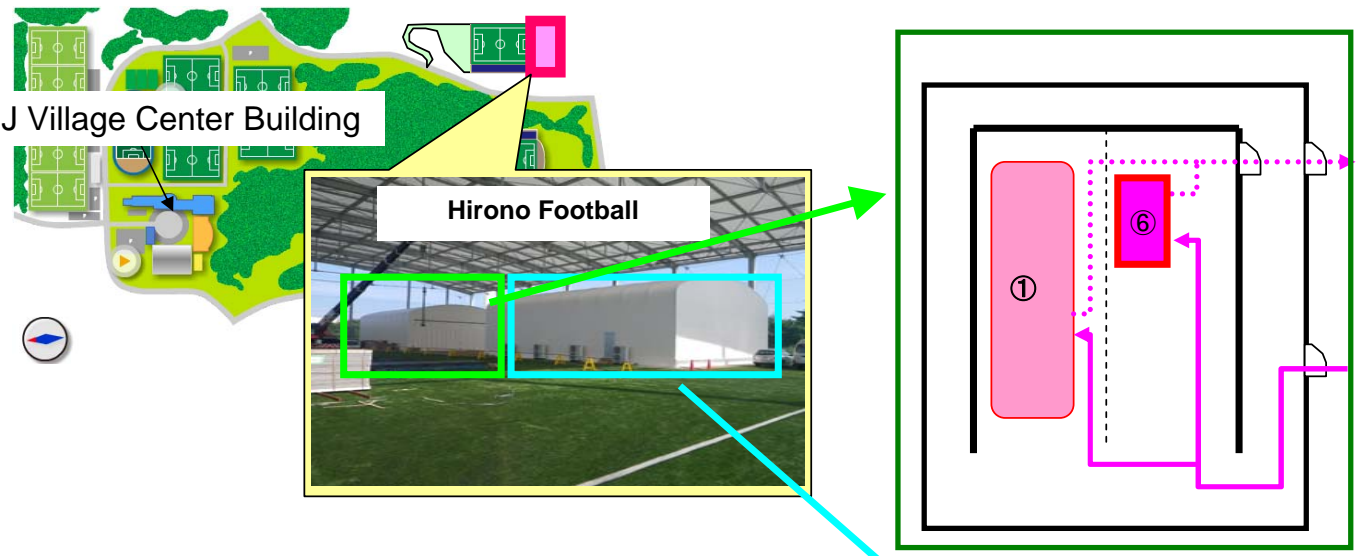
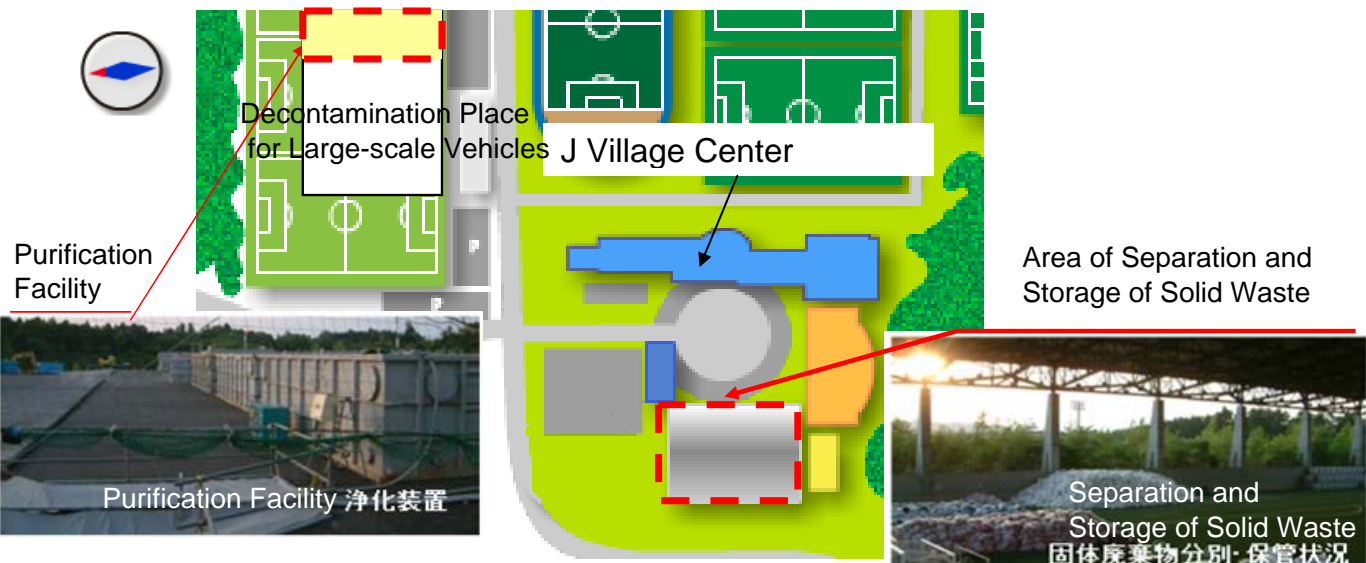


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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(9) Radiation control / Medical care</p>	<p>Countermeasure [77] Enhancement of Radiation Control</p> <p>Countermeasure [78] Continuing Enhancement of Radiation Control</p>	<p>- Improvement of protective equipment</p> <p>Protective equipment appropriate to work environment is provided to workers in order to secure safety during radiation related work.</p>	 <p>Special protective gear: Protective suit which can be expected to shield beta ray and low-energy gamma ray</p> <p><small>*Source: vendor catalogue</small></p>	 <p><small>*Source: vendor catalogue</small></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 a suitable for usage in oxygen-less hazardous area.</p>
			 <p><small>*Source: vendor catalogue</small></p> <p>Half-faced mask: In case that radioactivity density is low and stable, workers put on half-face masks, not full-face, (with goggles), which enables to lighten the workload of workers.</p>	 <p><small>*Source: vendor catalogue</small></p> <p>Respiratory protective device with electric fan: The mask can blow in cleaned air which is filtered with electric fan. Internal pressure is kept higher than environmental pressure in order to reduce the risk of inhaling particulate. Also, it realizes to breathe freely and lighten loss of bodily strength.</p>
			 <p><small>*Source: vendor catalogue</small></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.</p>	



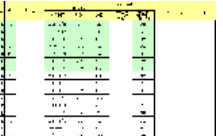


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(9) Radiation Control/Medical Care V. Environment Improvement	<p>Countermeasure [77] Enhancement of Radiation Control</p> <p>Countermeasure [78] Continuing Enhancement of Radiation Control</p>	<p>○Setting up Decontamination Place at J Village [Screening Control] Implementation of decontamination for persons who exceed the pre-set screening value for protection of contamination diffusion Change of the screening value to unify with the related authorities and local governments (6,000cpm⇒100,000cpm) *Setting up a self-standard value (13,000cpm)</p> <p>[Decontamination Facility] As a result of radiation measurement at J Village, a decontamination place for workers and vehicles which exceed the screening value was set up.</p> <ul style="list-style-type: none"> •Decontamination Shower for Workers : Borrowing and operating 2 sets of Fire and Disaster Management Agency, and 1 set of Japanese Red Cross Society •Decontamination Place for Large-scale Vehicles : Operating since Apr. 4 A simple decontamination place was used by Apr.3. Waste water of decontamination is stocked in a storage tank through a treatment facility. •Setting up a measurement place in a rainy day : Operation since Jul.15. •Setting up oil cleaning/cleanser decontamination place : Operation since Jul.31. <p>[Certificate of Contamination Survey] Since setting the No-go Zone, 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; flex-direction: column; align-items: center;">  <p style="text-align: center;">Decontamination Place for Large-scale Vehicles</p>  <p style="text-align: center;">大規模車両除染場所</p> <p style="text-align: right;">Decontamination Place for Large-scale Vehicles</p>  <p style="text-align: center;">J Village Center</p> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="text-align: center;">  <p>Measurement place for a rainy day</p> </div> <div style="text-align: center;">  <p>Oil cleaning/cleanser decontamination place</p> </div> <div style="text-align: center;">  <p>Decontamination Shower for Workers</p> </div> </div> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 20px;"> <div style="text-align: center;">  <p>雨天時計測設</p> <p>Measurement place for a rainy day</p> </div> <div style="text-align: center;">  <p>油洗浄/洗剤除染場所</p> <p>Oil cleaning/cleanser decontamination place</p> </div> <div style="text-align: center;">  <p>作業員用除染シャワー設備</p> <p>Decontamination Shower for workers</p> </div> </div> </div>













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(9) Radiation Control/Medical Care V. Environment Improvement	Countermeasure [77] Enhancement of Radiation Control Countermeasure [78] Continuing Enhancement of Radiation Control	<p>○Preparation of Measurement Infrastructure for Internal Radiation by Expansion of Whole Body Counter (WBC)</p> <p>In order to implement evaluation of internal exposure for workers, etc., 13 WBCs are prepared with a building for WBC in J Village.</p> <p>[Location]1. Hirono Football Stadium (next to the stadium building) (Training facility for rainy days) 2. Metropolitan Area</p> <p>[Number of Unit]1. 13 sets : 1 set (in-vehicle type borrowed from JAEA ①), 12 sets (stationary type)* 2. 1 set : 1 set (in-vehicle type borrowed from JAEA②) * 4 sets transferred from 1F/2F, 7 sets newly purchased and 1 set borrowed from another company</p> <p>[Operation Schedule] [1. Hirono Football Stadium (next to the stadium building)] -By Aug.17 (actual achievement) Under operation: 1 set (in-vehicle type borrowed from JAEA①), and 5 sets (stationary type) -By the beginning of October Newly purchase of 6 sets (stationary type) and borrowing of 1 set (stationary type) borrowed from another company, and start operation [2. Metropolitan Area] Under operation: 1 set (in-vehicle type borrowed from JAEA)</p>	<div style="text-align: center;">  <p>J Village Center Building</p> <p>Hirono Football</p> </div> <div style="text-align: center;"> <p>Operation Schedule of Whole Body Counters</p> <table border="1" style="margin: auto;"> <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="4">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> </tr> <tr> <td>⑥</td> <td>Operation since Jul. 25</td> <td>Newly purchased</td> </tr> <tr> <td>⑦</td> <td></td> <td rowspan="7">Newly purchased</td> </tr> <tr> <td>⑧</td> <td></td> </tr> <tr> <td>⑨</td> <td></td> </tr> <tr> <td>⑩</td> <td>Will be operated by the Beginning of October</td> </tr> <tr> <td>⑪</td> <td></td> </tr> <tr> <td>⑫</td> <td></td> </tr> <tr> <td>⑬</td> <td></td> <td>Borrowed from another company</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	⑥	Operation since Jul. 25	Newly purchased	⑦		Newly purchased	⑧		⑨		⑩	Will be operated by the Beginning of October	⑪		⑫		⑬		Borrowed from another company
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Proper Treatment of Radioactive Waste [Liquid Waste (Decontamination Liquid Waste)] Decontamination liquid waste was collected in J Village and purified by a purification facility The purified liquid waste is planned to be used for decontamination water after confirmation of contamination density. * Installation and operation of the purification facility : Apr. 4-, Reuse : Within August (planned)	[Solid Waste] Waste of protection cloths, etc. used in J Village and other screening sites in Fukushima Prefecture, etc. are kept in J Village. The wastes were distinguished to combustible, fire-retardant and non-combustible type, and kept in special metal containers.	<div style="text-align: center;">  <p>Decontamination Place for Large-scale Vehicles J Village Center</p> <p>Purification Facility</p> <p>Area of Separation and Storage of Solid Waste</p> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Purification Facility 净化装置</p> </div> <div style="text-align: center;">  <p>Separation and Storage of Solid Waste 固体廃棄物分別・保管状況</p> </div> </div>																																	







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Progress Status Classified by Issues (Photos and Figures)

Issues	Countermeasures	Implementation Status	Reference (Photos and Figures)
V. Environment Improvement (9) Radiation control/medical care	Countermeasure [79] Improvement of medical system Countermeasure [80] Continuing improvement of medical system	<p>We newly introduced mental support for workers, which is a system to implement interviews, etc. once or twice a month by specialists from National Defense Medical College, in July.</p> <p>In addition, based on the medical examinations implemented over "Workers engaged in emergency tasks for more than one month" according to the instruction by Fukushima Labour Bureau, we implemented health checks targeting TEPCO employees for the first step from Aug.1 for 10 days.</p> <p>The numbers of patients at the emergency medical treatment facility in Unit 5/6, which opened on Jul. 1, was 26 in total (out of which the number of heat stroke was 12) as of Aug. 8. The number of patients was rather small because of thorough preventive measures taken and advanced notification about heat stroke. The facility was also utilized for emergency medical treatment for workers who fell from power poles.</p> <ul style="list-style-type: none"> Preventives against heat stroke <ul style="list-style-type: none"> Cool vest Mask with blower Cool scarf 	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  <p>Consultation room in Main Anti-Earthquake Building</p> </div> <div style="width: 50%;">  <p>Emergency medical treatment facility in Unit5/6</p> </div> <div style="width: 50%;">  <p>Emergency medical treatment facility in Unit5/6</p> </div> <div style="width: 50%;">  <p>Emergency medical treatment facility in Unit5/6</p> </div> <div style="width: 50%;">  <p>Emergency medical treatment facility in Unit5/6</p> </div> <div style="width: 50%;">  <p>Emergency medical treatment facility in Unit5/6</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Cool vest</p> </div> <div style="text-align: center;">  <p>Mask with blower</p> </div> <div style="text-align: center;">  <p>Cool scarf</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  <p>Example : wearing Cool scarf</p> </div> <div style="text-align: center;">  <p>Example : Ice pack for neck</p> </div> </div> <div style="text-align: center; margin-top: 10px;">  <p>Ice pack for neck</p> </div>
	<p>*Source: vendor catalogue. Some are different from the real ones.</p>		

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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">V. Environment Improvement</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">(10) Staff training/personnel allocation</p>	<p>Countermeasure [85] Systematic staff training/personnel allocation</p>	<ul style="list-style-type: none"> Conducting training for staffs engaged in radiation related work, who will be in great demand. TEPCO has been conducting “radiation survey staff training” targeted for employees and TEPCO group companies’ employees and has already trained approx. 1,900 personnel. The government has been conducting “radiation survey staff” and “radiation protection staff” development trainings and will train 250 personnel. According to affiliated companies needs, launched a new framework of looking for specialized technical workers widely through Japan Atomic Industrial Forum (JAIF). 	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;">   <p>Radiation survey staff training course (at training center, TEPCO)</p> </div> <div style="text-align: center;">   <p>Radiation survey staff training course (at J village)</p> </div> <div style="text-align: center;">   <p>Radiation protection staff training course (at JAEA)</p> </div> </div>