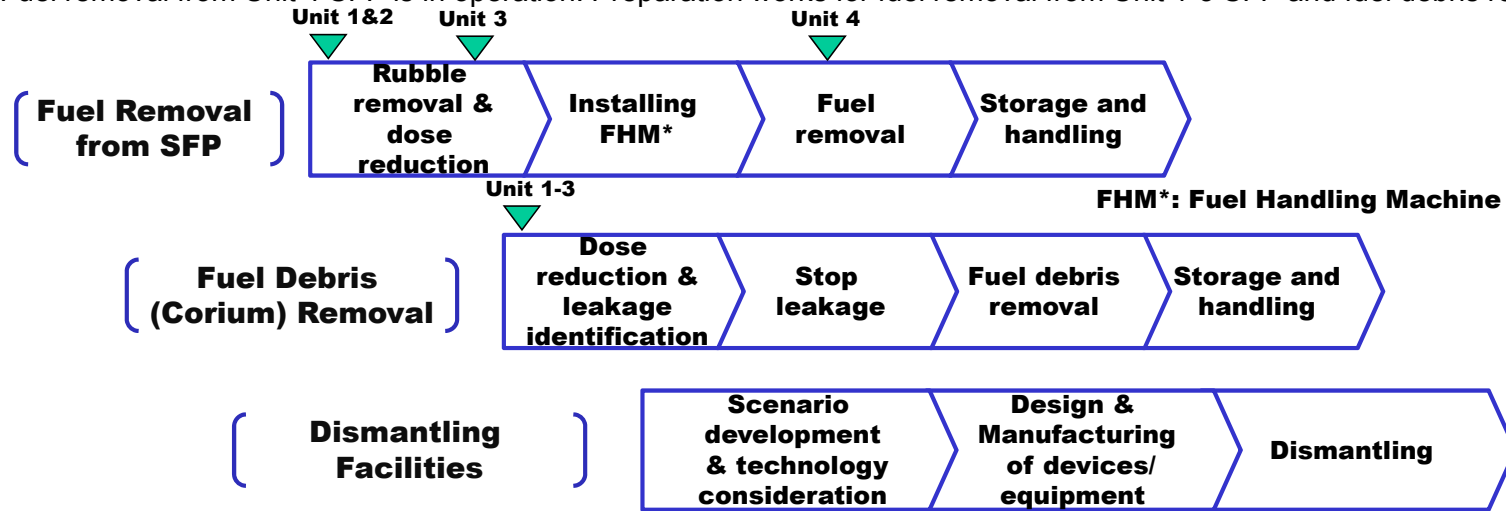


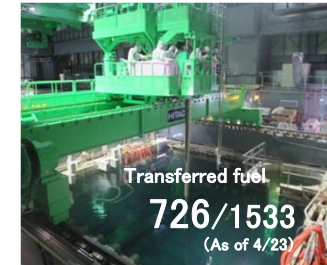
Main works and steps for the decommissioning

Fuel removal from Unit 4 SFP is in operation. Preparation works for fuel removal from Unit 1-3 SFP and fuel debris removal are ongoing.



Fuel removal from SFP

Fuel removal from Unit 4 SFP has been in operation since Nov. 18 2013. The work at Unit 4 will be accomplished around the end of 2014.



(Fuel removal operation)

Three principles for contaminated water countermeasures

Contaminated water countermeasures are implemented with the following three principles

1. Remove sources of contamination

- ① Multi-nuclide removal equipment
- ② Remove contaminated water in the trench

2. Isolate water from contamination

- ③ Pump up ground water for bypassing
- ④ Pump up ground water near buildings
- ⑤ Land-side frozen walls
- ⑥ Water proof pavement

3. Prevent leakage of contaminated water

- ⑦ Soil improvement by sodium silicate
- ⑧ Sea-side impermeable walls
- ⑨ Increase tanks (welded-joint tank)



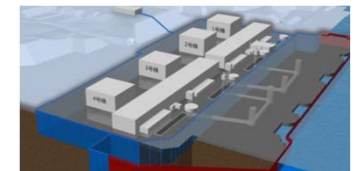
Multi-nuclide removal equipment (ALPS)

The equipment removes radionuclides from the contaminated water in tanks, and reduces risks. It aims to reduce the levels of 62 nuclides in contaminated water to the legal discharge limit or lower (tritium cannot be removed).



Land-side impermeable walls with frozen soil

The walls surround the buildings with frozen soil and reduce groundwater inflow into them. Test on the site have been conducted since last August. The construction work will start soon and the freezing operation will start in FY 2014.



Sea-side impermeable walls

The walls aim to prevent contaminated groundwater flow into the sea. Installation of steel sheet piles has almost been completed (94% completion). The operation is planned to start from this September.



Progress status

◆ The temperatures of the Reactor Pressure Vessel (RPV) bottom and the Primary Containment Vessel (PCV) gas phase of Units 1-3 have been maintained within the range of approx. 15-35°C¹ for the past month. There was no significant change in the density of radioactive materials newly released from Reactor Buildings in the air². It was evaluated that the comprehensive cold shutdown condition had been maintained.

^{*1} The values vary somewhat depending on the unit and location of the thermometer.

^{*2} The radiation exposure dose due to the current release of radioactive materials from the Reactor Buildings peaked at 0.03 mSv/year at the site boundaries. This is approx. 1/70 of the annual radiation dose by natural radiation (annual average in Japan: approx. 2.1 mSv/year).

◆ Fuel removal from the Unit 4 spent fuel pool commenced on November 18, 2013.

As of April 23, 704 spent fuel assemblies and 22 non-irradiated fuel assemblies had been transferred to the common pool.

Pumping wells for groundwater bypass

Since April 9, operation of 12 groundwater bypass pumping wells was started sequentially and groundwater was pumped up.

At present, the pumped up groundwater is stored in tanks and its water quality is analyzed by third-party organizations.



Pumping well (enclosed structure)



<Status of groundwater bypass facility installation and sampling>

Removal of Unit 3 fuel handling machine

Removal of rubble inside the pool is underway since last December.

As the removal of rubble such as steel, roof materials and concrete inside the pool was almost complete, removal of the fuel handling machine began from April 19.



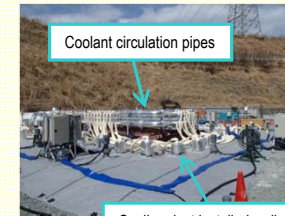
Removal of fuel handling machine mast (March 27, 2014)

<Status of rubble removal from Unit 3 spent fuel pool>

Fuel rack cover was installed/ removal of fuel handling machine began

Freezing of small-scale frozen walls was confirmed

From March 14, on the west side of the common pool, freezing test of the small-scale frozen walls of approx. 10 x 10m was started. By checking the temperature and groundwater level, and excavating the ground to confirm the status, it was evaluated that the small-scale frozen walls were created.



Coolant circulation pipes

Cooling duct installed well

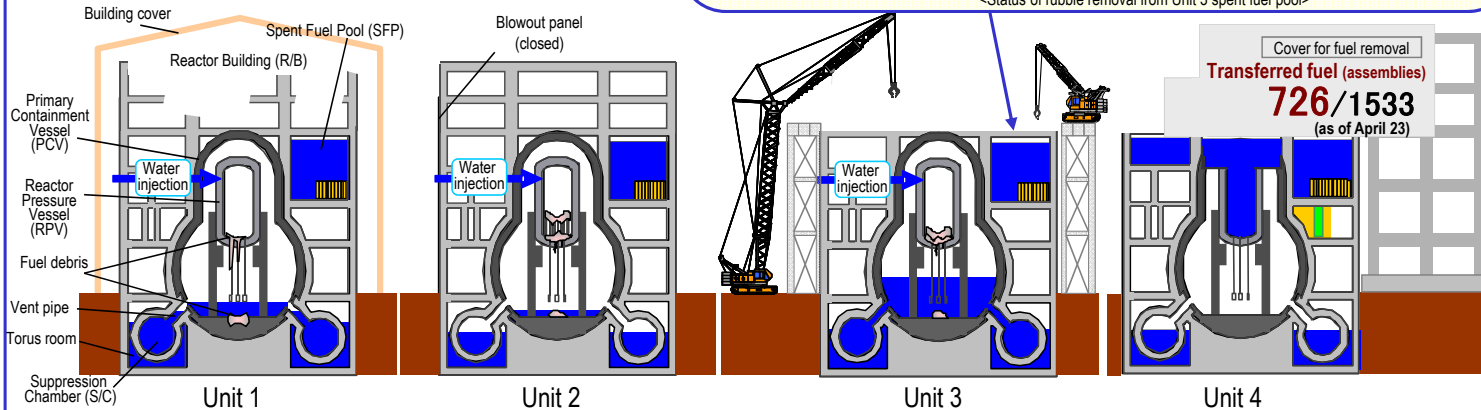


(Frozen soil)



(Frozen soil mass)

<Status of small-scale frozen walls>

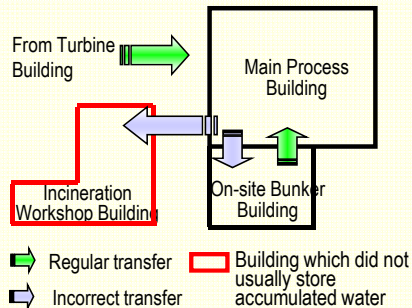


Cover for fuel removal
Transferred fuel (assemblies)
726/1533
 (as of April 23)

Incorrect transfer of accumulated water into the Incineration workshop building

As temporary pumps which were not used regularly were operated, accumulated water was transferred incorrectly to the building which did not usually store accumulated water.

In addition to cause analysis, recurrence prevention measures (such as locking the distribution switchboard for temporary pumps which will not be used) will be thoroughly implemented.



➡ Regular transfer ➡ Building which did not usually store accumulated water
 ➡ Incorrect transfer

Plan to install additional tanks to store accumulated water

As well as constructing tanks on-site, by measures such as producing tanks in a factory and transporting them by ship, the scheduled due date for increasing the total tank capacity up to approx. 800,000m³ was moved forward 1 year from within FY2015 to within FY2014.



<Tank transported by sea>



<Landed tanks>

Meeting of the Fukushima Advisory Board on Decommissioning and Contaminated Water Management

On April 14, the 2nd meeting (in Iwaki City) was held to provide an explanation about measures currently underway based on feedback from the previous meeting (February 17). Opinions were expressed toward further improvement to provide information in timely and understandable manner.

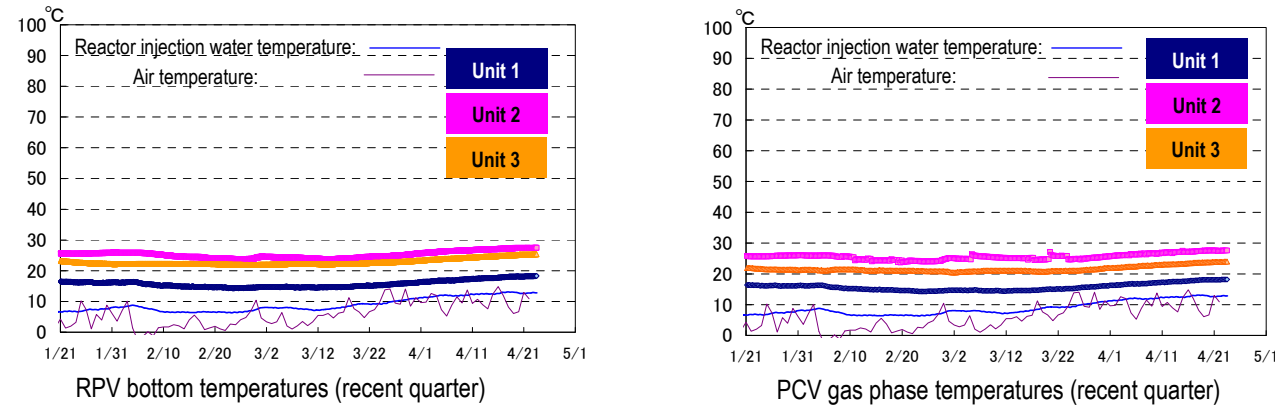
Fukushima Daiichi D & D Engineering Company was established

On April 1, aiming to define the roles and responsibilities related to the measures for decommissioning and contaminated water management at Fukushima Daiichi Nuclear Power Station, TEPCO established the Fukushima Daiichi D & D Engineering Company that is dedicated to implementing these measures.

I. Confirmation of the reactor conditions

1. Temperatures inside the reactors

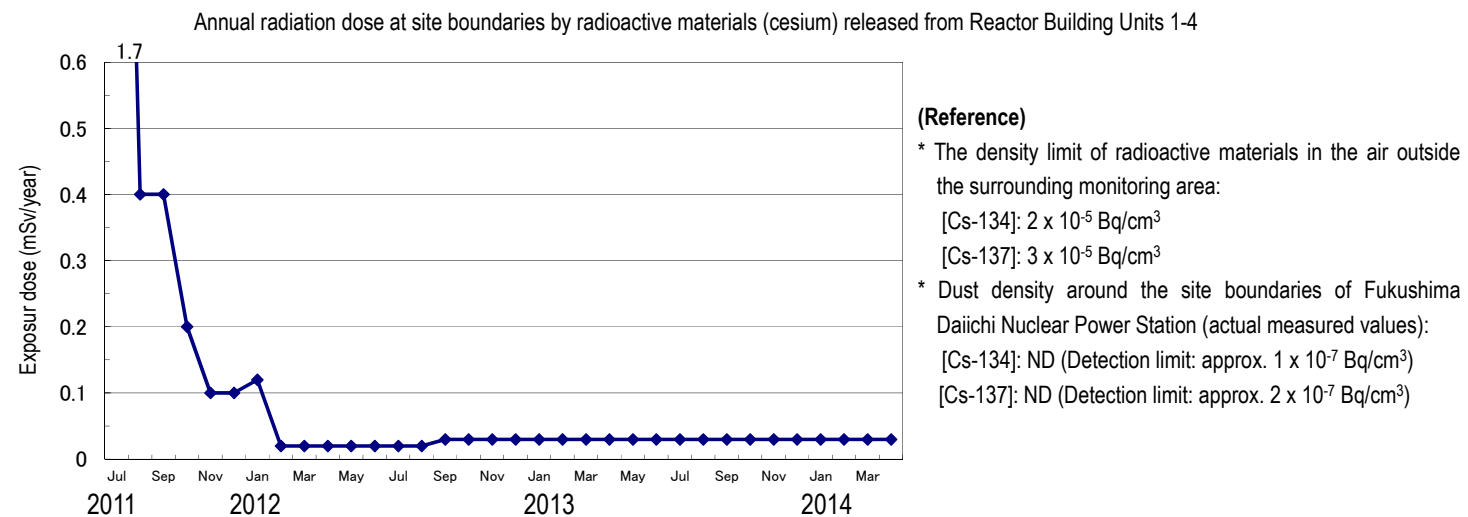
Through continuous reactor cooling by water injection, the temperatures of the Reactor Pressure Vessel (RPV) bottom and the Primary Containment Vessel (PCV) gas phase have been maintained within the range of approx. 15 to 35°C for the past month, though they vary depending on the Unit and location of the thermometer.



* The trend graphs show part of the temperature data measured at multiple points.

2. Release of radioactive materials from the Reactor Buildings

The density of radioactive materials newly released from Reactor Building Units 1-4 in the air measured at site boundaries was evaluated at approx. 1.3×10^{-9} Bq/cm³ for both Cs-134 and -137. The radiation exposure dose due to the release of radioactive materials was 0.03 mSv/year (equivalent to approx. 1/70 of the annual radiation dose by natural radiation (annual average in Japan: approx. 2.1 mSv/year)) at the site boundaries.



(Note) Different formulas and coefficients had been used to evaluate the radiation dose in the facility operation plan and monthly report. The evaluation methods were integrated in September 2012. As the fuel removal from the spent fuel pool (SFP) commenced for Unit 4, the radiation exposure dose from Unit 4 was added to the items subject to evaluation since November 2013.

3. Other indices

There was no significant change in indices, including the pressure in the PCV and the PCV radioactivity density (Xe-135) for monitoring criticality, nor was any abnormality of cold shutdown condition or sign of criticality detected. Based on the above, it was confirmed that the comprehensive cold shutdown condition had been maintained and the reactors remained in a stabilized condition.

II. Progress status by each plan

1. Reactor cooling plan

The cold shutdown condition will be maintained by cooling the reactor by water injection and measures to complement status monitoring will continue to be implemented

➤ Variation in instrument reading of Unit 1 PCV thermometer

- As the instrument reading of the PCV thermometer installed in Unit 1 after the earthquake varied, its operation as a monitoring thermometer was suspended (April 4). The cause of this variation was the cable connector being

submerged in rainwater. The connector was dried and its operation as a monitor thermometer resumed (from April 9).

➤ Replacement of the thermometer at the bottom of Unit 2 RPV

- As the thermometer installed at the bottom of Unit 2 RPV after the earthquake was broken, its operation as a monitoring thermometer was terminated (February 19). The monitoring of the RPV bottom temperature continued using other thermometers. Removal of the broken thermometer failed and was suspended (April 17). A review of the removal method is under consideration.

2. Accumulated water treatment plan

To tackle the increase in accumulated water due to groundwater inflow, fundamental measures to prevent groundwater from flowing into the Reactor Buildings will be implemented, while improving the decontamination capability of water treatment facilities and preparing facilities to control the contaminated water

➤ Preventing groundwater inflow to the Reactor Buildings

- From April 9, operation of 12 groundwater bypass pumping wells was commenced sequentially and pumping of groundwater began. At present, the pumped up groundwater is stored in tanks and a detailed analysis of pumped water by third-party organizations is underway.
- Toward the installation of the sub-drain facility (by the end of September), drilling in nine of 15 new pits was completed as of April 23. For building the sub-drain treatment facility, construction of the building from March 12 and installation of equipment inside the building from March 19 are underway.

➤ Operation of the multi-nuclide removal equipment

- Hot tests using radioactive water are underway (System A: from March 30, 2013, System B: from June 13, 2013, System C: from September 27, 2013). To date, approx. 74,000 m³ has been treated (as of April 22, including approx. 9,500m³ stored in J1(D) tank, which contained water with a high density of radioactive materials at the System B outlet).
- System A was suspended due to white turbidity detected in the inlet water at the absorption vessel on March 27. Carbonate coprecipitation to be filtered by two filters was transmitted. After replacing the filters and inspecting, the treatment resumed from April 22, but was then suspended due to the high density of calcium detected. The investigative results showed that the valve of sodium carbonate was closed and sodium carbonate was not being supplied. After opening the relevant valve and verifying that the status of all other valves was correct, the treatment was resumed from April 23.
- Regarding System B, as the density of radioactive materials in the system outlet water was increased on March 18 (total gross β : approx. 10^7 Bq/L) due to a defect in the filter, the treatment was suspended and the defect filter (cross flow filter 3B) was decontaminated and overhauled. The result showed that part of the Teflon-coated V seal was damaged (see Figure 1). Toward the resumption of treatment, decontamination of the absorption vessel and pipes is underway.
- During transportation of absorbent from the absorption vessel to the High Integrity Container (HIC) using the temporary pump to decontaminate the System B absorption vessel, a leak was detected from HIC (April 16). Based on the inadequate water level monitoring of HIC, recurrence prevention measures such as reviewing the human resource assignment were implemented.
- Regarding System C, operation continues to treat pipes contaminated by high-density water from the System B outlet.
- Toward the installation of additional multi-nuclide removal equipment, removal of obstacles, drilling, ground improvement, and foundation construction have been underway since March 17.
- Toward the installation of high-performance multi-nuclide removal equipment, a subsidy project of the Ministry of Economy, Trade and Investment, work to remove obstacles, drill, improve the ground, and construct foundations has been underway since March 12.

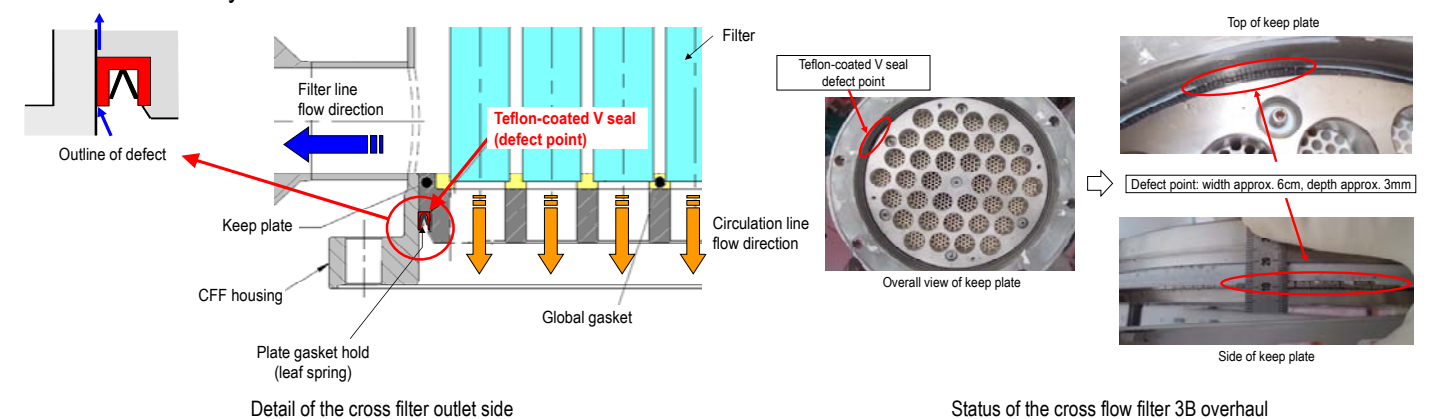


Figure 1: Status of the filter inspection of multi-nuclide removal equipment System B

➤ **Trouble at the Tank Area**

- Due to the storm rain from April 3-4, rainwater overflowed from the temporary inside fences (height: approx. 25cm) of the G5 Tank Area and seeped out from the bottom of the outside fences' (height: approx. 1m) framework, which were under construction, hence water stoppage using sandbags was implemented (April 4). After concrete placement, the outside fences were completed on April 5.
- As the water level inside the fences of the No. 1 filtered water tank was increased due to the same storm rain, the rainwater was transported from inside the fences to notch tanks. However, as the rainfall soared (rainfall at 5:00 on April 4: 22.5mm/h), rainwater overflowed from the No. 1 filtered water tank; installation of additional notch tanks, increase in the fence height, and installation of rain gutters and rain hoods are under consideration.
- On April 13, during the patrol around the Tank Areas, a leak of water (collected in advance of coating inside the fences (including mud on the floor) from a plastic tank (capacity: 1m³) installed beside the H5 Tank Area) was detected. The soil around the leak point was collected (approx. 8m³). This was considered attributable to a hole which was formed when a heavy machine touched the tank. Similar plastic tanks that will not be used were removed while barricades and colored cones were installed around those to be kept beside the passage.

➤ **Incorrect transfer of accumulated water**

- It was confirmed that four temporary pumps which were not regularly used were operated (Main Process Building -> On-site Bunker Building: 1, Main Process Building -> Incineration Workshop Building: 1, Incineration Workshop Building -> Main Process Building: 2) (April 13). Due to this error, accumulated water was transferred from the Main Process Building to the Incineration Workshop Building, which is not normally used to store accumulated water. Transfer of accumulated water in the Incineration Workshop Building to the Main Process Building is underway (from April 14). As recurrence prevention measures, locking the power panel, valves, buildings and doors were enhanced.

➤ **Plan to install additional accumulated water storage tanks**

- The plan to install additional tanks to store accumulated water as of March 2014 was reported to the Nuclear Regulation Authority (April 4). In addition to constructing tanks on-site, by measures such as producing tanks in a factory and transporting them by ship, the scheduled due date for increasing the total tank capacity to approx. 800,000m³ was moved forward 1 year from within FY2015 to within FY2014.

➤ **Treatment and removal of contaminated water from the Main Trenches**

- As for the Main Trench Units 2 and 3, treatment of contaminated water using mobile treatment equipment is underway (Unit 2: from November 14, 2013 to April 10, 2014, Unit 3: from November 15, 2013). In both Units 2 and 3, a reduction in radioactive cesium density was confirmed. Regarding Unit 2, replacement with the absorption vessel for strontium was conducted to start strontium removal (from April 10). Regarding Unit 3, as the density of calcium, which prevents the removal of strontium, was high, removal of cesium will continue in the immediate future.
- Toward the removal of contaminated water, water stoppage by freezing between the trench and Reactor Building is scheduled. Unit 2: drilling of holes to install frozen ducts and pipes to measure temperature is underway (commenced in December 2013 and scheduled for completion by end May 2014 (vertical shaft A: 25/25, open-cut duct: 11/24 (as of April 21)), Unit 3: drilling of holes to install frozen ducts (scheduled from May to June 2014). From April 2, freezing of part of the frozen ducts (4 ducts) of the Unit 2 vertical shaft A began.

3. Plan to reduce radiation dose and mitigate contamination

Effective dose-reduction at site boundaries and purification of the water in the harbor to mitigate the impact of radiation on the outside environment

➤ **Status of groundwater and seawater on the east side of Turbine Building Units 1 to 4**

- Regarding the groundwater near the bank on the north side of the Unit 1 intake, the density of tritium has been declining since March at Observation Hole Nos. 0-1, 0-1-2, 0-2 and 0-4. The tritium density has also been declining since April at Observation Hole No. 0-3-2. From Observation Hole No. 0-3-2, pumping of 1 m³/day of water continues.
- Regarding the groundwater near the bank between the Unit 1 and 2 intakes, both densities of tritium and gross β radioactive materials in water pumped from the well point were high. Although at groundwater Observation Hole No. 1-16, the gross β radioactive material density increased to 3.1 x 10⁶Bq/L on January 30, it has been maintained below 1 x 10⁶Bq/L recently (see Figure 2). At groundwater Observation Hole Nos. 1-6 and 1-13 near the power line conduit, into which contaminated water had flowed during past leaks, both densities of gross β radioactive materials and cesium 137 were high. Water pumping from the well point (approx. 40 m³/day) and the pumping well No. 1-16 (P) (1m³/day) installed near the Observation Hole No. 1-16 continue. Paving on the ground surface with concrete to prevent the ingress of rainwater was completed (April 8).

- Regarding the groundwater near the bank between the Unit 2 and 3 intakes, the gross β radioactive material density is high (10⁵Bq/L) on the north side of the area. At the groundwater Observation Hole Nos. 2, 2-2 and 2-3, both densities of gross β radioactive materials and tritium are maintained at the same levels. At the groundwater Observation Hole Nos. 2-7 and 2-8, both densities of gross β radioactive materials and tritium are increasing. Water pumping from the north side of the well point continues (4m³/day).
- Regarding the groundwater near the bank between the Unit 3 and 4 intakes, the density of radioactive materials is maintained at low levels at all Observation Holes. However, at the groundwater Observation Hole No. 3-5, the gross β radioactive material density was increased to 300Bq/L (April 2), and later decreased.
- On the north side of the Unit 5 and 6 outlets and near the south outlet, though the density of cesium 137 in seawater sampled after the storm rain from April 3 to 4 increased to more than 10 times the previous level (on the north side of the Unit 5 and 6 outlets: 22Bq/L, near the south outlet (T-2-1): 12Bq/L), the density declined on April 5 to the level before the increase. The density increase in seawater is considered attributable to the outflow of contaminated soil to the sea and stirred seabed soil due to the storm rain.
- In response to the progress in constructing impermeable walls on the sea side, placement of concrete in water and landfill are underway inside the impermeable walls from the north side. Alongside these works, the sampling point inside the impermeable walls ("Unit 2 intake") was abolished.

➤ **Results of groundwater simulation**

- Simulations on the flow of groundwater and the transfer status of radioactive materials on the east side of the Turbine Building were conducted.
- On the north side of the Unit 1 intake, the status whereby an increase on the sea side occurred earlier than the mountain side could not be reproduced in the analytical results. As for the area between Unit 1 and 2 intakes, it was evaluated that measured values were almost reproduced when considering the past leak route (branch trenches of Unit 2 seawater pipe trenches) as the contamination source. As it was difficult to align the analytical results with the measured values, no contamination sources other than those previously confirmed could be identified.

➤ **Announcement of corrected values of gross β radioactive materials counting loss effect**

- Regarding 104 samples stored of 173 samples considerably affected by the "counting loss effect," re-analysis was conducted. Regarding 69 samples not stored, correction was made using theoretical formulas. However, regarding 5 samples which could not be corrected due to their high density, past data was announced as reference values (April 11).

➤ **Progress status of reduction in on-site radiation dose (decontamination)**

- With a target of reducing the average radiation dose in the south site area, excluding the area around Units 1-4 to 5μSv/h or below within FY2015, decontamination of the work area is sequentially underway to reduce the radiation dose rate.
- On the slope of Shiomizaka, in the areas where J tanks are installed and on the south side of the company building, through decontamination by trimming trees and removing surface soil, it was confirmed that the target radiation dose rate had almost been achieved. However, regarding Shiomizaka, which is affected by the influence of the surrounding environment, the decontamination area will be expanded to continue further reduction.

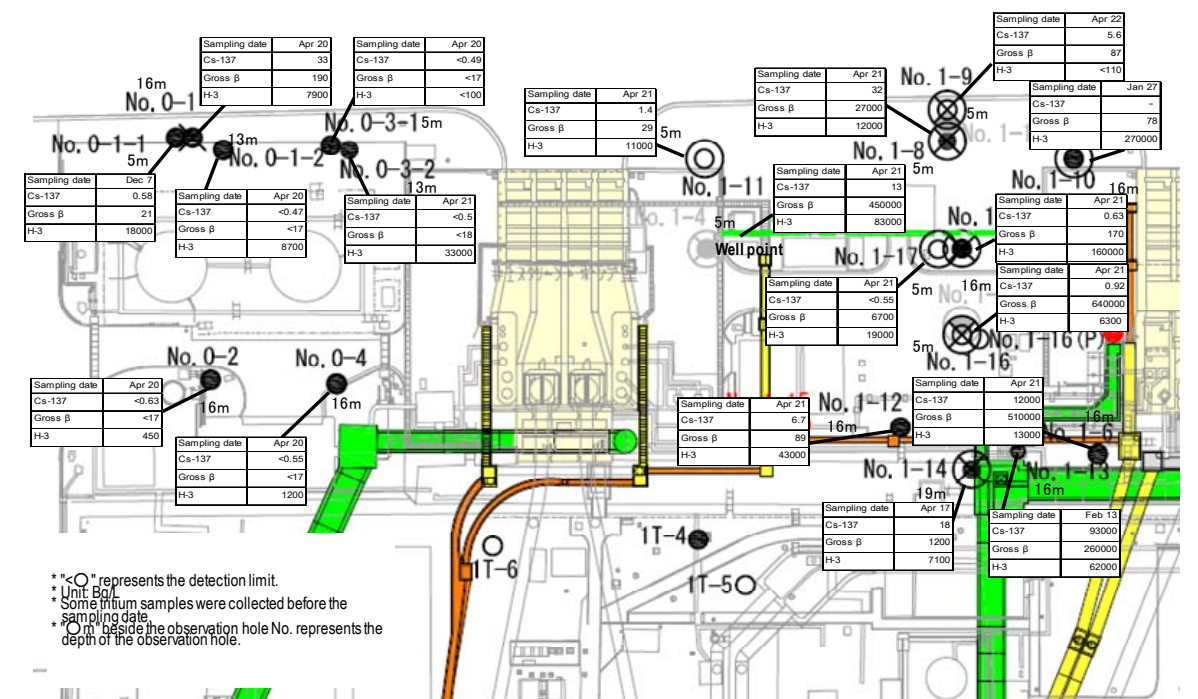


Figure 2: Groundwater density on the Turbine Building east side <Unit 1 intake north side, between Unit 1 and 2 intakes>

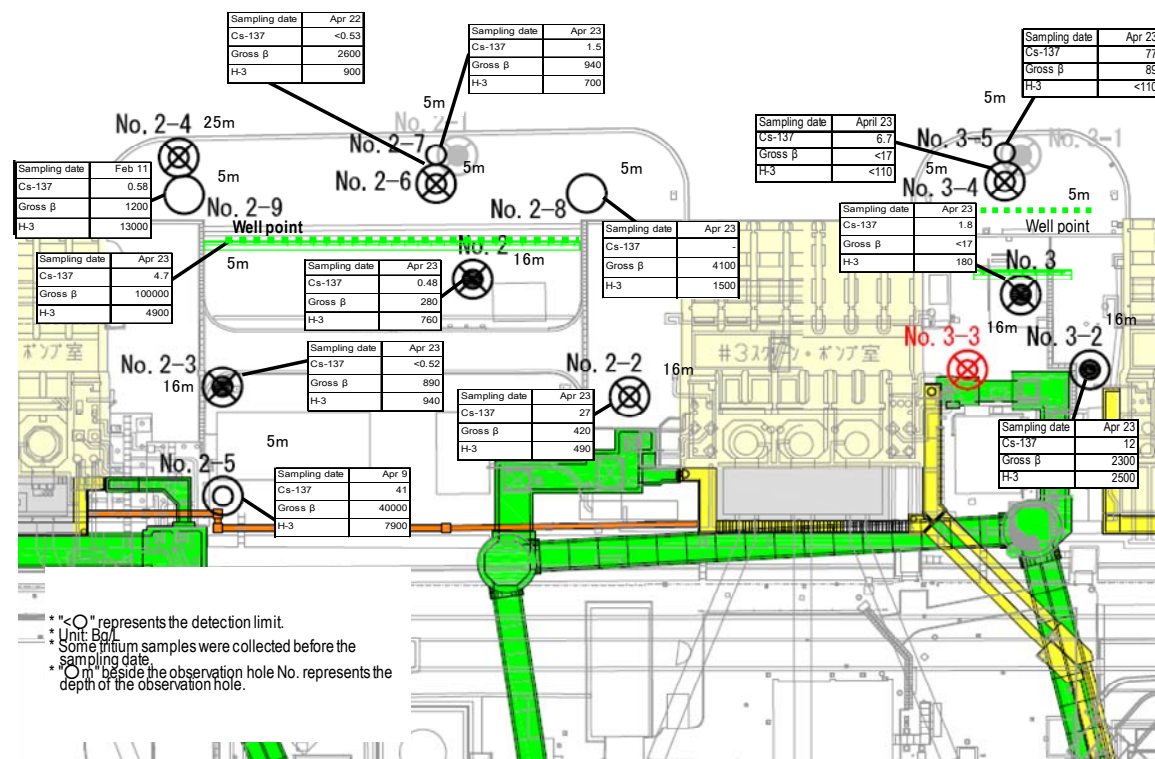


Figure 3: Groundwater density on the Turbine Building east side <Between Unit 2 and 3 intakes, between Unit 3 and 4 intakes>

4. Plan to remove fuel from the spent fuel pools

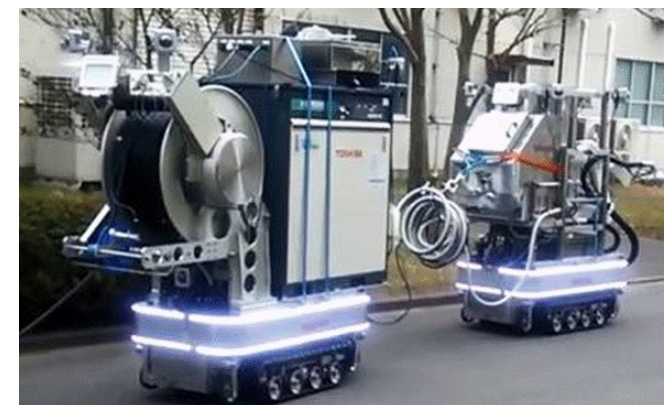
Work toward removing spent fuel from the pool is steadily progressing while ensuring seismic capacity and safety. The removal of spent fuel from the Unit 4 pool commenced on November 18, 2013 and efforts are being made to complete the process by around the end of 2014

- Fuel removal from the Unit 4 spent fuel pool
 - Fuel removal from the spent fuel pool (SFP) commenced on November 18, 2013.
 - As of April 23, 704 of 1331 spent fuel assemblies and 22 of 202 non-irradiated fuel assemblies had been transferred to the common pool.
 - During preparatory work to remove the fuel from Unit 4, the fault light of the overhead crane in the Reactor Building lit up and the crane failed to work (March 26). After investigating, the estimated cause was the fact that the crane had been moved several meters with the side brake applied. Operation resumed on March 30.
 - To reduce the radiation dose during the fuel-removal work, a cover for fuel removal on the north (Unit 3) side and shields for the fuel-handling machine were installed (completed on March 25). In major work areas, the target of “reducing the air dose rate to one-third” was achieved. In addition, via measures to reduce the radiation exposure dose by improvement work, the target of reducing the radiation exposure dose related to fuel removal “to one-third compared to the initial stage” was almost achieved.
 - To reconfirm the lack of issues related to fuel health and fuel handling, channel boxes of the four fuel assemblies removed from the Unit 4 spent fuel pool were dismantled to inspect the external appearance (on April 22 and scheduled for April 25).
- Main works toward removing spent fuel at Unit 3
 - The removal of rubble is underway (from December 17). As of April 23, a total of 322 steel pieces, 55 deck plates and 6 roof torus materials had been removed. From April 19, removal of the fuel-handling machine began.
 - Measures to reduce the radiation dose (decontamination and shielding) on the Reactor Building 5th floor (operating floor) are underway from October 15, 2013.
- Missing instrument reading of the area radiation monitor at the common pool building
 - On April 22, when measuring the dose equivalent rate related to external radiation of the common pool building, it was confirmed that instrument readings for the area radiation monitor System B were missing for the period from April 19-21. There was no significant variation in the data before and after the missing period. At present, the cause is being investigated.

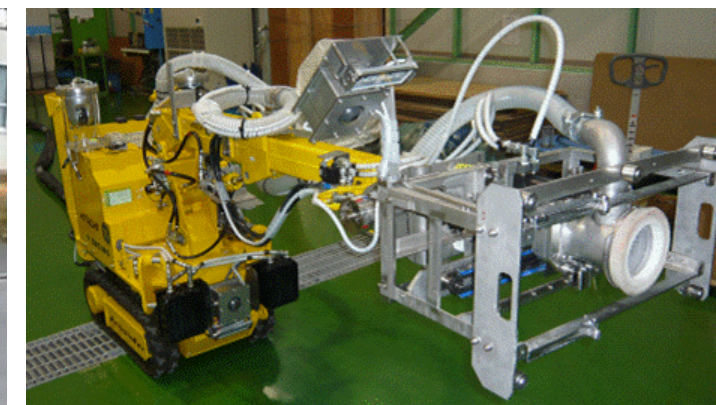
5. Fuel debris removal plan

In addition to decontamination and shield installation to improve PCV accessibility, technology was developed and data gathered as required to prepare for removing fuel debris (such as investigating and repairing PCV leak locations)

- Contamination status survey and decontamination of Reactor Building Units 1 to 3
 - Demonstration of the dry ice blast decontamination equipment and the high-pressure water decontamination equipment developed in the subsidy project of the Ministry of Economy, Trade and Industry “Development of remote decontamination technology inside the Reactor Building” is underway (dry ice blast decontamination equipment: from April 15-21, high-pressure water decontamination equipment: from April 23 and scheduled for completion on April 29) (see Figure 4). The next step will involve scheduled evaluation of the demonstration results.
- Floor drilling to investigate the external bottom surface of the Unit 2 Suppression Chamber
 - Regarding the equipment to investigate the external bottom surface of the Unit 2 Suppression Chamber being developed in the subsidy project of the Ministry of Economy, Trade and Industry “Investigation and development of repair (water stoppage) technology toward water filling of primary containment vessels,” to verify the applicability of actual equipment, a demonstration at Unit 2 is planned to be conducted from July to August. Prior to this demonstration, floor drilling is underway (from April 17 and scheduled for completion on April 26).
- Investigation of the Unit 3 Main Steam Isolation Valve Room
 - Work to identify the cause of the water flow from the Main Steam Isolation Valve Room in the Unit 3 Reactor Building 1st floor northeast area detected on January 18 is underway (from April 23 and scheduled for completion on May 16).



Dry ice blast decontamination equipment



High-pressure water decontamination equipment

Figure 4: Remote decontamination equipment in demonstration

6. Plan to store, process and dispose of solid waste and decommission reactor facilities

Promoting efforts to reduce and appropriately store waste generated and R&D toward adequate and safe storage, processing and disposal of radioactive waste

- Status of management of rubble and trimmed trees
 - As of the end of March, the total storage volume of concrete and metal rubble was approx. 95,300m³ (+14,200m³ compared to at the end of February, area occupation rate: 72%). The total storage volume of trimmed trees was approx. 79,300m³ (±1,700m³ compared to at the end of February, area occupation rate: 62%). The increase in rubble is mainly attributable to the removal of scrapped vehicles to install tanks and construction related to additional multi-nuclide removal equipment.
- Status of management of secondary waste from water treatment
 - As of April 22, the total storage volume of waste sludge was 597 m³ (area occupation rate: 85%). The total number of stored spent vessels and high integrity containers (HIC) of multi-nuclide removable equipment was 870 (area occupation rate: 35%).
- Mid- and long-term plan (proposed) related to solid waste storage
 - Data on rubble stored outdoors and tank pieces generated by tank replacement is collected to estimate the amount of rubble generated by fiscal 2027.

7. Plan for staffing and ensuring work safety

Securing appropriate staff for the long-term while thoroughly implementing workers' exposure dose control. Improving the work environment and labor conditions continuously based on an understanding of workers' on-site needs

➤ Staff management

- The monthly average number of people registered for at least one day per month to work on site during the past quarter from December to February was approx. 9,300 (TEPCO and partner company workers), which exceeds the monthly average number of workers (approx. 7,000). Accordingly, sufficient people are registered to work on site.
- It was confirmed with the prime contractors that the estimated manpower necessary for the work in May (approx. 4,160 per day: TEPCO and partner company workers)* would be secured at present. The average numbers of workers per day for each month of last fiscal year (actual value) were maintained with approx. 3,000 to 4,300 per month since August (See Figure 5). * Workers with whom contract procedures have not yet been completed are excluded from the total for each month.
- As of March, the local employment ratio (TEPCO and partner company workers) was approx. 50%.

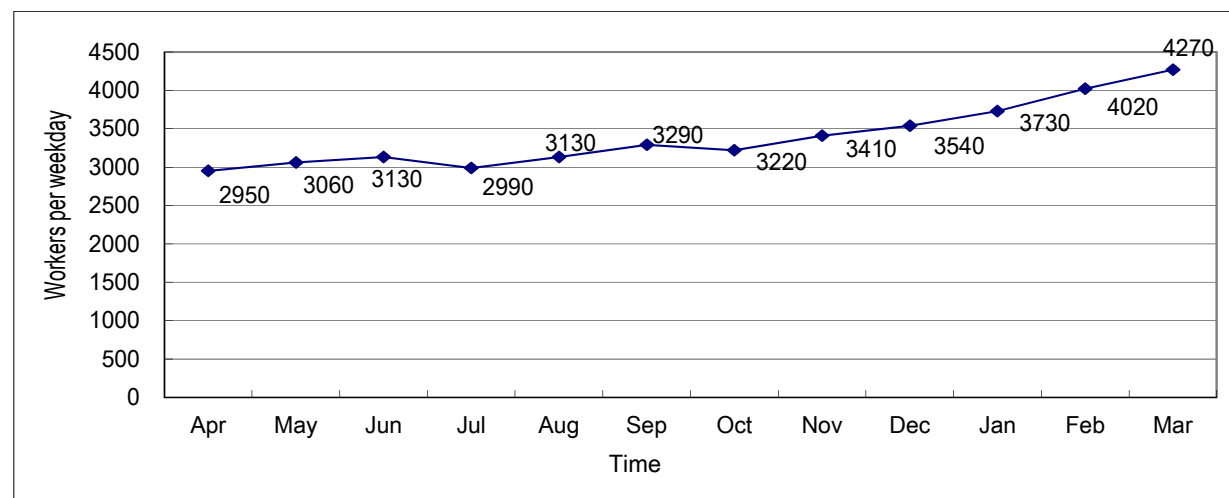


Figure 5: Changes in the average number of workers per day for each month in fiscal 2013 (actual values)

➤ Efforts to improve the labor environment

- A temporary external rest house (two three-story buildings, capacity: approx. 1,000 workers) was built near the entry control facility (operation began on April 7) (see Figure 6).



Figure 6: External appearance and inside the room of the temporary external rest house

➤ Outbreak status of influenza and norovirus

- During the period December 2013 to April 11, 2014, 246 persons were infected with influenza and 35 persons, with norovirus. Thorough infection-control measures will be continued. (Accumulated totals last season (from 2012 to 2013) were 205 for influenza and 43 for norovirus patients).

➤ Fatal accident of a partner company worker during repair of foundation piles for warehouse

- On March 28, during drilling work to expose foundation piles for a warehouse, which were damaged by the earthquake, for repair, a worker was trapped under levelling concrete* and sediment which collapsed. The worker was rescued and carried to the emergency medical care room of the entry control facility at Fukushima Daiichi Nuclear Power Station. The worker was then transported to Iwaki Kyoritsu General Hospital by ambulance, where he was confirmed dead by a doctor.
- The day after the accident, on-site works were temporarily suspended and a safety overhaul was conducted by partner companies and TEPCO (on-site check). Findings highlighted in the safety overhaul such as covering of openings were improved.
- TEPCO will continue to cooperate in the investigation by responsible authorities to identify the causes and strive to prevent any recurrence.

* Levelling concrete: used for levelling asperity on the ground surface before installing buildings on the ground.

8. Others

➤ The 2nd meeting of the Fukushima Advisory Board on Decommissioning and Contaminated Water Management

- On April 14, the 2nd meeting (in Iwaki City) was held to provide explanation about the measures currently underway based on feedback from the previous meeting. Opinions were expressed toward further improvement to provide information in a timely and understandable manner.

➤ Establishment of the Fukushima Daiichi D & D Engineering Company

- Aiming to define the roles and responsibilities related to measures for decommissioning and contaminated water management at the Fukushima Daiichi Nuclear Power Station, TEPCO established the Fukushima Daiichi D & D Engineering Company, which is dedicated to implementing these measures (April 1).

Status of seawater monitoring within the port (comparison between the highest values in 2013 and the latest values)

“The highest value” → “the latest value (sampled during April 14-21)” ; unit (Bq/L); ND represents a value below the detection limit

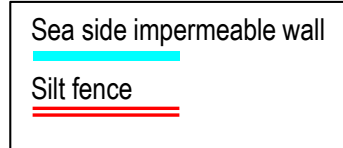
Cesium-134:	3.3 (2013/10/17) → ND (0.90)	Below 1/3
Cesium-137:	9.0 (2013/10/17) → ND (1.2)	Below 1/7
Gross β:	74 (2013/ 8/19) → ND (16)	Below 1/4
Tritium:	67 (2013/ 8/19) → 10	Below 1/6

Cesium-134:	3.3 (2013/12/24) → ND (1.5)	Below 1/2
Cesium-137:	7.3 (2013/10/11) → ND (1.5)	Below 1/4
Gross β:	69 (2013/ 8/19) → ND (16)	Below 1/4
Tritium:	68 (2013/ 8/19) → 6.5	Below 1/10

Cesium-134:	4.4 (2013/12/24) → ND (1.9)	Below 1/2
Cesium-137:	10 (2013/12/24) → 2.4	Below 1/4
Gross β:	60 (2013/ 7/ 4) → 17	Below 1/3
Tritium:	59 (2013/ 8/19) → 4.5	Below 1/13

Cesium-134:	3.5 (2013/10/17) → ND (1.1)	Below 1/3
Cesium-137:	7.8 (2013/10/17) → ND (1.1)	Below 1/7
Gross β:	79 (2013/ 8/19) → ND (16)	Below 1/4
Tritium:	60 (2013/ 8/19) → 11	Below 1/5

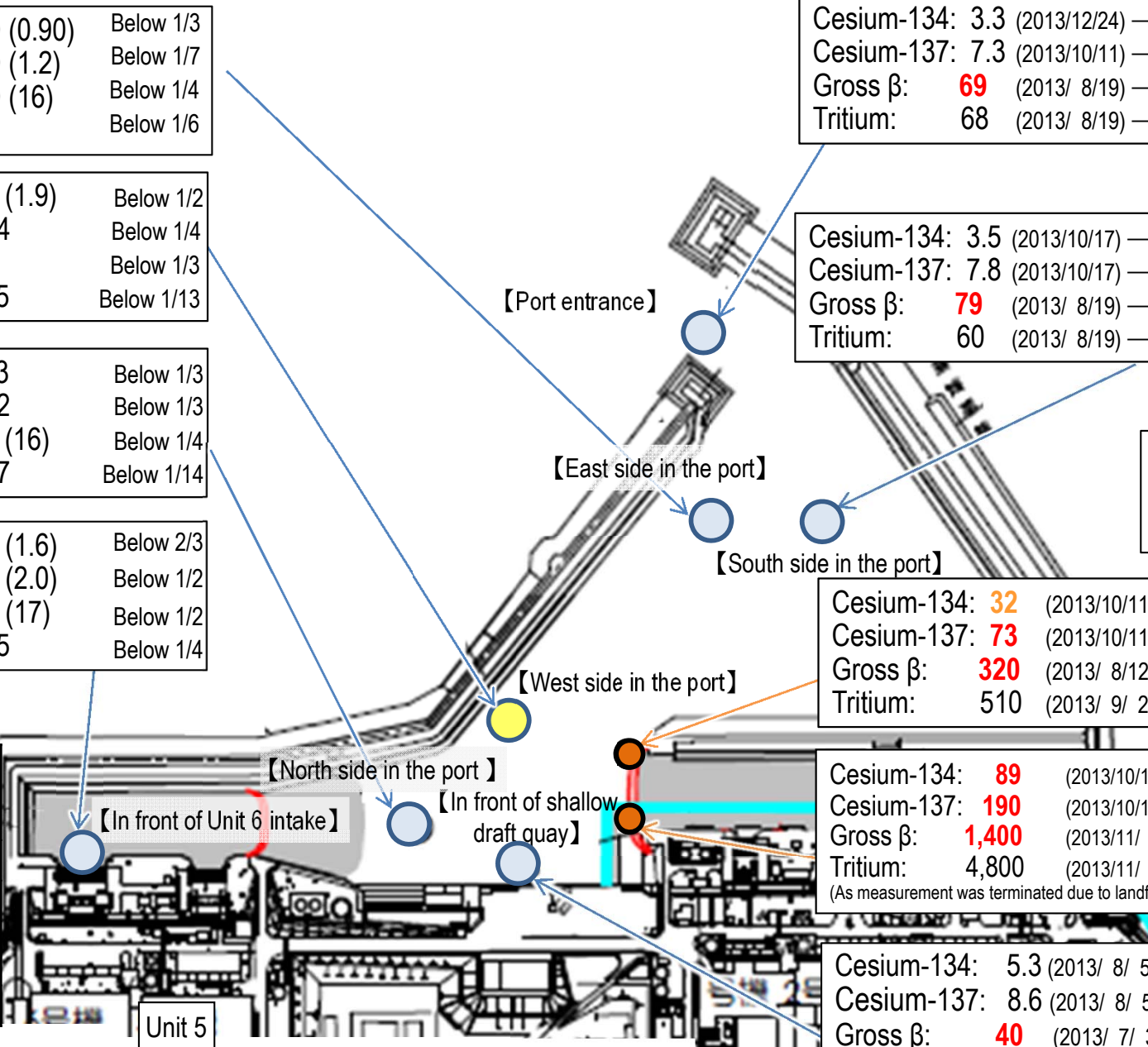
Cesium-134:	5.0 (2013/12/ 2) → 1.3	Below 1/3
Cesium-137:	8.4 (2013/12/ 2) → 2.2	Below 1/3
Gross β:	69 (2013/ 8/19) → ND (16)	Below 1/4
Tritium:	52 (2013/ 8/19) → 3.7	Below 1/14



Cesium-134:	2.8 (2013/12/ 2) → ND (1.6)	Below 2/3
Cesium-137:	5.8 (2013/12/ 2) → ND (2.0)	Below 1/2
Gross β:	46 (2013/ 8/19) → ND (17)	Below 1/2
Tritium:	24 (2013/ 8/19) → 5.5	Below 1/4

Cesium-134:	32 (2013/10/11) → 6.1	Below 1/5
Cesium-137:	73 (2013/10/11) → 17	Below 1/4
Gross β:	320 (2013/ 8/12) → 64	1/5
Tritium:	510 (2013/ 9/ 2) → 370	Below 3/4

	Legal discharge limit	WHO Guidelines for Drinking Water Quality
Cesium-134	60	10
Cesium-137	90	10
Strontium-90 (strongly correlate with Gross β)	30	10
Tritium	60,000	10,000



Cesium-134:	89 (2013/10/10) → 14	Below 1/6
Cesium-137:	190 (2013/10/10) → 41	Below 1/4
Gross β:	1,400 (2013/11/ 7) → 200	1/7
Tritium:	4,800 (2013/11/ 7) → 630	Below 1/7

(As measurement was terminated due to landfill, values are as of March 2014)

Cesium-134:	5.3 (2013/ 8/ 5) → ND (2.0)	Below 1/2
Cesium-137:	8.6 (2013/ 8/ 5) → ND (2.6)	Below 1/3
Gross β:	40 (2013/ 7/ 3) → ND (17)	Below 1/2
Tritium:	340 (2013/ 6/26) → 3.6	Below 1/90

Unit 5

Status of seawater monitoring around outside of the port (comparison between the highest values in 2013 and the latest values)

(The latest values sampled during April 14-21)

Unit (Bq/L); ND represents a value below the detection limit; values in () represent the detection limit; ND (2013) represents ND throughout 2013

	Legal discharge limit	WHO Guidelines for Drinking Water Quality
Cesium-134	60	10
Cesium-137	90	10
Strontium-90 (strongly correlate with Gross β)	30	10
Tritium	60,000	10,000

○【Northeast side of port entrance(offshore 1km)】

Cesium-134: ND (2013) → ND (0.59)
 Cesium-137: ND (2013) → ND (0.62)
 Gross β: ND (2013) → ND (17)
 Tritium: ND (2013) → ND (1.8)

○【East side of port entrance (offshore 1km)】

Cesium-134: ND (2013) → ND (0.58)
 Cesium-137: 1.6 (2013/10/18) → ND(0.78) Below 1/2
 Gross β: ND (2013) → ND (17)
 Tritium: 6.4 (2013/10/18) → 3.9 Below 2/3

○【Southeast side of port entrance(offshore 1km)】

Cesium-134: ND (2013) → ND (0.59)
 Cesium-137: ND (2013) → ND (0.58)
 Gross β: ND (2013) → ND (17)
 Tritium: ND (2013) → ND (1.8)

Cesium-134: ND (2013) → ND (0.68)
 Cesium-137: ND (2013) → ND (0.59)
 Gross β: ND (2013) → ND (17)
 Tritium: 4.7 (2013/ 8/18) → ND(1.8) Below 1/2

○【South side of south breakwater(offshore 0.5km)】

Cesium-134: ND (2013) → ND (0.61)
 Cesium-137: ND (2013) → ND (0.68)
 Gross β: ND (2013) → ND (17)
 Tritium: ND (2013) → ND (1.8)

○【North side of north breakwater(offshore 0.5km)】

○【Port entrance】

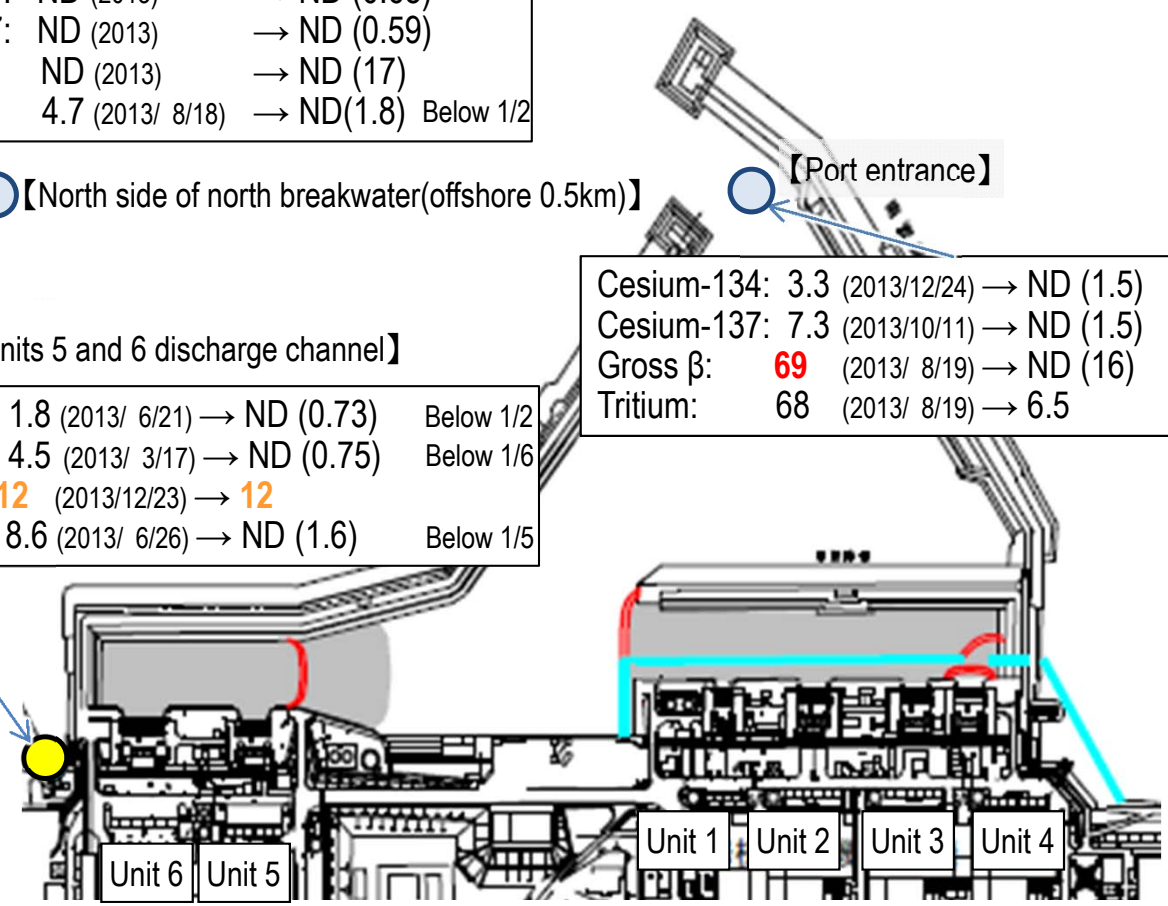
Cesium-134: 3.3 (2013/12/24) → ND (1.5) Below 1/2
 Cesium-137: 7.3 (2013/10/11) → ND (1.5) Below 1/4
 Gross β: **69** (2013/ 8/19) → ND (16) Below 1/4
 Tritium: 68 (2013/ 8/19) → 6.5 Below 1/10

Cesium-134: ND (2013) → ND (0.66)
 Cesium-137: 3.0 (2013/ 7/15) → ND (0.53) Below 1/5
 Gross β: **15** (2013/12/23) → **15**
 Tritium: 1.9 (2013/11/25) → ND (1.6) Below 6/7

○【North side of Units 5 and 6 discharge channel】

Cesium-134: 1.8 (2013/ 6/21) → ND (0.73) Below 1/2
 Cesium-137: 4.5 (2013/ 3/17) → ND (0.75) Below 1/6
 Gross β: **12** (2013/12/23) → **12**
 Tritium: 8.6 (2013/ 6/26) → ND (1.6) Below 1/5

○【Around south discharge channel】

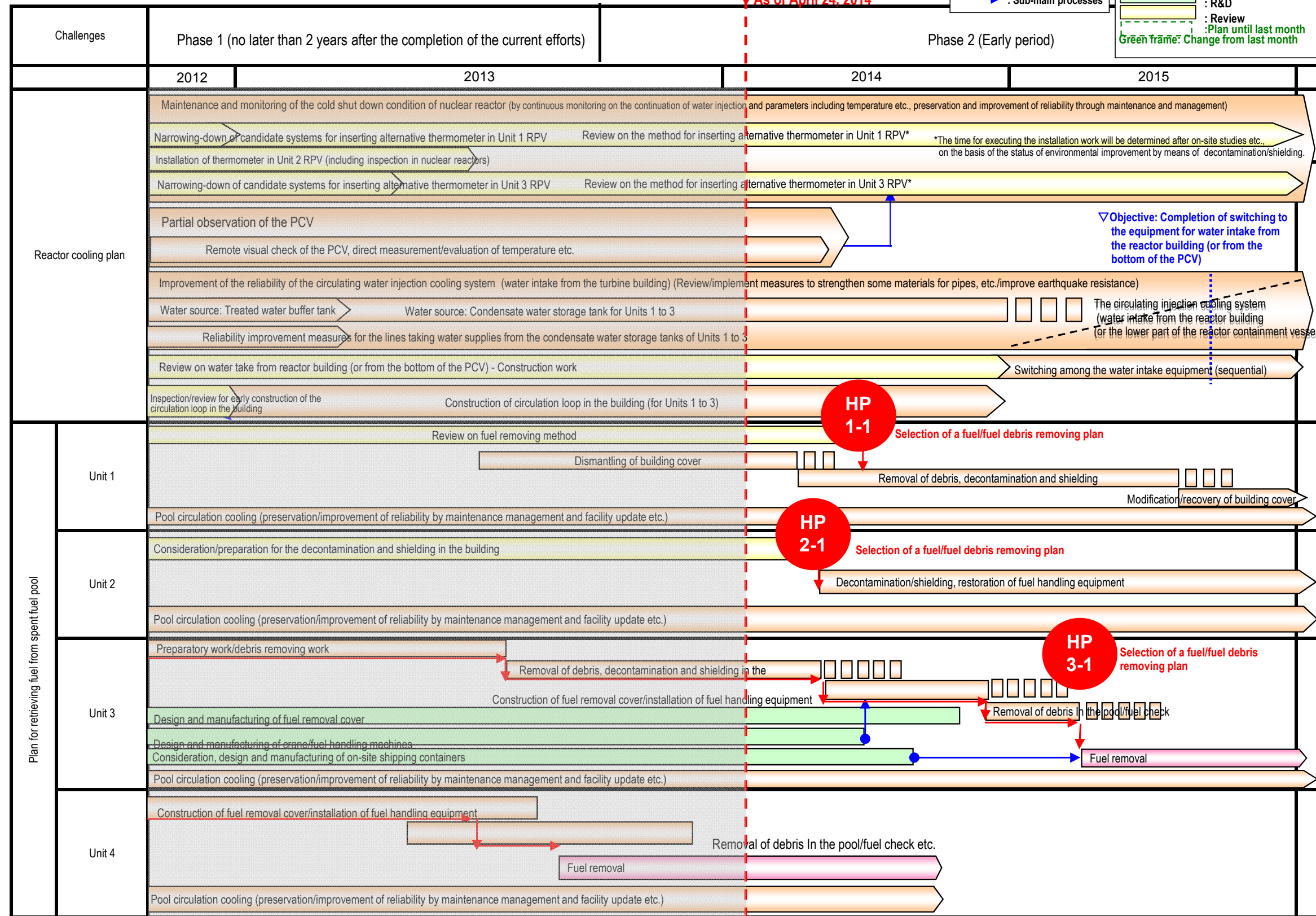


Sea side impermeable wall
 Silt fence

Status of efforts on various plans (Part 1)

As of April 24, 2014

→ : Main processes
→ : Sub-main processes
 : Field work
 : R&D
 : Review
 : Plan until last month
 : Change from last month

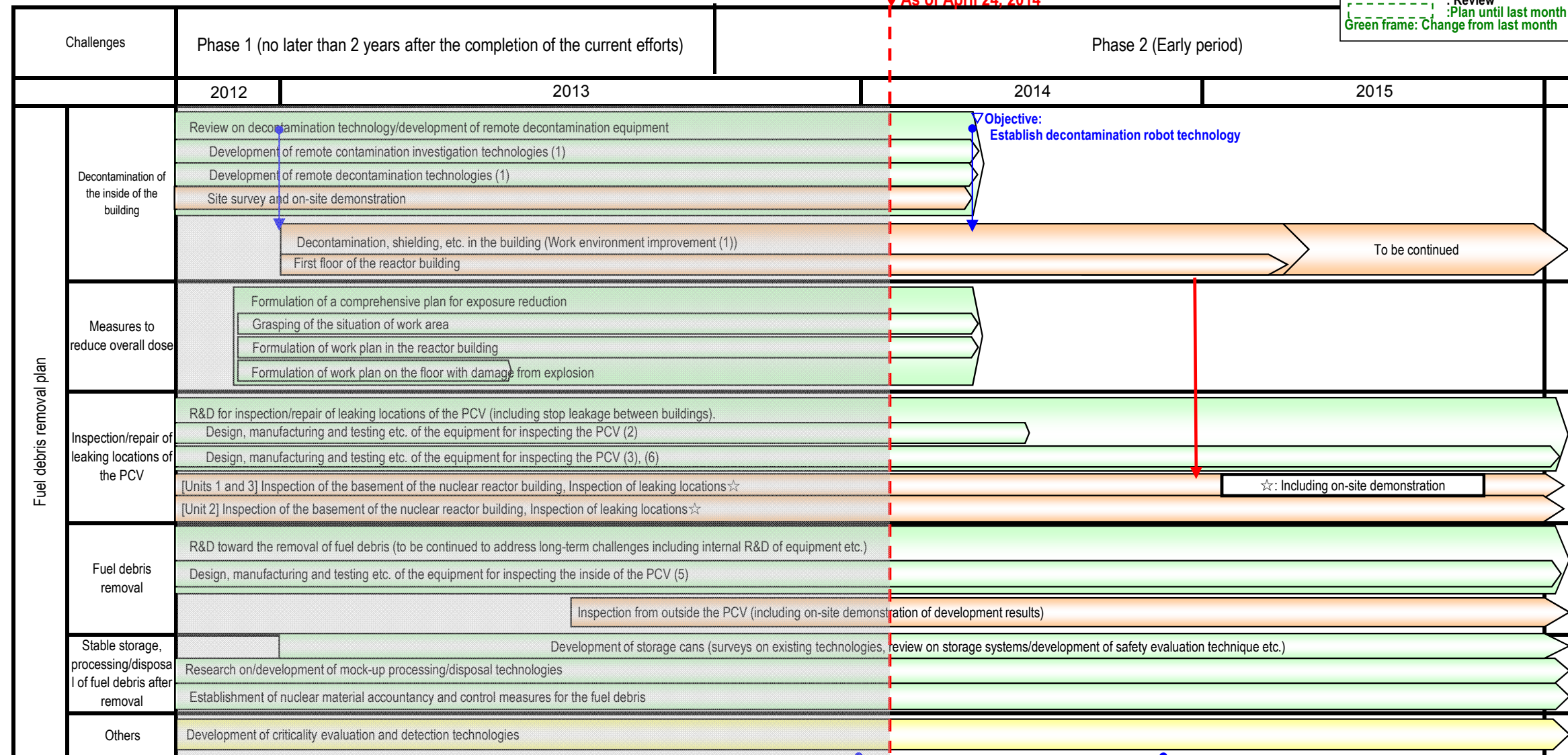


Status of efforts on various plans (Part 2)

As of April 24, 2014

→ : Main processes
 → : Sub-main processes

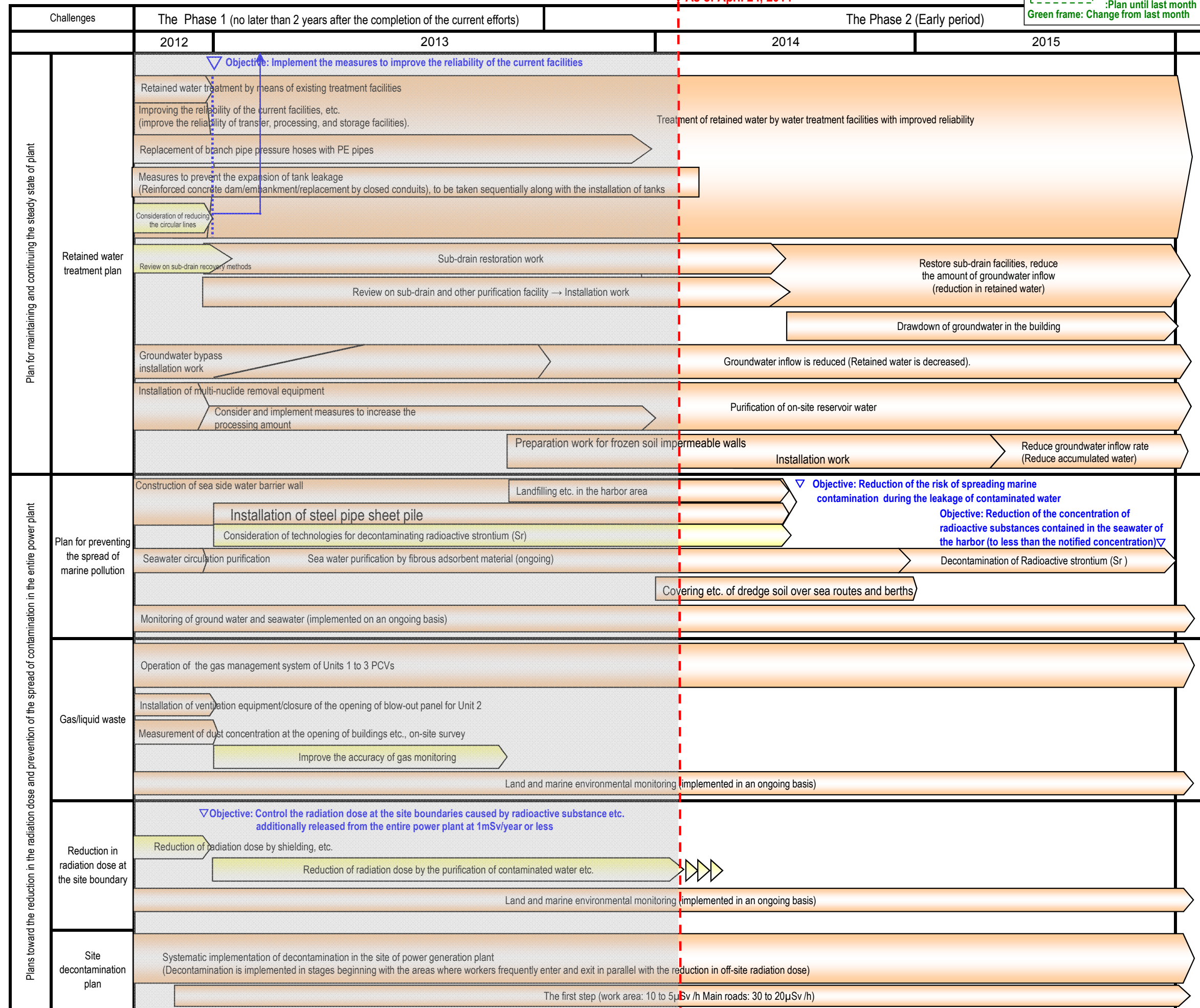
Field work
 R&D
 Review
 Plan until last month
 Green frame: Change from last month



Status of efforts on various plans (Part 3)

As of April 24, 2014

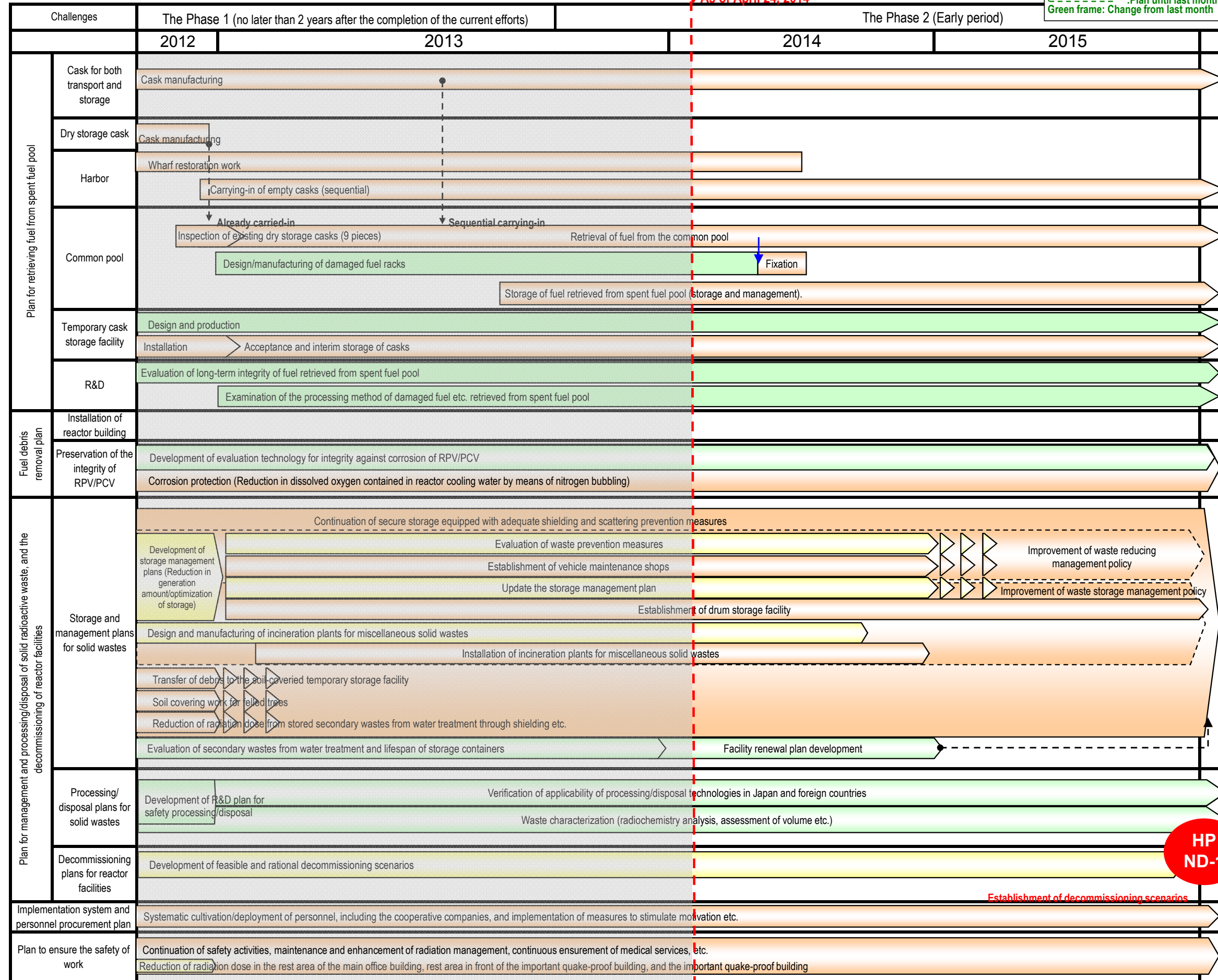
→ : Main processes
→ : Sub-main processes
 : Field work
 : R&D
 : Review
 : Plan until last month
Green frame: Change from last month



Status of efforts on various plans (Part 4)

As of April 24, 2014

→ : Main processes
→ : Sub-main processes
 : Field work
 : R&D
 : Review
 : Plan until last month
 : Green frame: Change from last month



HP ND-1

Progress toward decommissioning: Fuel removal from the spent fuel pool (SFP)

Immediate target

Commence fuel removal from the Spent Fuel Pool (Unit 4, November 2013)

Unit 4

In the Mid- and Long-Term Roadmap, the target of Phase 1 was to commence fuel removal from inside the spent fuel pool (SFP) of the 1st Unit within two years of completion of Step 2 (by December 2013). On November 18, 2013, fuel removal from Unit 4, or the 1st Unit, commenced and Phase 2 of the roadmap started.

In the SFP, 1,533 fuel assemblies (1,331 of which spent and 202 new) were stored then. The removed fuel will be transferred to the common pool and completion is scheduled for around the end of 2014.

So far, 726 fuel assemblies (704 of which spent and 22 new) have been transferred to the common pool (based on the work completed as of April 23).



Fuel removal status

* Some portions of these photos, in which classified information related to physical protection is included, were corrected.



Loading the transportation container to the trailer

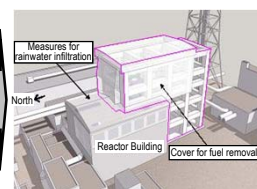
Work is proceeding with appropriate measures against risks, careful check and safety first

Steps toward fuel removal



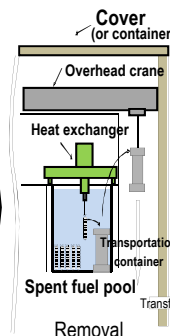
Removal of rubble on the roof of the Reactor Building

Completed in Dec. 2012



Installation of cover for fuel removal

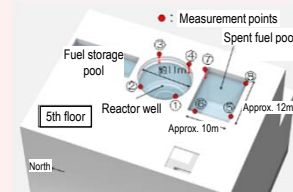
From Apr. 2012, completed in Nov. 2013



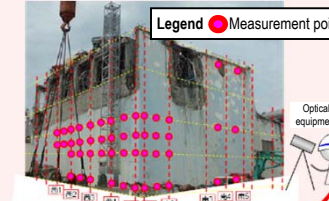
Removal

Commenced in Nov. 2013

Check of the soundness of the Reactor Building
Since May 2012, regular quarterly inspections have been conducted, which have confirmed that the soundness of the Reactor Building has been maintained.



Check for tilt (measurement of water level)



Check for tilt (measurement of external wall)

Unit 3

Toward the installation of a cover for fuel removal, installation of the gantry was completed (March 13, 2013). Removal of rubble on the roof of the Reactor Building was completed (October 11, 2013). Currently, toward the installation of a cover for fuel removal and the fuel handling machine on the operating floor (*1), measures to reduce the radiation dose (decontamination and shielding) have been started (from October 15, 2013). Removal of large rubble from the SFP is underway (from December 17, 2013).



Photo taken on February 21, 2012

Before removal of the large rubble



Photo taken on October 11, 2013

After removal of the large rubble

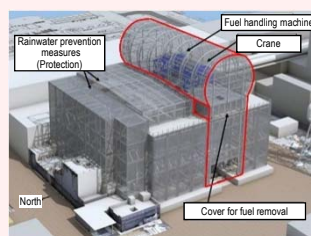


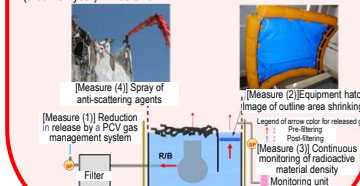
Image of the cover for fuel removal

Units 1 and 2

- Regarding Unit 1, to remove rubble on the top of the operating floor, dismantle of the cover over the Reactor Building is planned. Prior to the dismantle, the ventilation system of the cover will be suspended (September 17, 2013). In the next step, the area around the Reactor Building will be cleared and leveled for operation of heavy machines, and dismantling of the cover will commence from the 1st half of FY2014.
- Regarding Unit 2, based on the progress of decontamination and shielding within the Reactor Building, the facilities will be inspected and a concrete plan examined and prepared.

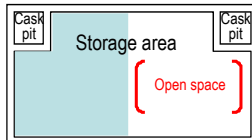
Dismantle of the cover over Reactor Building Unit 1

Toward the early removal of fuel and fuel debris from the SFP, the cover over the Reactor Building will be dismantled to accelerate the removal of rubble on the operation floor. The radiation dose on the site boundaries will increase compared to that before the dismantle. However, through measures to reduce the release, the estimated impact of release from Units 1 to 3 on the site boundaries (0.03mSv/year) will be small.



Measures to reduce the release

Common pool

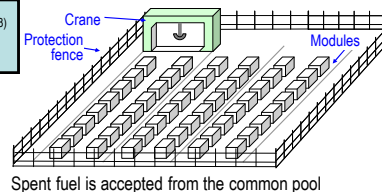


An open space will be maintained in the common pool (Transfer to the temporary dry cask storage facility)

Progress to date

- The common pool has been restored to a condition whereby it can re-accommodate fuel to be handled (November 2012)
- Loading of spent fuel stored in the common pool to dry casks commenced (June 2013)
- Fuel removed from the Unit 4 spent fuel pool began to be received (November 2013)

Temporary dry cask (*3) storage facility



Spent fuel is accepted from the common pool

Operation commenced on April 12, 2013; from the cask storage building, transfer of 9 existing dry casks completed (May 21); fuel stored in the common pool is sequentially transferred.

<Glossary>

- (*1) Operating floor: During regular inspection, the roof over the reactor is opened while on the operating floor, fuel inside the core is replaced and core internals are inspected.
- (*2) Equipment hatch: A through-hole used to carry equipment in and out of the PCV.
- (*3) Cask: Transportation container for samples and equipment including radioactive materials.

Immediate target	Identify the plant status and commence R&D and decontamination toward fuel debris removal
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Demonstration of decontamination equipment

(1) Demonstration of suction and blast decontamination equipment

- Demonstration was conducted on the 1st floor of Unit 1 Reactor Building (from January 30 to February 4). The result showed that the β ray dose rate was reduced by removing dust through aspiration decontamination and the coated surface was shaved by the following blast decontamination.

(2) Dry ice blast decontamination equipment

- Demonstration was conducted on the 1st floor of Unit 2 Reactor Building (from April 15-21).

(3) High-pressure water decontamination equipment

- Demonstration was conducted on the 1st floor of Unit 1 Reactor Building (from April 23 and scheduled for completion on April 29).



Aspiration and blast decontamination equipment



Dry ice blast decontamination equipment



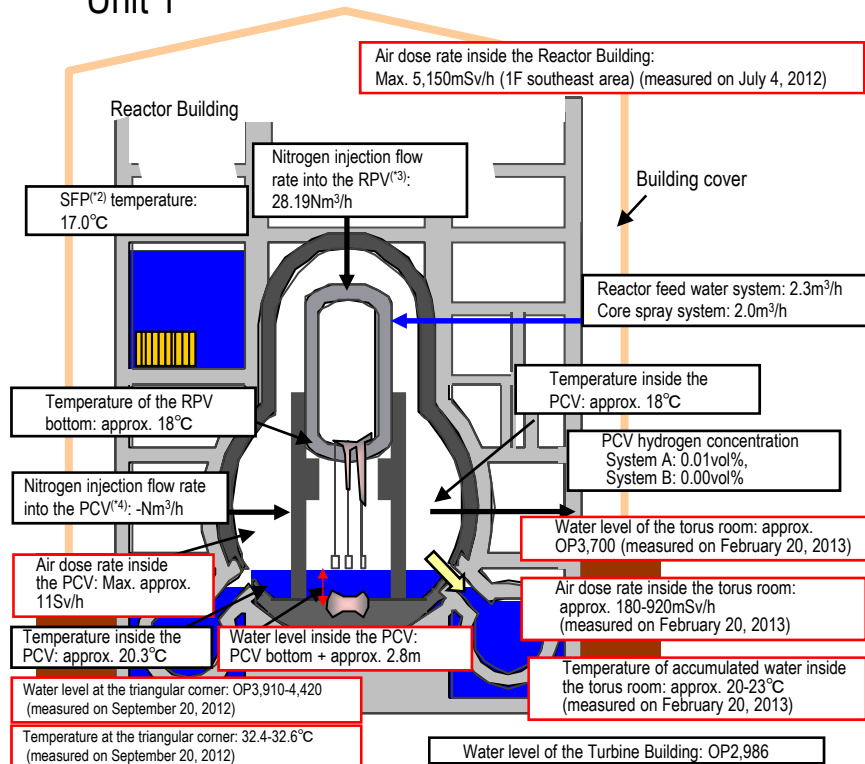
High-pressure water decontamination equipment

* Blast decontamination: A method to shave the surface by injecting polygonal steel grains to the object to be decontaminated (floor surface)

Response related to the reactor water injection system

- At Unit 1, to ensure the reliability of continuous water injection to the reactor by the core spray system, emergency injection points will be installed on the pipes used to inject nitrogen into the RPV (within FY2014). Examination toward the additional installation of reactor water injection points, which can be constantly used, is underway (from FY2015 to around FY2016).

Unit 1



Status of equipment development toward investigation inside PCV

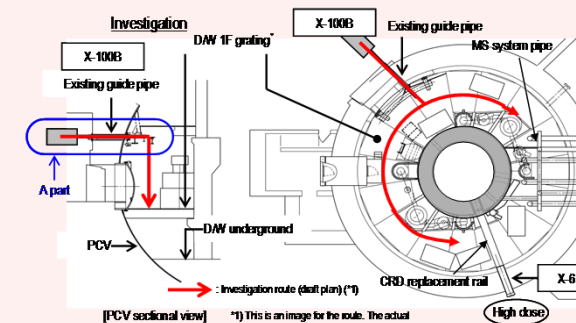
Prior to fuel debris removal, to check the conditions inside the Primary Containment Vessel (PCV), including the location of the fuel debris, investigation inside the PCV is scheduled. For Unit 1, where fuel debris may spread to the outside of the pedestal, the investigation on the external side will be preceded.

[Investigation outline]

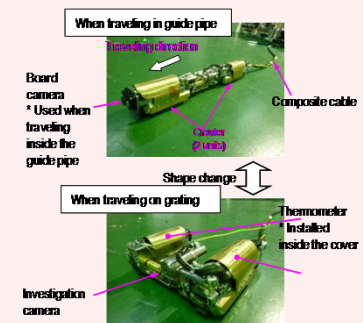
- Inserting equipment from Unit 1 X-100B penetration⁽⁵⁾ to investigate in clockwise and counter clockwise directions.

[Status of investigation equipment development]

- Crawler-type equipment with a shape-changing structure which allows it to enter the PCV from the narrow access entrance (bore: ϕ 100mm) and stably move on the grating is currently under development. A field demonstration is scheduled for the 2nd half of FY2014.



Investigation route inside the PCV (draft plan)



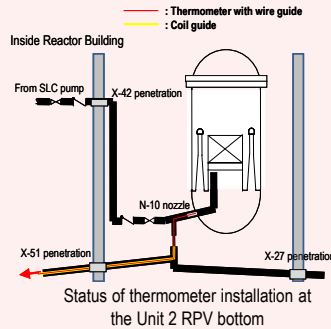
<Glossary>

- (1) S/C (Suppression Chamber): Suppression pool, used as the water source for the emergent core cooling system.
- (2) SFP (Spent Fuel Pool):
- (3) RPV (Reactor Pressure Vessel)
- (4) PCV (Primary Containment Vessel)
- (5) Penetration: Through-hole of the PCV

Immediate target Identify the plant status and commence R&D and decontamination toward fuel debris removal

Installation of RPV thermometer and permanent PCV supervisory instrumentation

- (1) Replacement of RPV thermometer
 - As the thermometer installed at Unit 2 RPV bottom after the earthquake had been broken, it was excluded from the monitoring thermometers (February 19).
 - On April 17, removal of the broken thermometer failed and was suspended. Other methods to remove the thermometer will be examined along with a review of the schedule.
- (2) Reinstallation of PCV thermometer and water-level gauge
 - Some of the permanent supervisory instrumentation for PCV could not be installed in the planned locations due to interference with the existing grating (August 13, 2013).
 - Based on the field situation, that supervisory instrumentation will be reinstalled by trained workers (in mid-May).



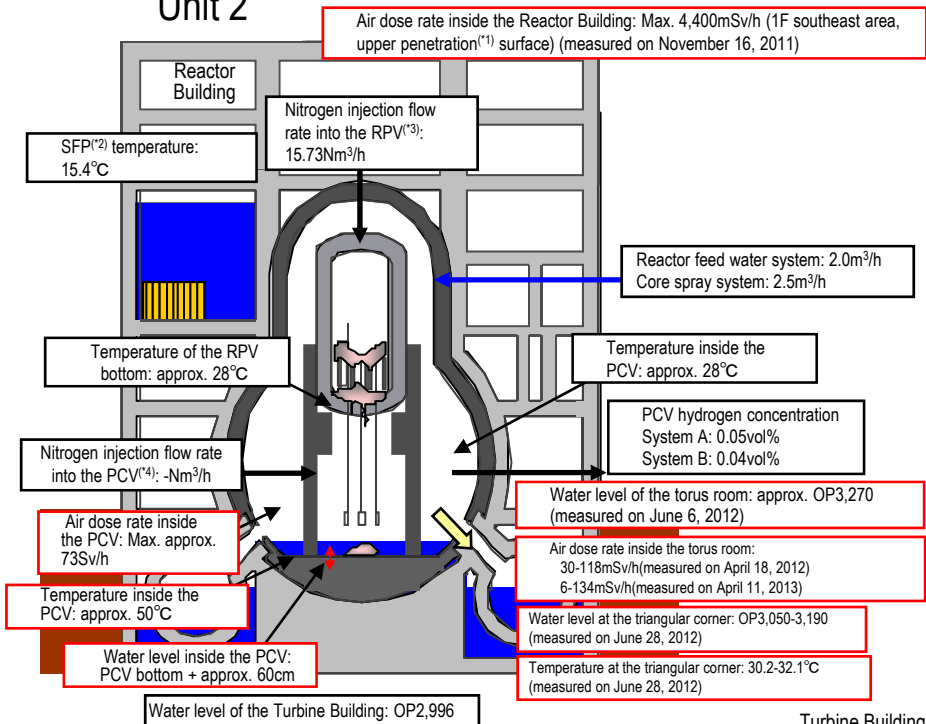
Investigation of the contamination status of the Reactor Building 5th floor

- To investigate the contamination status of the Reactor Building 5th floor, investigative equipment (gamma camera, radiation dose gauge, optical camera) will be suspended through holes drilled in the building roof. In addition, core samples on the 5th floor are collected using remote-control robot.
- To ensure the operation route of the robot for collecting floor core samples, fences on the operating floor⁽⁶⁾ were removed using the remote control robot (March 13 and 14).
- As the robot fell during the operation and the battery became low, that robot could not be collected. Removal of fences was completed and the core was collected within the accessible range (from March 20-26).



Status of remote-control robot falling down

Unit 2



* Indices related to plant are values as of 11:00, April 23, 2014

Status of equipment development toward investigation inside the PCV

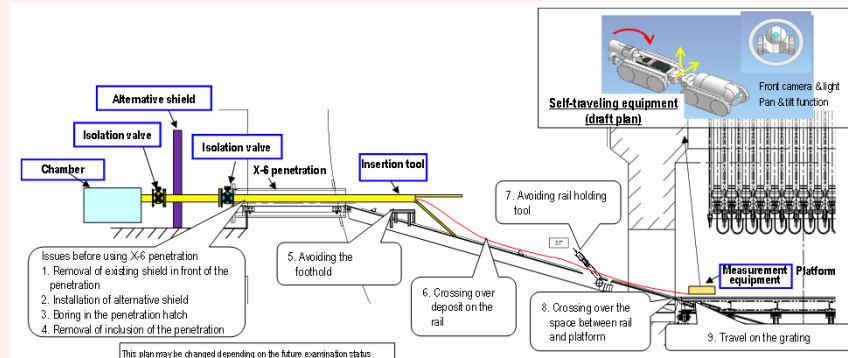
Prior to removing fuel debris, to check the conditions inside the Primary Containment Vessel (PCV) including the location of the fuel debris, investigations inside the PCV are scheduled. For Unit 2, where possibility of fuel debris spreading outside the pedestal is low, the focus will be placed on investigating the inside.

[Investigation outline]

- Inserting the equipment from Unit 2 X-6 penetration⁽¹⁾ and accessing the inside of the pedestal using the CRD rail to conduct investigation.

[Status of investigative equipment development]

- Based on the issues confirmed by the CRD rail status investigation conducted in August 2013, the investigation method and equipment design are currently examined. The demonstration is scheduled in the field in the 2nd half of FY2014.



Issues of investigation inside the PCV and equipment configuration (draft plan)

<Glossary>

- (1) Penetration: Through-hole of the PCV
- (2) SFP (Spent Fuel Pool)
- (3) RPV (Reactor Pressure Vessel)
- (4) PCV (Primary Containment Vessel)
- (5) S/C (Suppression Chamber): Suppression pool, used as the water source for the emergency core cooling system.
- (6) Operating floor: During regular inspection, the roof over the reactor is opened while on the operating floor, fuel inside the core is replaced and core internals are inspected.

Immediate target Identify the plant status and commence R&D and decontamination toward fuel debris removal

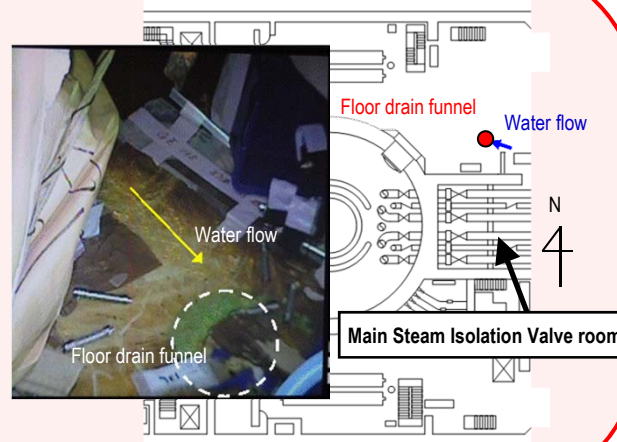
Water flow was detected from the Main Steam Isolation Valve* room

On January 18, the flow of water from around the door of the Steam Isolation Valve room in the Reactor Building Unit 3 1st floor northeast area to the nearby floor drain funnel (drain outlet) was detected. As the drain outlet connects with the underground part of the Reactor Building, there is no possibility of outflow from the building.

Based on the data of temperature and radioactive materials of the flowing water, and examination by drawings, it is assumed that there is a potential outflow of accumulated water in PCV.

From April 23, acquisition of image data by camera and measurement of radiation dose is underway through pipes for measurement instrumentation, which connect the air-conditioning room on the Reactor Building 2nd floor with the Main Steam Isolation Valve room on the 1st floor.

* Main Steam Isolation Valve: A valve to shut off the steam generated from the Reactor Building.



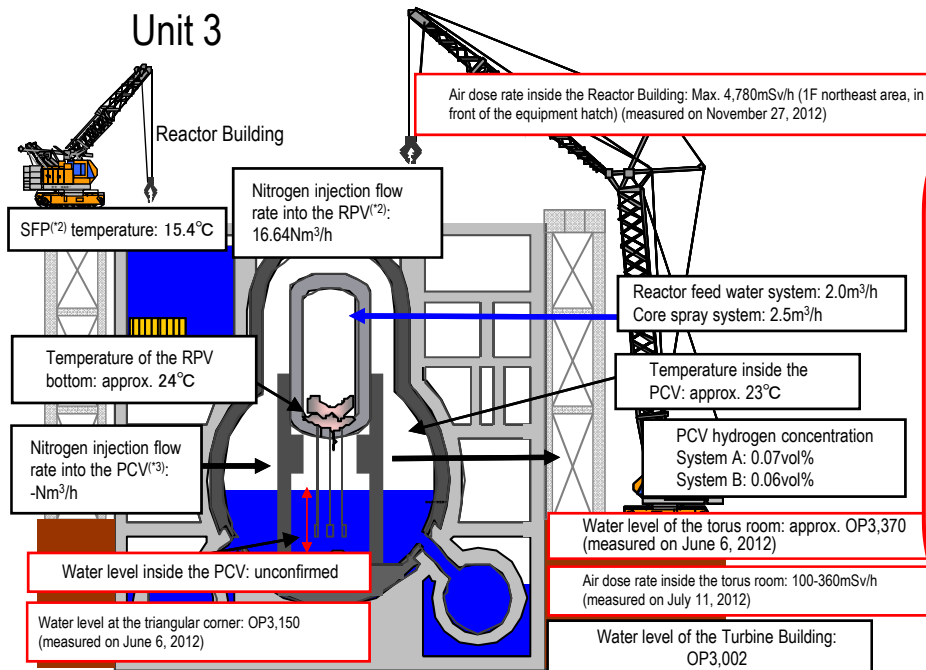
Outline of the water flow status

Decontamination inside R/B

- The contamination status inside the Reactor Building (R/B) was investigated by a robot (June 11-15, 2012).
- To select an optimal decontamination method, decontamination samples were collected (June 29 to July 3, 2012).
- Toward decontamination inside the Reactor Building, removal of obstacles on the 1st floor was conducted (from November 18, 2013 to March 20, 2014).



Robot for investigating the contamination status (gamma camera mounted)



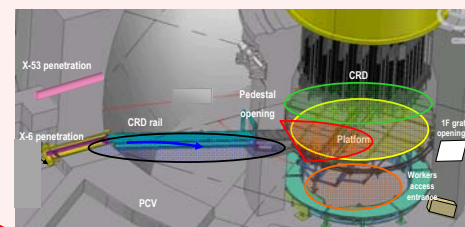
* Indices related to plant are values as of 11:00, April 23, 2014

Status of equipment development toward investigation inside the PCV

Prior to fuel debris removal, to check the conditions inside the Primary Containment Vessel (PCV), including the location of the fuel debris, investigation inside the PCV is scheduled. For Unit 3, where the possibility of fuel debris spreading outside the pedestal is low, the focus will be placed on investigating the inside. As the water level inside the PCV is high and the penetration which is scheduled for use in Units 1 and 2 may sink in the water, another method need to be examined.

[Steps for investigation and equipment development]

- (1) Investigation from X-53 penetration
 - Following decontamination, a field investigation is scheduled in the areas around X-53 penetration to determine the plan for conducting the inside investigation and equipment specifications.
- (2) Investigation plan following the investigation of X-53 penetration
 - Based on the measurement values of hydraulic head pressure inside the PCV, X-6 penetration may sink. It is estimated that access to X-6 penetration is difficult.
 - For access from another penetration, approaches such as "further downsizing the equipment" or "moving in water to access the pedestal" are necessary and will be examined.



<Glossary>

- (*)1 SFP (Spent Fuel Pool)
- (*)2 RPV (Reactor Pressure Vessel)
- (*)3 PCV (Primary Containment Vessel)
- (*)4 TIP (Traversing Incore Probe System)
Measures neutrons by moving the detector up and down inside the core.

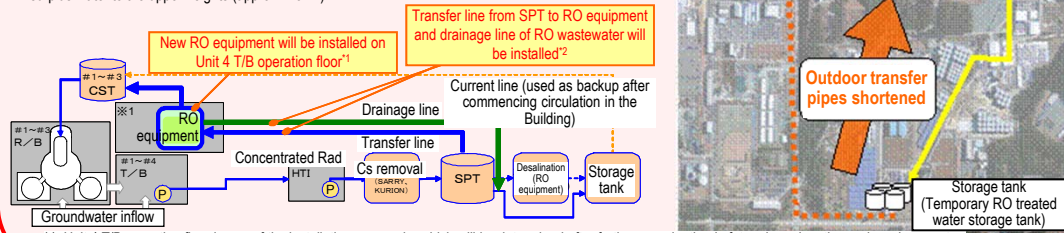
Progress toward decommissioning: Work related to circulation cooling and accumulated water treatment line

Immediate target **Stably continue reactor cooling and accumulated water treatment, and improve reliability**

Work to improve the reliability of the circulation water injection cooling system and pipes to transfer accumulated water.

- Operation of the reactor water injection system using Unit 3 CST as a water source commenced (from July 5, 2013). Compared to the previous systems, in addition to the shortened outdoor line, the reliability of the reactor water injection system was enhanced, e.g. by increasing the amount of water source storage and enhancing durability.
- By newly installing RO equipment inside the Reactor Building by the end of FY2014, the reactor water injection loop (circulation loop) will be shortened from approx. 3km to approx. 0.8km*.

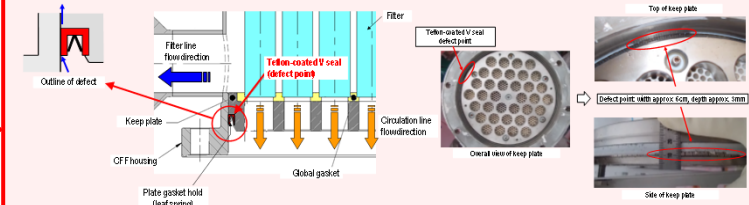
* The entire length of contaminated water transfer pipes are approx. 2.1km, including the transfer line of surplus water to the upper heights (approx. 1.3km).



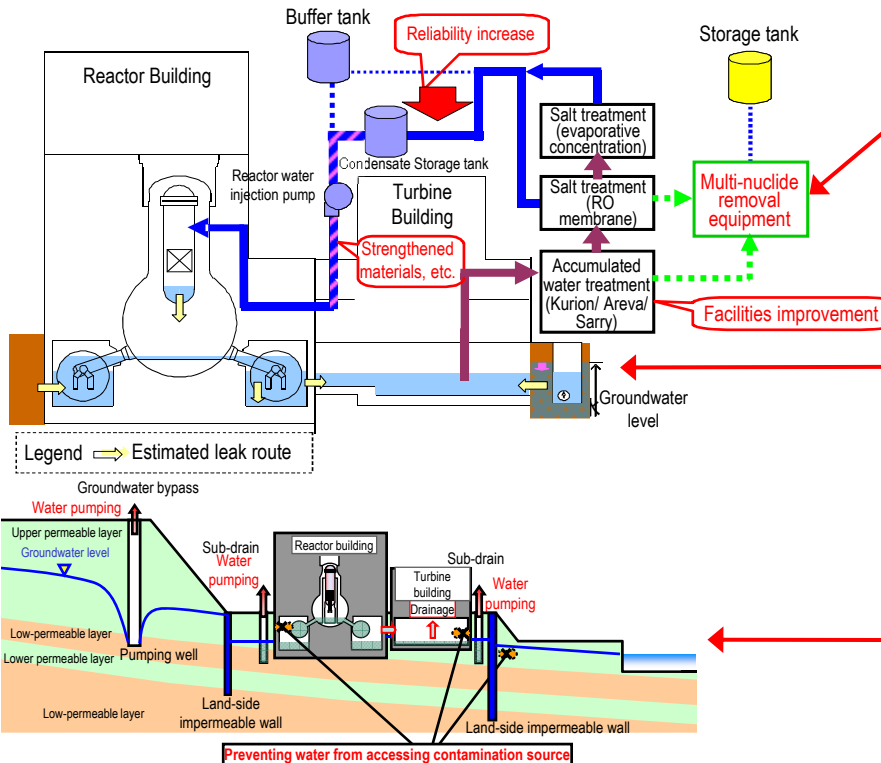
*1 Unit 4 T/B operation floor is one of the installation proposals, which will be determined after further examination in future based on the work environment
 *2 A detailed line configuration will be determined after further examination in future

Status of multi-nuclide removal equipment

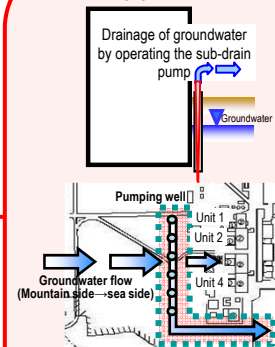
- Hot tests using radioactive water are underway (System A: from March 30, 2013, System B: from June 13, 2013, System C: from September 27, 2013).
- System A was suspended due to white turbidity detected in the inlet water at the absorption vessel on March 27. After replacing the filters and inspecting them, the treatment resumed from April 22. However, the treatment was suspended due to the high density of calcium detected. After taking the necessary measures, the treatment was resumed from April 23.
- Regarding System B, as the density of radioactive materials in the outlet water of the system increased on March 18 due to a filter defect, the treatment was suspended. The overhaul results of the defect filter showed that part of the seal was damaged. Toward resumption of treatment, decontamination of the absorption vessel and pipes is underway.
- Regarding System C, the operation continues to treat pipes contaminated by high-density water from the System B outlet.
- Toward installing additional and high-performance multi-nuclide removal equipment, work to remove obstacles, drill, improve the ground, and construct foundations is underway.



Status of filter overhaul of Multi-nuclide removal equipment System B



Preventing groundwater from flowing into the Reactor Buildings

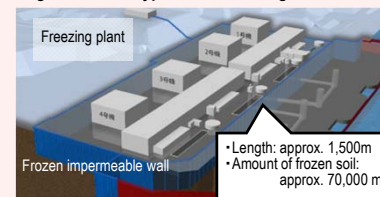


To reduce groundwater level by sub-drain water pumping, treatment tests were conducted for some sub-drain pits of Units 1-4. The next stage will involve scheduled examination of the sub-drain recovery method.

Reducing groundwater inflow by pumping sub-drain water

Measures to pump up groundwater flowing from the mountain side upstream of the Building to reduce the groundwater inflow (groundwater bypass) have been implemented. The groundwater quality has been checked and evaluated to confirm that the radioactive density remains appropriately low compared to rivers around the power station. Pumped groundwater is temporarily stored in tanks and appropriately operated. Installation of a pumping well and pumping/transfer facilities are completed. Based on the water quality result and after obtaining the consent of parties concerned, operation will commence sequentially.

Via a groundwater bypass, reduce the groundwater level around the Building and groundwater inflow into the Building



To prevent the inflow of groundwater into the Reactor Buildings, installation of impermeable walls surrounding the buildings on the land side is planned. Toward the installation, a feasibility study was conducted on site. From March 14, the freezing test began for small-scale frozen impermeable walls.

<Glossary>
 (*1) CST (Condensate Storage Tank)
 Tank for temporarily storing water used in the plant.

Installing frozen impermeable walls around Units 1-4 to prevent inflow of groundwater into R/B

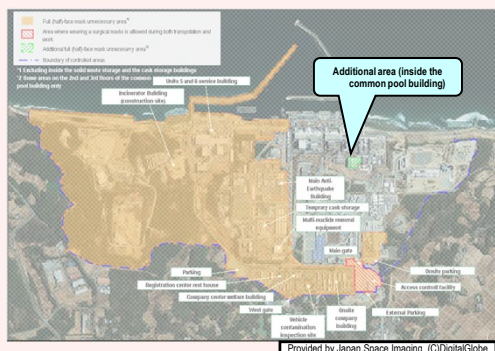
Progress toward decommissioning: Work to improve the environment within the site

Immediate target	<ul style="list-style-type: none"> Reduce the effect of additional release from the entire power station and radiation from radioactive waste (secondary water treatment waste, rubble, etc.) generated after the accident, to limit the effective radiation dose to below 1mSv/year at the site boundaries. Prevent contamination expansion in sea, decontamination within the site
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Expansion of full-face mask unnecessary area

Operation based on the rules for mask wearing according to radioactive material density in air and decontamination/ ionization rules was defined, and the area is being expanded.

As it was confirmed that the density of radioactive materials in air is under the level for full-face mask unnecessary area in some parts on the 2nd and 3rd floors of the common pool building, these areas will be set as full-face mask unnecessary area, to reduce burden on workers and improve productivity (from March 10).



full-face mask unnecessary area

Access control facility was established

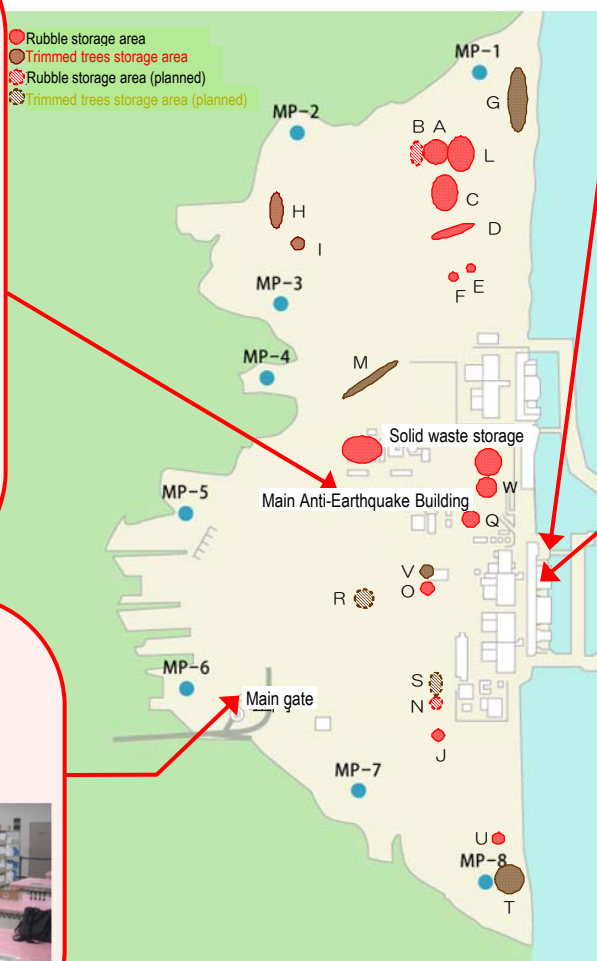
An access control facility near the main gate of the Fukushima Daiichi Nuclear Power Station commenced operation on June 30, 2013, where contamination tests, decontamination, switching on and off of protective equipment, and distribution/ collection of dosimeters are being conducted.



External view of the entrance control facility



Inside the entrance control facility



Installation of impermeable walls on the sea side

To prevent contamination expansion into the sea when contaminated water leaks into groundwater, impermeable walls are being installed (scheduled for completion in September 2014).

Installation of steel pipe sheet piles temporarily completed by December 4, 2013 except for 9 pipes.

The next stage will involve installing steel pipe sheet piles outside the port, landfilling within the port, and installing a pumping facility to close before the construction completion.



Installation status of impermeable walls on the sea side

Reducing radioactive materials in seawater within the harbor

- The analytical result for data such as the density and level of groundwater on the east (sea) side of the Building identified that contaminated groundwater was leaking into seawater.

- No significant change has been detected in seawater within the harbor for the past month, nor was any significant change detected in offshore measurement results as of last month.

- To prevent contamination expansion into the sea, the following measures are being implemented:

- Preventing leaks of contaminated water
 - Ground improvement behind the bank to prevent the expansion of radioactive materials. (Between Units 1 and 2: completed on August 9, 2013; between Units 2 and 3: from August 29 and completed on December 12, 2013; between Units 3 and 4: from August 23, 2013 and completed on January 23, 2014)
 - Pumping groundwater in contaminated areas (from August 9, 2013, scheduled to commence sequentially)
- Keeping away groundwater from contamination sources
 - Enclosure by ground improvement on the mountain side (Between Units 1 and 2: from August 13, 2013 and completed on March 25, 2014; between Units 2 and 3: from October 1, 2013 and completed on February 6, 2014; between Units 3 and 4: from October 19, 2013 and completed on March 5, 2014)
 - To prevent the ingress of rainwater, the ground surface is being paved with asphalt (commenced on November 25, 2013)
- Removing contamination sources
 - Removing contaminated water in branch trenches and closing them (completed on September 19, 2013)
 - Treatment and removal of contaminated water in the main trench (Unit 2: Treatment commenced on November 14, 2013; Unit 3: on November 15, 2013) (Frozen water stoppage, water removal: Freeze partially commenced on April 2)

