Reference information for each project

April 8. 2014 Ministry of Economy, Trade and Industry Agency for Natural Recourses and Energy (Cabinet Office, Management Office of the Team for Decommissioning and Contaminated Water Countermeasures)

Overall View



Overall View



Concentration of radioactive nuclides around the port (for Demonstration Project for Seawater Purification Technologies)



Change of radioactive nuclide concentration in the seawater (for Demonstration Project for Seawater Purification Technologies)

Change of radioactive nuclide concentration in the north-side area of Unit 1 through 4 cooling water intakes and north-side area of the Ease Seawall Break



- CS 154 In the north side of the cooling water intakes of 1~4 Chit = CS 157 In the north side of the cooling wa
- Cs-134 in the north side of the Ease Seawall Break
- Cs-137 in the north side of the Ease Seawall Break
- All of 6 nuclides in the north side of the cooling water intakes of 1~4 Unit
- All of 6 nuclides in the north side of the Ease Seawall Break

Demonstration Project of Technologies for Capturing Radioactive Substances from Soil



Radioactive nuclide concentration of groundwater (1/2)

(for Demonstration Project of Technologies for Capturing Radioactive Substances from Soil)

Radioactive Nuclide Concentration of the groundwater in the east side of the Turbine Building(1/2)





Radioactive nuclide concentration of groundwater (2/2)

(for Demonstration Project of Technologies for Capturing Radioactive Substances from Soil)

Radioactive Nuclide Concentration of the groundwater in

the east side of the Turbine Building(2/2)

<The area between the cooling water intakes of Unit 2 and Unit 3, the area between the cooling water intakes of Unit 3 and Unit 4>



Type and the number of tanks to be disposed

(1) Type of tanks to be disposed

Cylindrical flange-joint type tank



(2) The number of tanks to be disposed

•340 tanks

Structure of the tank to be disposed



Structure of the bottom panels of the tank to be disposed





Photo of the joint part of flange at the bottom of the tank



Structure of joint of bottom plates(1/2)



Structure of joint of bottom plates(2/2)



Joint sealing of shell plates inside tanks









Photo of side structure of the tank (joint section)



Inside photo of dismantling the steel flange-type tank



Joint for side of a tank



Concentration of radioactive nuclide in the tank

Measured dose rates in the tank (H4 area No.5)

The dose rates measured around flanges were below 10mSv/h for beta-rays at almost points, and the maximum was approx. 22mSv/h. Dose rates from gamma-ray were 0.02 – 0.125 mSv/h



Main target of decontamination inside the tank

- No defects were observed on general parts of the side plate from its appearance. At the joint section, sealing materials still remain.
- General parts of the bottom plate cannot be observed because of the remaining water. At the flange part, although there still accumulate some clads, sealing materials at the joint section still remain. At the bolted flange part, the shape cannot be clearly observed because of sealing materials and clads, remarkable corrosion, however, has not been observed at this time.



Arrangement of tanks



Example of Boring Core (for Demonstration Project for Unmanned Boring Technologies)



Boring for groundwater survey

(example of construction for contamination measure L:25-30m Period : approx. 10 – 20 days) The countermeasures shall be required not to expand the contamination to other layers if boring halls are drilled in the area with the risk of soil or groundwater contamination.

Task	Boring of backfilling and medium-grained sandstone	Sampling water from upper permeable layer	Expanded hole boring¢200	Cementation for erecting casing	Pelite and alteration boring L=10m, all core	Setting VP tube and water level gauge, water sar	npling
Example of period for task (days)*,**	7 days (including geological confirmation)	1 day	3 days	2 days	3 days	3 days	
Procedure of the boring to prevent contamination	 All core boring φ86mm Muds drilling Hole diameter for Pelite shall be less than 1m 	•Sampling water with pump	 Non core boring \$\phi200mm (approx.) 	 Erecting casing with O.D. 114mm Filling cement from bottom of hole to outside of casing Washing the hole with pure water 	 Hollow inside casing All core boring for the section deeper than pelite Muds drilling 	•Sampling water after setting VP tube	* J⑦:Dose rate after the treatment to reduce dose rate is 0.25mSv/h. ** Total working time per day are from 12 to 18
Backfilling soil and medium- grained sandstone (upper permeable layer)				Confirm filling v finished upper p	ning vas d for part.		hours/day X 3 persons/ group X 2 groups)
Pelite	• Stop drilling when Pelite was confirmed	1	Filling cement to the section of 50cm above the boundary of layers after inserting cacings	2 After Filling cem to bottom of hole filling outside of c by using hoses to the lower part of	ent s, asing fill Setting water le	vel	
Alternation (Lower permeable layer)			Lasings	casing	gauge at insertion VP tube	fter n of Using to with ho for alter	ubes le only ation 20