[Reference]

Countermeasures against Approaching Typhoon No.26 (Wipha) of Each Tank Area at Fukushima Daiichi NPS

October 21, 2013
Tokyo Electric Power Company

Name of area (Type of tank)	Water type stored	Property of water inside the dike: Analysis result [Bq/L]	Property of water inside the dike: Sampling date	Countermeasures on Sep 15	Installation status of system	Countermeasures against Approaching Typhoon No.26 (Wipha) (Implemented on Oct 16)	Amount of pumping up, transfer and discharge	Analysis result [Bq/L] on Oct 16 The detection limit value is provided in parentheses	Sampling time
H1-East (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 200	Sep 15	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 3:35 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
H2-North (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 140	Sep 15	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 0:58 AM on Oct 16, water transfer to the H2-South dike was started	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
H2-South (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 29,000	Oct 6	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 0:55 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started Water transfer to the H4-North dike was started at 10:50 AM on Oct 16 and was completed at 12:00 PM on Oct 16	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
H3 (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 4,600	Sep 15	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 0:30 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
H4-North (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 170,000	Sep 15	Collection	Installation of transfer line to H4-North area tank was completed Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 11:49 PM on Oct 15, pumping up of water to the H4-North area tank was started	Approx. 140m^3	Analysis will be performed (Date has not been decided)	-
						At 5:49 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started	Total transfer amount to notch tanks: Approx. 1600m3 Transfer amount from each dike is uncertain		
H4-East (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 2,400	Sep 15	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 1:30 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started Water transfer to the H4-North dike was started at 8:29 AM on Oct 16 and was completed at 12:35 PM on Oct 16	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
H4 (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 110	Sep 15	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 4:50 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
H5 (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 430	Sep 15	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	Water transfer to the notch tanks (4,000m ^{3}) was started at 5:47 AM on Oct 16 and was completed at 12:35 PM on Oct 16	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
						Transfer of water inside the dike to the underground reservoir No.7 (not in use) was started at 8:09 AM on Oct 16 and was completed at 11:06 AM on Oct 16	Total transfer amount to the underground reservoir No.7: Approx. 200m^3 Transfer amount from each dike is uncertain		
H6 (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 160	Sep 15	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 4:34 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
						Transfer of water inside the dike to the underground reservoir No.7 (not in use) was started at 7:30 AM on Oct 16 and was completed at 12:27 PM on Oct 16	Total transfer amount to the underground reservoir No.7: Approx. 200m^3 Transfer amount from each dike is uncertain		
H9 (Flange type)	RO treated water (Freshwater)	- Cs-134: ND(19) - Cs-137: ND(27) - All β: 9	Sep 15	Discharge	Installation of transfer line to sampling tanks (28m ^{3}) and notch tanks (4,000m^3) was completed	Water discharge was started by opening the dike drain valve at 7:26 AM on Oct 16 and was completed at 13:30 PM - 14:30 PM on Oct 16	Approx. 120m^3	- Cs-134: Below the detection limit value (13) - Cs-137: Below the detection limit value (17) - Sr-90: 4.0	6:35 AM on Oct 16
H9-West (Flange type)	RO treated water (Freshwater)	- Cs-134: ND(19) - Cs-137: 32 - All β: 8	Sep 15	Discharge	Installation of transfer line to sampling tanks (40m ^{3}) and notch tanks (4,000m^3) was completed	Water discharge was started by opening the dike drain valve at 7:32 AM on Oct 16 and was completed at 13:30 PM - 14:30 PM on Oct 16	Approx. 170m^3	- Cs-134: Below the detection limit value (13) - Cs-137: Below the detection limit value (18) - Sr-90: 3.9	6:30 AM on Oct 16
B-North (Flange type)	RO treated water (Freshwater)	- Cs-134: - - Cs-137: - - All β: 23	Sep 15	Collection	Installation of notch tank (shared with B-South area, 12m ^{3}) and deployment of 3 tank vehicles (20m ^{3}) was completed	Water transfer to the B-North area notch tank was started at 3:27 AM on Oct 16	-	- Cs-134: 24 - Cs-137: 56 - Sr-90: 3.4	8:50 AM on Oct 16
						Water transfer to the notch tanks (4,000m ^{3}) was conducted	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain		
B-South (Flange type)	RO treated water (Freshwater)	- Cs-134: - - Cs-137: - - All β: 200,000	Oct 2	Collection	Installation of notch tank (12m ^{3}) and deployment of 3 tank vehicles (20m ^{3}) was completed	Water transfer to the notch tanks (4,000m ^{3}) was conducted	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	Analysis will be performed (Date has not been decided)	-
C-East (Flange type)	RO concentrated water	- Cs-134: ND(20) - Cs-137: ND(26) - All β: 24	Sep 15	Collection	Installation of transfer line to the notch tank (25m ^{3}) was completed	Water discharge from the notch tank was started by opening the dike drain valve at 5:40 AM on Oct 16 and was completed at 6:30 AM on Oct 16	Approx. 20m^3	- Cs-134: Below the detection limit value (13) - Cs-137: 21 - Sr-90: 4.3	5:25 AM on Oct 15
						Water discharge was started by temporary pump at 7:05 AM on Oct 16 and was completed at 8:00 AM on Oct 16	Approx. 110m^3	- Cs-134: Below the detection limit value (14) - Cs-137: Below the detection limit value (18) - Sr-90: 2.5	4:15 AM on Oct 16
C-West (Flange type)	RO concentrated water	- Cs-134: ND(18) - Cs-137: ND(27) - All β: 8	Sep 15	Discharge	Installation of transfer line to the sampling tank (25m ^{3}) was completed	Water discharge from the notch tank was started at 5:40 AM on Oct 16 and was completed at 6:30 AM on Oct 16	Approx. 20m^3	- Cs-134: Below the detection limit value (14) - Cs-137: Below the detection limit value (19) - Sr-90: 2.7	5:30 AM on Oct 15
						Water discharge was started by opening the dike drain valve at 7:00 AM on Oct 16 and was completed at 13:30 PM - 14:30 PM on Oct 16	Approx. 150m^3	- Cs-134: Below the detection limit value (14) - Cs-137: Below the detection limit value (18) - Sr-90: 2.7	4:30 AM on Oct 16
E (Flange type)	RO concentrated water	- Cs-134: ND(20) - Cs-137: ND(26) - All β: 6	Sep 15	Discharge	Installation of transfer line to sampling tanks (77m ^{3}) and notch tanks (4,000m^3) was completed	Water discharge was started by opening the dike drain valve at 7:30 AM on Oct 16 and was completed at 13:30 PM - 14:30 PM on Oct 16	Approx. 1,060m^3	- Cs-134: Below the detection limit value (13) - Cs-137: Below the detection limit value (18) - Sr-90: 4.2	6:20 AM on Oct 16
G4-South (Flange type)	RO concentrated water	- Cs-134: ND(20) - Cs-137: ND(27) - All β: 3	Sep 15	Discharge	There is empty tank in the area Installation of transfer line to sampling tanks (28m ^{3}) was completed	At 11:35 PM on Oct 15, pumping up of water to the G6-North area tank was started	Approx. 290m^3	- Cs-134: Below the detection limit value (14) - Cs-137: Below the detection limit value (18) - Sr-90: 2.0	7:55 AM on Oct 16
G6-North (Flange type)	RO concentrated water	- Cs-134: ND(19) - Cs-137: ND(26) - All β: 8	Sep 15	Discharge	Installation of transfer line to the sampling tank (28m ^{3}) was completed	At 0:40 AM on Oct 16, pumping up of water to the G6-North area tank was started	Approx. 130m^3	- Cs-134: Below the detection limit value (14) - Cs-137: Below the detection limit value (18) - Sr-90: 4.3	8:25 AM on Oct 16
G6-South (Flange type)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 34	Sep 15	Collection	Installation of transfer line to the notch tank (12m ^{3}) was completed	At 7:35 AM on Oct 16, water transfer to the G6-North area dike was started	Transfer amount to the G6-North area dike is uncertain	- Cs-134: Below the detection limit value (14) - Cs-137: Below the detection limit value (18) - Sr-90: 5.3	8:10 AM on Oct 16
G3-East (Welding type)	Treated water through Multi-nuclide Removal Apparatus	- Cs-134: - - Cs-137: - - All β: 8	Oct 1	Discharge	Installation of transfer line to the sampling tanks (12m ^{3}) and between the tank area dike was completed	At 11:50 PM on Oct 15, water transfer to the G4-South area tank was started	Transfer amount to the G4-South area dike is uncertain	- Cs-134: Below the detection limit value (13) - Cs-137: Below the detection limit value (17) - Sr-90: 1.0	4:30 AM on Oct 16
						Water discharge was started by opening the dike drain valve at 8:56 AM on Oct 16 and was completed at 11:40 AM on Oct 16	Approx. 320m^3		
G3-North (Welding type)	RO concentrated water	-		-	Installation of transfer line between the tank area dike was completed	At 0:05 AM on Oct 16, water transfer to the G3-East area dike was started	Transfer amount to the G3-East area dike is uncertain	- Cs-134: Below the detection limit value (14) - Cs-137: Below the detection limit value (18) - Sr-90: 0.88	4:20 AM on Oct 16
						Water discharge was started by opening the dike drain valve at 8:56 AM on Oct 16 and was completed at 11:40 AM on Oct 16	Approx. 100m^3		
H8-North (Welding type *)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 103	Oct 1	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 5:15 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	- Cs-134: Below the detection limit value (13) - Cs-137: Below the detection limit value (18) - Sr-90: 9.5	6:00 AM on Oct 16
						Water discharge was started by opening the dike drain valve at 6:55 AM on Oct 16 and was completed at 13:30 PM - 14:30 PM on Oct 16	Approx. 110m^3		
H8-South (Welding type *)	RO concentrated water	- Cs-134: - - Cs-137: - - All β: 18	Oct 1	Collection	Installation of transfer line to the notch tanks (4,000m ^{3}) was completed	At 5:23 AM on Oct 16, water transfer to the notch tanks (4,000m ^{3}) was started	Total transfer amount to notch tanks: Approx. 1600m^3 Transfer amount from each dike is uncertain	- Cs-134: Below the detection limit value (15) - Cs-137: Below the detection limit value (17) - Sr-90: 6.9	5:50 AM on Oct 16
						Water discharge was started by opening the dike drain valve at 6:55 AM on Oct 16 and was completed at 13:30 PM - 14:30 PM on Oct 16	Approx. 240m^3		

* Discharge standard
-Cesium-134: Below 15Bq/L (Sea Discharge Standard Value: 60 Bq/L)
-Cesium-137: Below 25Bq/L (Sea Discharge Standard Value: 90 Bq/L)
-No detection of the other γ nuclides (excludes natural nuclides)
-Strontium-90: Below 10Bq/L (Sea Discharge Standard Value: 30 Bq/L)
-Satisfaction of the notification levels for the other nuclides, by using water quality, etc. of the tanks as a reference.
* We corrected type of the tanks at the H8-North area and H8-South area to welding type from flange type. (Corrected on October 28, 2013)