＜Appendix＞

July 11, 2011
Tokyo Electric Power Company

Implementation of water seal work at the southern part of Units 1 to 4 open water channel in Fukushima Daiichi Nuclear Power Station

１．History

On April 2, 2011, at water intake canal of Unit 2, water containing radioactive material (hereinafter “contaminated water”) flowed out. In order to prevent the same incident and close the flow for the contaminated water, the pits around the water discharge were shut out with concrete. On May 11, 2011, in the screen pump room of Unit 3, another water flowing happened from the power cable pit through a penetration spot on the concrete wall in the screen room.

In order to prevent contaminated water flowing from the pit on O.P. +4.0m, we undertook investigation, arranged countermeasures and reported to NISA.

After we conducted investigation on the situation of trench & seawall and made a plan to the countermeasures, on June 1, 2011, we reported to NISA.

On a basis of those two incidents, We, TEPCO, has been implementing the countermeasures to prevent water flowing and to control expansion of water. The followings are countermeasures.（Refer to Reference 1）

＜Countermeasures to prevent water flowing and to control expansion of water until the end of June＞

○Blockage work at pits where the possibility of water leakage can’t be denied

・Blockage all the ten pits that have the same structure at Unit 2, 3 near the screen pump room（completed on May 19）。

・Blockade all the 39 pits where the possibility of water leakage can’t be denied include pits where the connection can’t be confirmed such as near the sea water pipe and power cable trenches（completed on June 10）。

○Blockage work at the vertical shaft of trench for sea water pipe at Unit 2, 3 and 4

・Blockage work at all the five vertical shaft of trench for sea water pipe at Unit 2, 3 and 4（completed on June 2）

○To repair the breakage of the seawall

・ Repair work of broken steel sheet pile for shore protection by filling grout material

under the influence of the earthquake（completed on June 9）。

○Isolation of Screen pump rooms for Units 1 to 4

・Installation of steal plates in front of the screen pump room at Units 2 for emergency measure（completed on April 15）。

・Installation of sliding concrete plate in front of the screen pump room at Units 1 to 4（completed on June 29）。

○Installation of silt screen and large sandbags

・Installation of silt screen in front of the screen pump room at Units 1 to 4, and northern and southern open water channel for emergency measure（completed on April 14）。

・Installation of large sandbags at southern part of open water channel（completed on April 8）。

○Installation of sandbags containing zeolite inside of the intakes

・Installation of sandbags containing zeolite inside of the intakes for temporary measure（completed on May 19）

○Installation of the circulating seawater cleaning system

・operating of the circulating seawater purification facility installed at the screen area for removing radioactive Cesium（installed on June 1, operation from June 13）

In future, pretreatment system, which removes oil and impurity, will be installed for preventing the decline in an adsorption rate. This system will be installed in the middle of July after finishing the selection of proper filter for removing oil and impurity.

Moreover other circulating seawater cleaning systems will be installed for water decontamination in the open water channel.

○Continue monitoring sea water and reinforce the monitoring system

・Continue monitoring sea water inside and outside of the port

・Monitoring using camera at the outflow accidents area of Units 2, 3 and patrolling seaside of Units 1to 4

2．The outline of the restoration work for block up work at the southern part of Units 1 to 4 open water channel

In addition to the above measure, the block up work will be conducted by using steal sheet piles as planned the southern part of breakage point.

The construction of steal sheet piles will be conducted by crane barge in the open water channel from July 12 to the end of September.

When crane barge and materials transport ships go in and out to the open water channel, silt screen at the northern part of Units 1 to 4 needs to be open. Diffusion control of contamination water is taken into consideration, the opening-and-closing time sets the

minimum (about 2 hours) and silt screen and ships moves carefully for decreasing the winding up the ocean soil.

3．Regarding environmental impact due to the silt screen opening-and-closing

According to the results of nuclide analyses on the ocean soil, the maximum radioactivity density of seawater(the average from July 4's data to July 8's data) in front of the Shallow Draft Quay is 10 Bq/L (I-131), 180 Bq/L (Cs-134), 180 Bq/L (Cs-137), on the other hand the maximum radioactivity density of seawater in the open water channel is 42 Bq/L (I-131), 616 Bq/L (Cs-134), 667 Bq/L (Cs-137).

If all seawater in the open water channel is spread in the port, by silt screen opening-and-closing, the maximum radioactivity density of seawater in port may be 15 Bq/L from 10 Bq/L (I-131), 255 Bq/L from 180 Bq/L (Cs-134), 264 Bq/L from 180 Bq/L (Cs-137). On the other hand, according to the trend of radioactive materials in the port, the total amount of radioactive materials(sum total of I-131, Cs-134 and Cs-137) is 1.2×10^{12}Bq which is 1/17(approximately 6.0%) of total outflow contaminated water from Unit 3 from May 10 to 11.(Appendix2） According to the results of monitoring of radioactivity density of radioactive materials outside of port after May 11, Radioactivity density of radioactive materials is falling intermittently. (Appendix3） Thus If all seawater in the open water channel is spread gradually in the port by tide, we do not think it has significant influence in the coast.

During the work, the opening-and-closing time sets the minimum and silt screen and ships moves carefully for decreasing the winding up the ocean soil. We will make best effort not to influence to surrounding environment and enhance the monitoring by increasing sampling frequency in the vicinity. In addition, we will tackle the improvement in an adsorption rate of radioactive materials in the sea and other circulating seawater cleaning systems will be installed for water decontamination in the open water channel.

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