The Committee on Supervision and Evaluation of the Specified Nuclear Facilities (25th)

Extract from Material 1

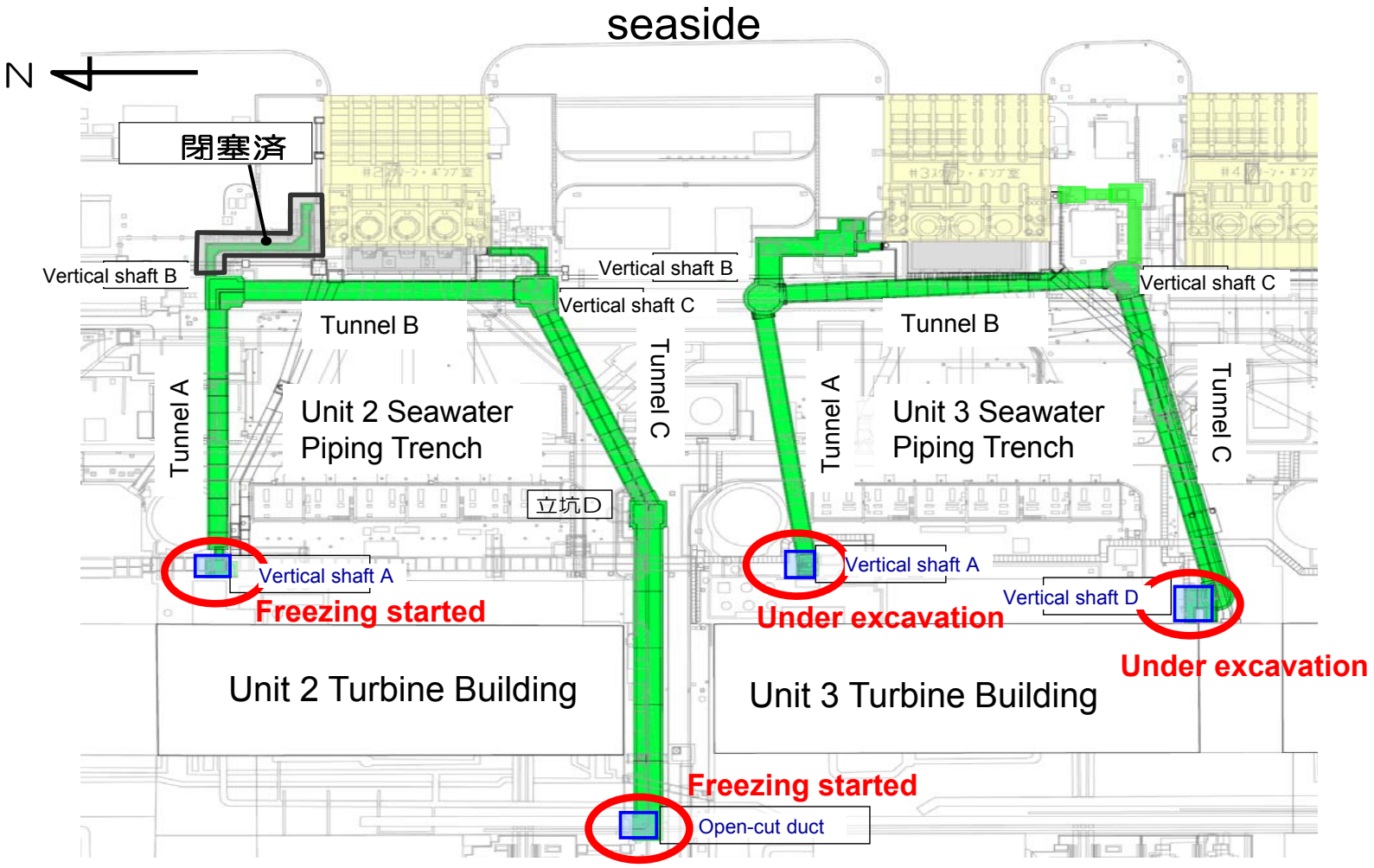
Progress of blocking water at connection of trenches and the Units 2 / 3 reactor facilities

July 23, 2014

Tokyo Electric Power Company

1. Trench location at Units 2 and 3

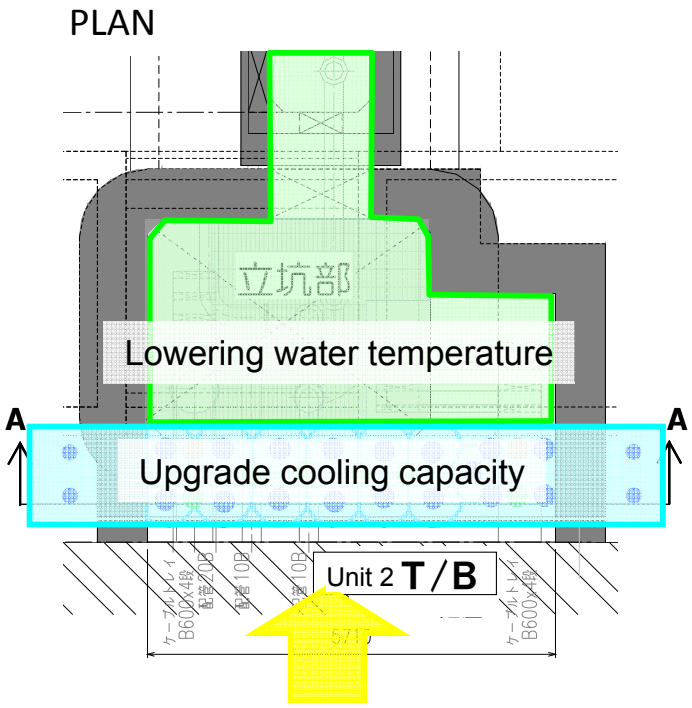
■Plan



Unit 2		Unit 3	
Vertical shaft A	Freezing started (April 28)	**Vertical shaft A**	Excavation started (July 2)
Open-cut duct	Freezing started (June 13)	**Vertical shaft D**	Excavation started (May 2)

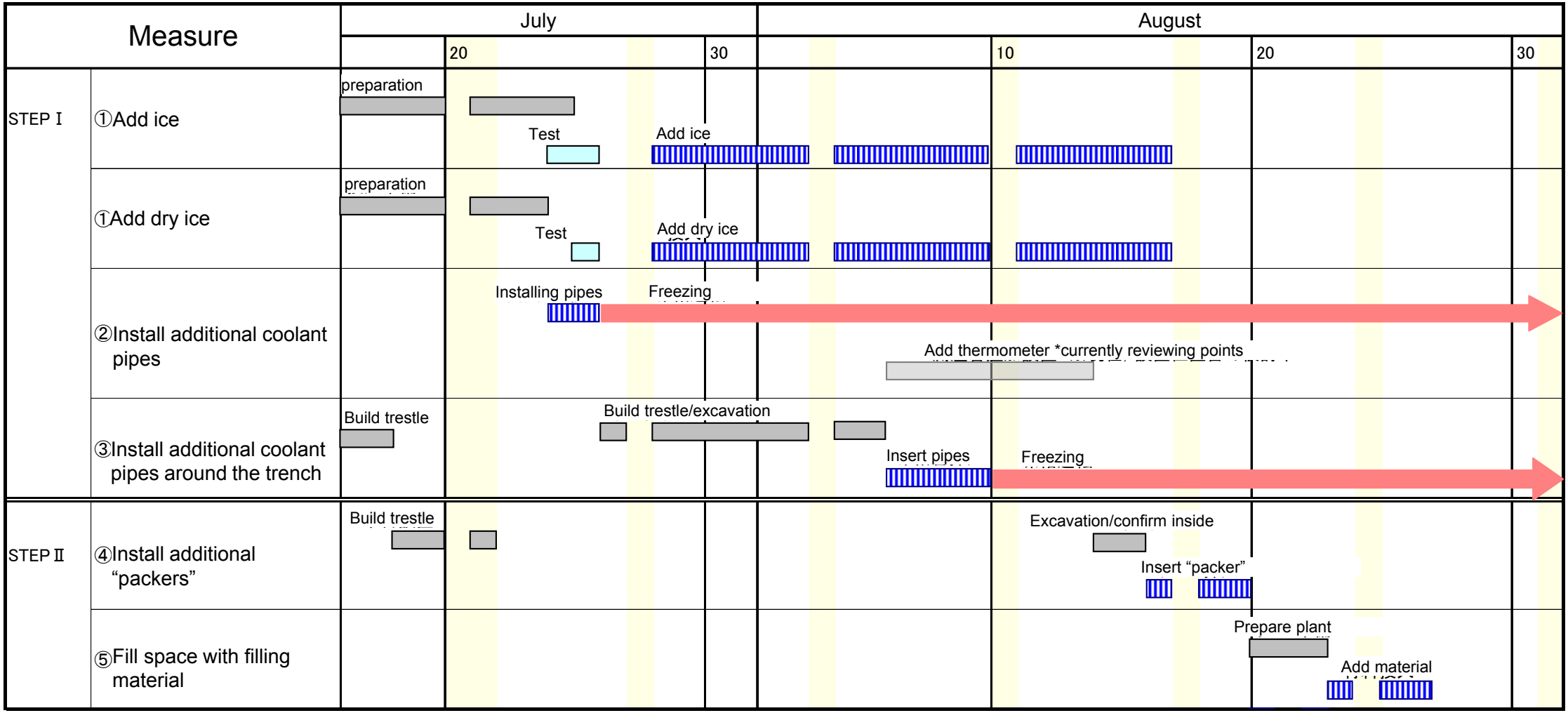
New approaches to removing trench water

Purpose	Measure	Progress
Upgrade the cooling capacity of the freezing system	Install additional pipes to carry coolant around the trench	adopted (under preparation)
	Install additional coolant pipes inside the trench	
	−Excavate new holes	difficult to implement
	−Use holes in which thermometers are installed	adopted (under preparation)
	Change coolant operation	
	−Increase coolant flow speed	implemented
	−Change temperature of coolant	difficult to implement
	−Change coolant material	difficult to implement
	−Use liquified nitrogen as coolant	difficult to implement
Suppressing the flow of the water	Add ice	adopted (preparation completed)
	Add dry ice	adopted (preparation completed)
	Install additional coolant pipes in vertical shaft	under discussion
	Inject liquified nitrogen inside the building frame	under discussion
Exploring other methods of lowering the water's temperature	Install additional "packers" (nylon bags filled with cement)	adopted (under preparation)
	Fill space with grout	adopted (reviewed)
	Fill space with other materials	adopted (reviewed)
	Other measures to suppress water flow within the buildings	adopted (reviewed)



Suppressing water flow

Schedules for Unit 2 Vertical shaft A



*The schedule is due to change according to the weather and progress of each measures.

(Reference) Sampling results of water inside seawater piping trenches

Place of sampling	Sampling date	Cl (ppm)	Radioactive material density(Bq/cm3)	
			Cs-134	Cs-137
Unit 2 T/B	2013/07/22	約100	1.1×10^{4}	2.5×10^{4}
Unit 2 Vertical shaft C	2013/07/31	700～7,500	$1.1\sim3.0\times10^{5}$	$2.3\sim6.5\times10^{5}$
Unit 3 T/B	2013/06/13	約200	1.5×10^{4}	3.1×10^{4}
Unit 3 Vertical shaft C	2013/07/31	16,000～17,000	$1.0\sim1.3\times10^{5}$	$2.2\sim2.6\times10^{5}$