Progress of Landside Impermeable Wall freezing: Phase 2 of the first stage



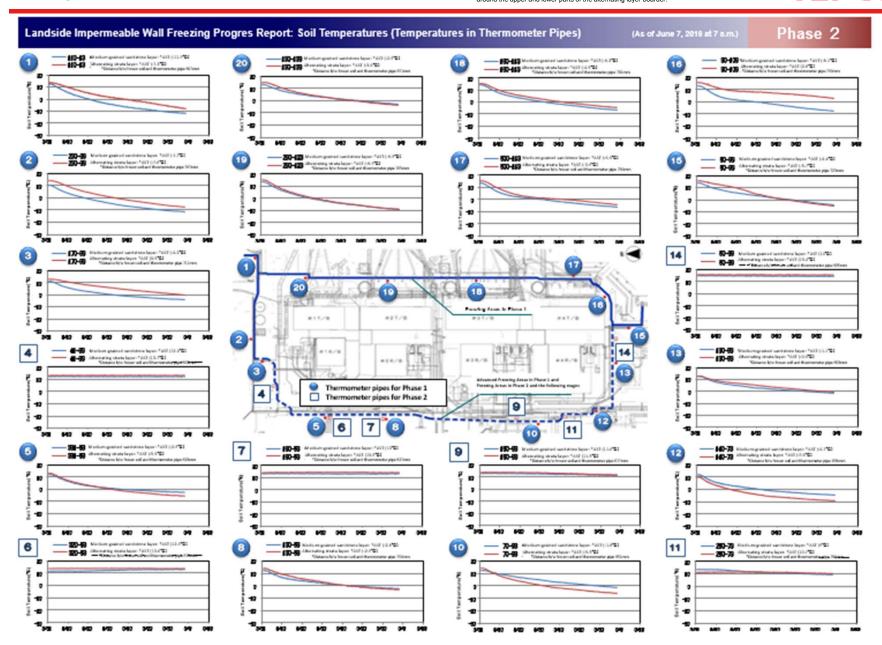
- OThe purpose of the Landside Impermeable Wall construction lies not in freezing soil to form a underground wall but in keeping groundwater from flowing into the reactor/turbine buildings and preventing new contaminated water from being generated.
- OBy closing 95 percent of the landside of the Landside Impermeable Wall in Phase 2 of the first stage, it is expected that the amount of groundwater flowing into areas around the reactor/turbine buildings will be reduced. This will help keep groundwater from being contaminated during the first stage.
- OThroughout the first stage, how freezing of the Landside Impermeable Wall has progressed will be evaluated by monitoring the difference in groundwater levels inside and outside of the wall and groundwater amount pumped up by the subdrain and groundwater drain systems and the well point system.

Changes in soil temperatures over time

Average Soil Temperature (AST) of medium-grained sandstone layer (blue line): average value of thermometer temperatures measured at 1m intervals except for the areas between ground surface and Ground Level 2m and the areas around the first muddy layer boarder.

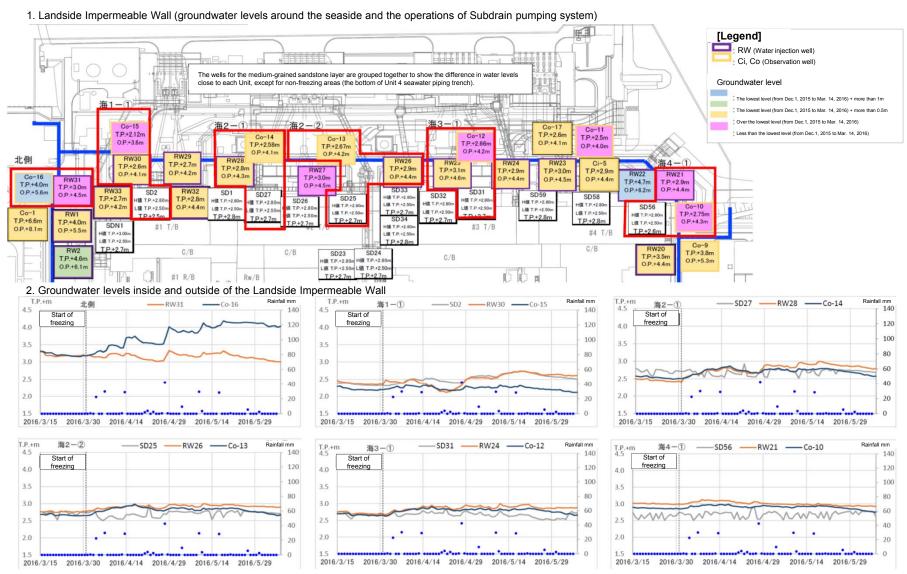
Average Soil Temperature (AST) of alternating strata layer (red line): Average value of thermometer temperatures measured at 1m intervals except for the areas around the upper and lower parts of the alternating layer boarder.





(in the medium-grained sandstone layer 1 on the seaside)





The data of groundwater levels as of 12 p.m. on June 7.

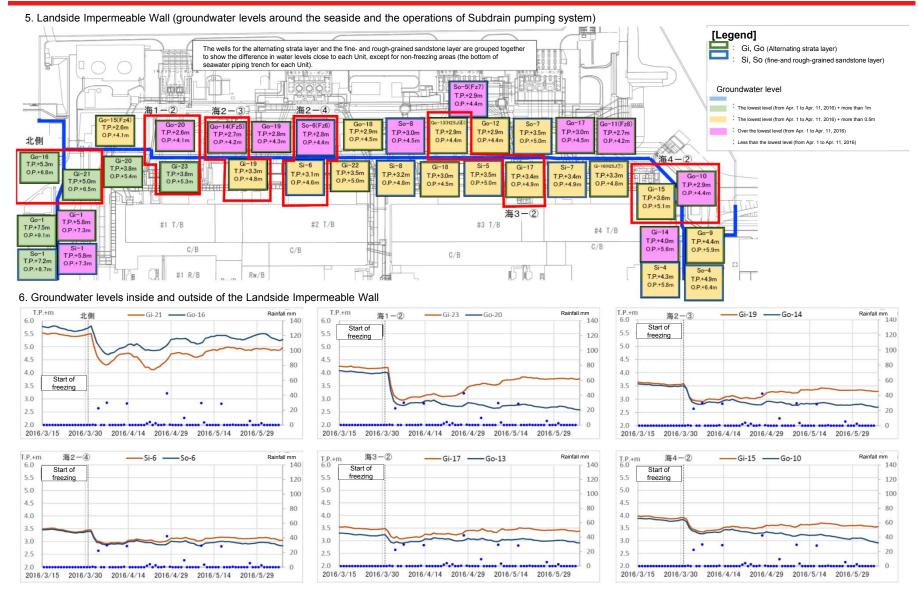
(in the medium-grained sandstone layer 2 on the landside)



3. Landside Impermeable Wall (groundwater levels around the seaside and the operations of Subdrain pumping system) [Legend] SD52 The wells for the medium-grained sandstone layer are grouped together SD22 to include two wells outside the non-freezing area and one well inside, for L值 T.P.+2.75 RW (Water injection well) H值 T.P.+2.80r T.P.+4.4m T.P.+2.6m · Ci, Co (Medium-grained sandstone layer) T.P.+2.8m SD8 #1 T/B SD51 H値 T.P.+3.05 SD21 L值 T.P.+2.75 (値 T.P.+2.8 Hill T.P.+2.80 SDN15 SDN3 L値 T.P.+2.50r L值 T.P.+2.50e Groundwater level SD40 L值 T.P.+2.50 L值 T.P.+2.75 SDN14 H値 T.P.+2.80 Landside Subdrain the lowest level + more than 2m SD20 H値 T.P.+3.00 SDN13 T.P.+5.m L値 TP+2.5 SDN6 SDN7 H值 T.P.+2.80 L值 T.P.+2.50 T.P.+4.9m H值 T.P.+3.25 RW19 値 T.P.+3.25 * Landside Subdrain over the lowest level #3 R/B L值 T.P.+2.75 T.P.+5.1m O.P.+8.2n * Landside Subdrain less than the lowest leve SD45 SDN12 O.P.+6.6m SDN11 SD19 H值 T.P.+3.2 SDN8 RW18 (値 T.P.+3.0 H値 T.P.+2.8 H值 T.P.+3.00 L値 TP+27 H値 T.P.+3.0 H值 T.P.+2.80 Ci-1 SDN9 SDN10 T.P.+5.6m L值 T.P.+2.50 L值 T.P.+2.50 L值 T.P.+2.50 T.P.+7.0m L值 T.P.+2.50 Ci-4 H值 T.P.+3.00 O.P.+7.1m T.P.+5.7n T.P.+6.3 O.P.+8.6m TP+5.6m TP+52m L值 T.P.+2.50r L值 T.P.+2.50 O.P.+7.1m O.P.+6.7m TP+67m T.P.+7.1m RW16 T.P.+6.4m T.P.+6.9m T.P.+7.0m T.P.+6.1m T.P.+7.0m RW13 O.P.+8.2m TP+65m OP+79n O.P.+8.6m O.P.+8.5m T.P.+6.3m T.P.+7.1n T.P.+5.7m O.P.+8.5m TP+62m O.P.+8.0r O.P.+7.3m O.P.+7.8m Co-3D T.P.+6.4m T.P.+6.3m TP+7.2m Co-5D T.P.+6.4m T.P.+7.6m Ci-3 O.P.+8.0m Co-6D O.P.+7.8m O.P.+8.8m O.P.+9.1m T.P.+6.2m T.P.+6.9m 0P+80m O.P.+7.7m O.P.+8.4m 山1-(1) 山4-① 山3-(1) 4. Groundwater levels inside and outside of the Landside Impermeable Wall ——Co-4D ——Co-3D ——RW5 山2-① Rainfall mm ----Co-4D ____Co-5D ____RW8 山3-(1) 140 Start of 8.0 8.0 8.0 120 120 freezina 120 100 100 7.0 7.0 Start of 80 80 freezing 6.0 6.0 6.0 60 60 60 40 40 40 5.0 Start of 5.0 5.0 freezing 20 20 20 2016/3/15 2016/3/30 2016/4/14 2016/4/29 2016/5/14 2016/5/29 2016/3/15 2016/3/30 2016/4/14 2016/4/29 2016/5/14 2016/5/29 2016/3/15 2016/3/30 2016/4/14 2016/4/29 2016/5/14 2016/5/29 T.P.+m Щ4-(1) —— Co-6D —— Co-7D —— RW16 140 120 7.0 80 The data of groundwater levels as of 12 p.m. on June 7. 6.0 60 40 20 2016/3/15 2016/3/30 2016/4/14 2016/4/29 2016/5/14 2016/5/29

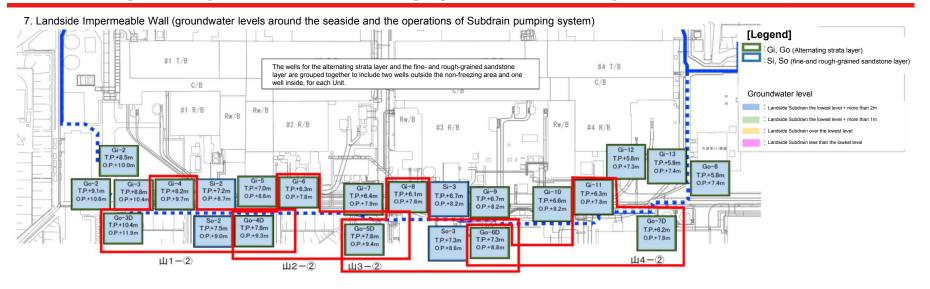
(in the alternating strata layer and the fine- and rough-grained sandstone layer 1 on the seaside)





(in the alternating strata layer and the fine- and rough-grained sandstone layer 2 on the landside)



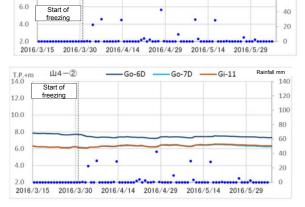


8. Groundwater levels inside and outside of the Landside Impermeable Wall --- Go-4D ---- Gi-4

120

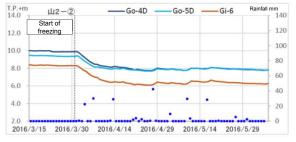
100

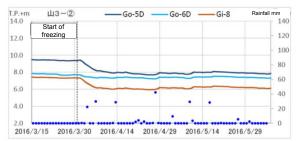
60



12.0

8.0

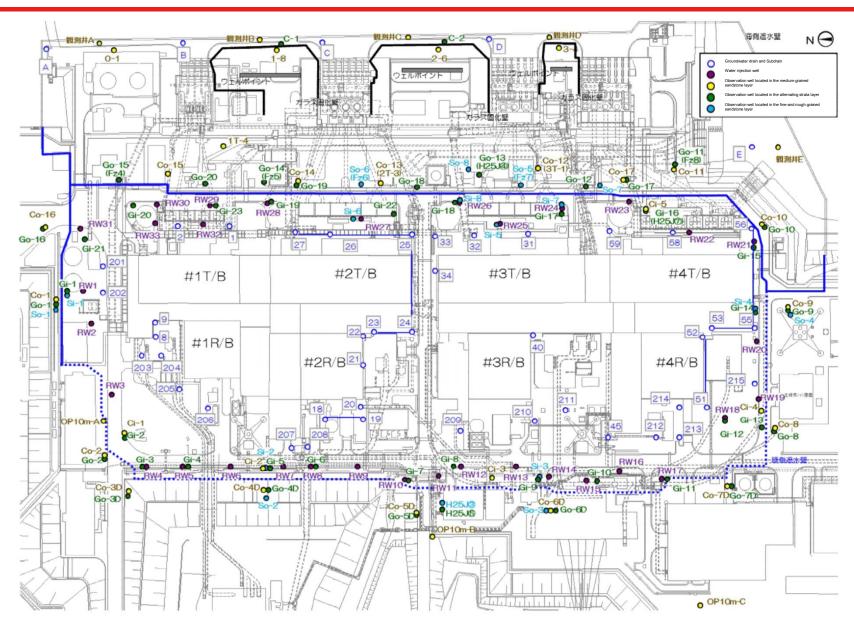




The data of groundwater levels as of 12 p.m. on June 7.

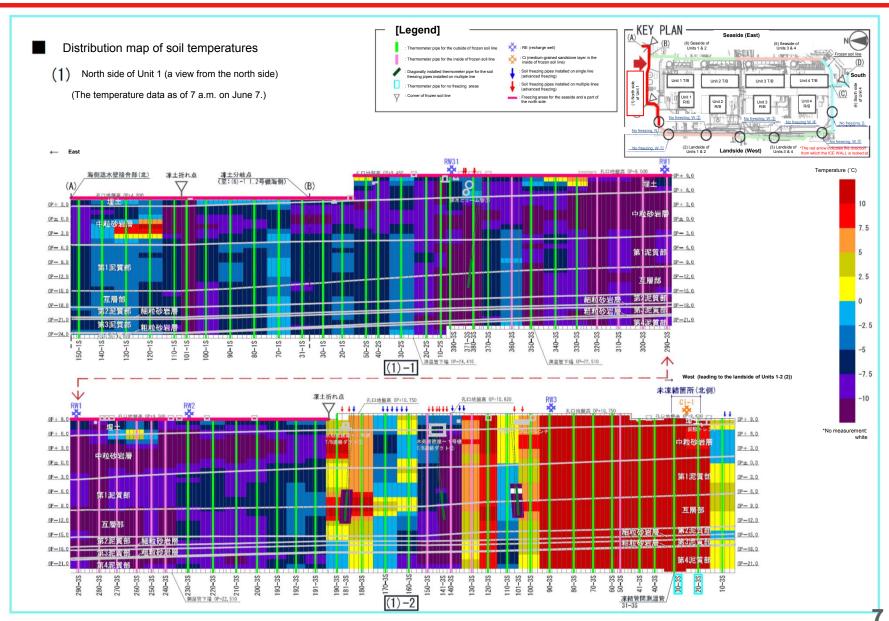
[Reference] Location map of groundwater level observation wells (as of April 2016) **T=PCO**





[Reference] Distribution map of soil temperatures (north side of Unit 1)

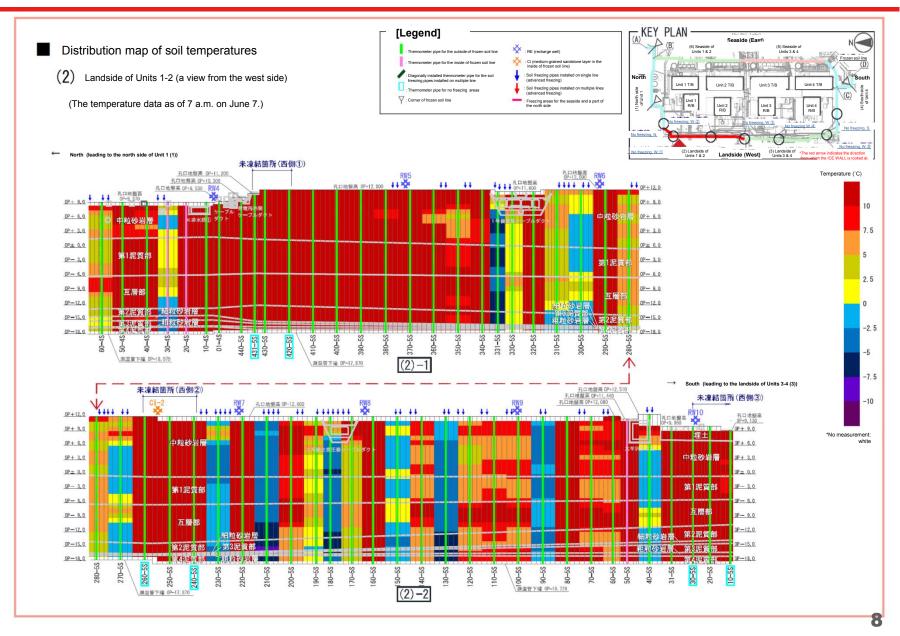




The distribution maps on pages 7-12 are for reference to check soil temperature fluctuations of the depth direction which are measured by the thermometer pipes installed around the Landside Impermeable Wall.

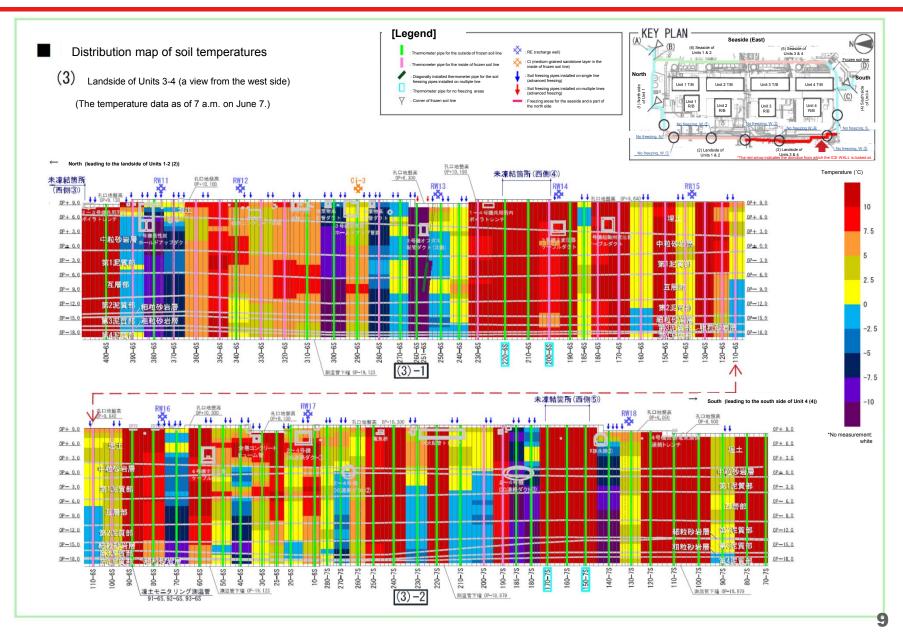
[Reference] Distribution map of soil temperatures (west side of Units 1-2)





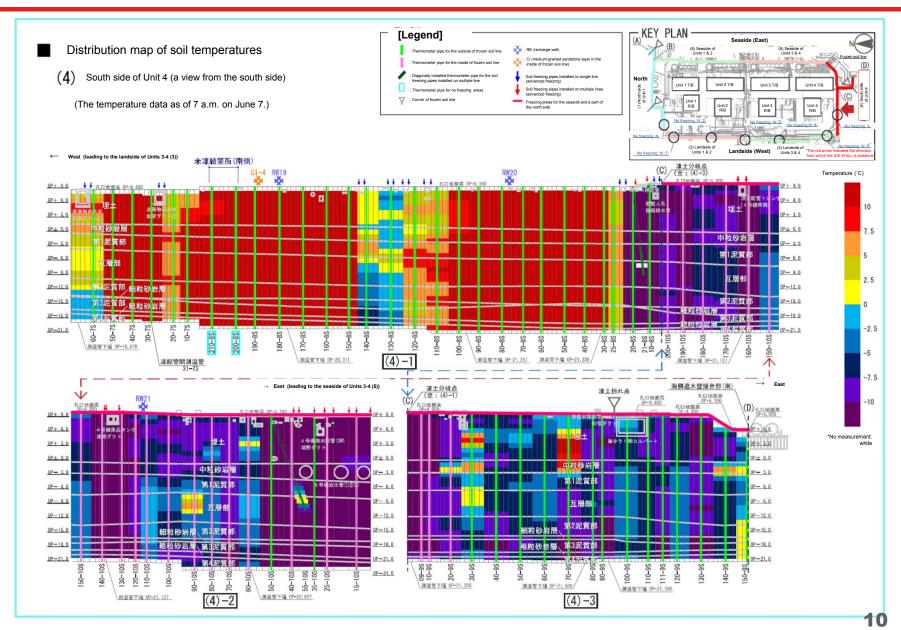
[Reference] Distribution map of soil temperatures (west side of Units 3-4)





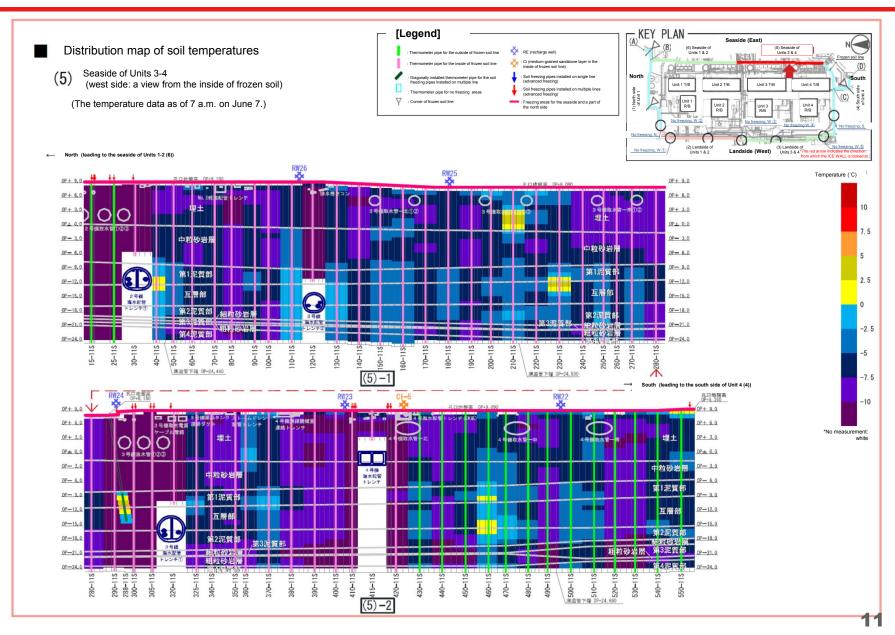
[Reference] Distribution map of soil temperatures (south side of Unit 4)





[Reference] Distribution map of soil temperatures (east side of Units 3-4)





[Reference] Distribution map of soil temperatures (east side of Units 1-2)



