

Revised Version

# Condition of Uplift of the Underground Reservoirs

August 13, 2013

Tokyo Electric Power Company



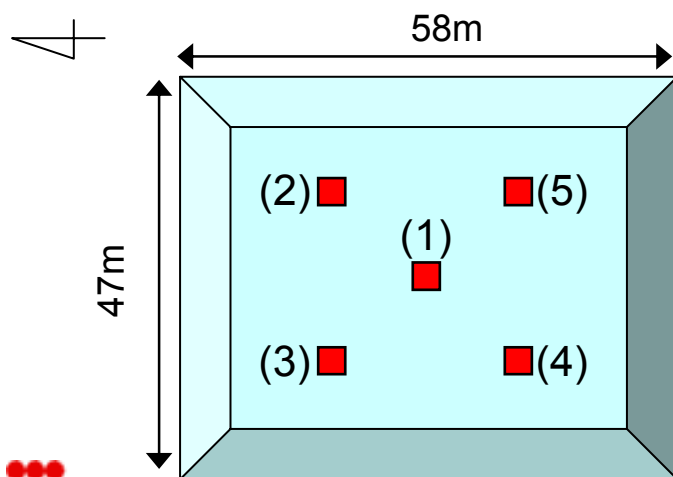
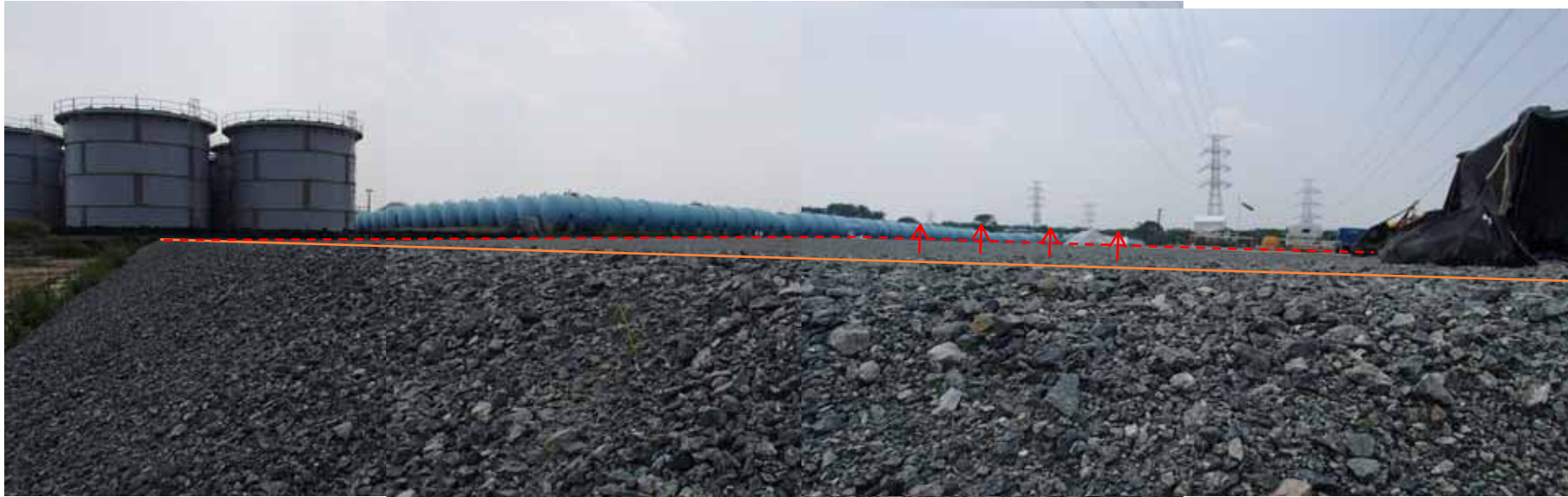
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# Uplift of the Underground Reservoir No.3

- Uplift of maximum approx. 40cm at the range of approx. 30m x approx. 20m was found mainly at the central part of the surface on August 10 (Sat).



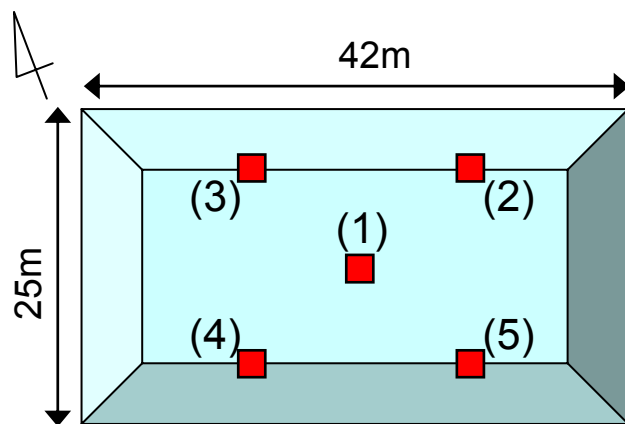
Unit: mm

	8/10	8/11		8/12	
		1 <sup>st</sup> time	2 <sup>nd</sup> time	1 <sup>st</sup> time	2 <sup>nd</sup> time
(1) Central	400	412	383	399	373
(2) Northeast side	160	165	152	157	144
(3) Northwest side	280	286	259	270	249
(4) Southwest side	340	350	327	338	316
(5) Southeast side	200	203	185	192	176

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# Uplift of the Underground Reservoir No.4

- Uplift at the range of approx. 10m x approx. 10m was found mainly at the central part of the surface on August 10 (Sat). (Maximum uplift was approx. 15cm which was measured on August 11.)



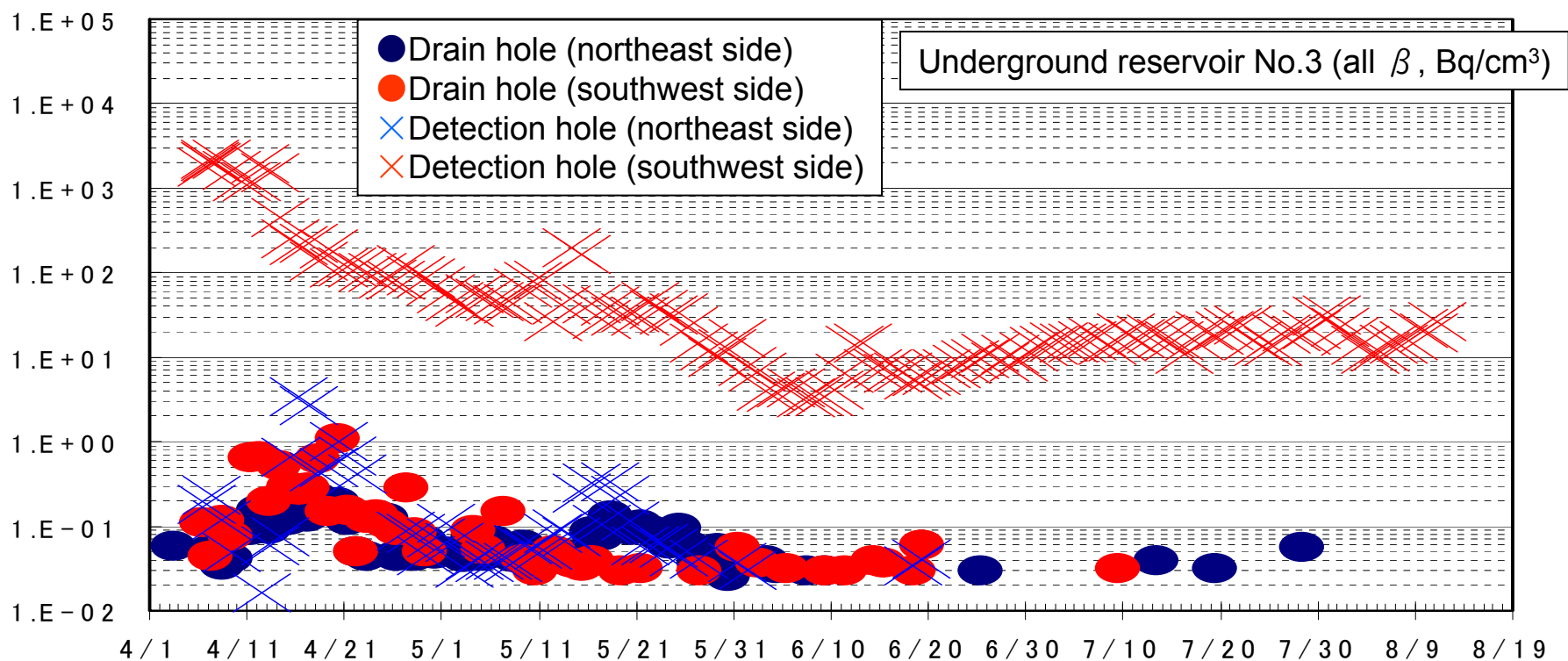
Unit: mm

	8/11	8/12
(1) Central	153	157
(2) Northeast side	42	44
(3) Northwest side	35	38
(4) Southwest side	-7	-5
(5) Southeast side	33	35

# Analysis Results of the Drain Holes and the Detection Holes at the Underground Reservoir No.3

- Neither significant change on the analysis results of all  $\beta$  in the drain holes and the detection holes, nor leakage of contaminated water due to uplift has been found since late July.

Analysis results of all  $\beta$  in the drain holes and the detection holes at the underground reservoir No.3

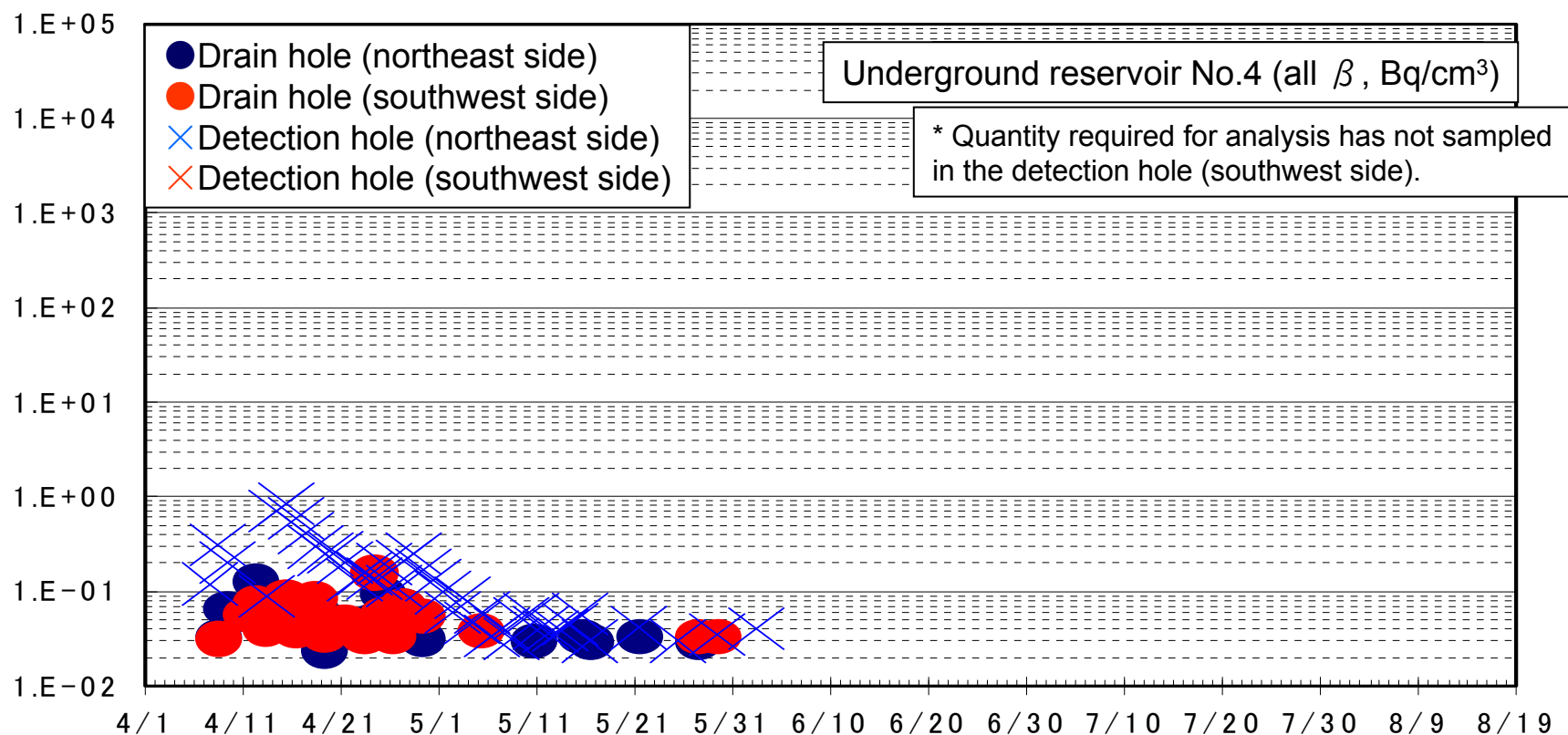


\* Detection limit value:  $2.6 - 3.2 \times 10^{-2} \text{Bq/cm}^3$

# Analysis Results of the Drain Holes and the Detection Holes at the Underground Reservoir No.4

- Neither significant change on the analysis results of all  $\beta$  in the drain holes and the detection holes, nor leakage of contaminated water due to uplift has been found since late July.

Analysis results of all  $\beta$  in the drain holes and the detection holes at the underground reservoir No.4



\* Both drain holes and detection holes have been ND since June 2. (Detection limit value:  $2.6 - 3.2 \times 10^{-2}$  Bq/cm<sup>3</sup>)

# Future Countermeasures

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## Current countermeasure

Following countermeasure is being implemented to control the uplift.

- Measurement of the surface (5 locations) of the underground reservoir No.1-4 (1/day) is being performed.

## Future countermeasures

- Load such as gravels, etc. will be added (approx. 50cm) on the surface of the underground reservoirs soon after it is ready, in order to prevent uplift from proceeding.
- Measure mentioned above will be implemented at the underground reservoir No.3 and No.4. As for the other underground reservoirs, necessity will be reviewed immediately.

## Countermeasures in case of emergency

- Following urgent measures will be implemented in case a surge of water level or a rapid uplift due to guerrilla heavy rain, etc. is found.
  - Groundwater will be collected from the drain hole where no all  $\beta$  has been found and will be transferred to the underground reservoir No.5 and No.7 by motor sprinkler, in order to reduce uplift pressure of the bottom part of the underground reservoir.
    - Amount that can be collected by a pump: Approx. 200m<sup>3</sup> (=10m<sup>3</sup>/h x 24h)
      - \* Collection amount depends on carrying capacity of motor sprinkler (4m<sup>3</sup>/motor, 2 motors).
  - Transfer of groundwater to the G6 area tank (amount of space: approx. 500m<sup>3</sup>) is also being considered.