Countermeasures to mitigate risks regarding the water leak from the tank

August 26, 2013

Tokyo Electric Power Company, Inc

TEPCO 東京電力

1. Countermeasures already completed and currently underway

1－① Full inspection of all flange type tanks

☐Inspection of all flange type tanks of the same type which leaked (H4-I-No.5) was completed on August 22.

・Visual inspection, checking for puddles, β-ray measurement at 50cm above ground, X-ray measurement around the bank.

(Root cause analysis and permanent measure proposals are in progress)

1－② Water transfer from tanks which were moved, as conducted for No.5 tank

☐Transfer of contaminated water from H4-I-No.5 tank was completed on August 21. For the tanks with a similar history, H4-I-No.10 is currently undergoing the same process (estimated completion: August 26) and preparations for H4-II-No.3 are underway.

1－③ Collection of contaminated soil

☐Started on August 23.

☐Completion date will be determined by the amount of contamination, but we aim to finish as early as possible.

1－④ Inspection and reinforcement of the surrounding bank

☐The banks around the tanks were confirmed not to be contaminated on August 22. Land embankments and waterproof sheets have been added to the sandbags outside the H4 area where the leak occurred.

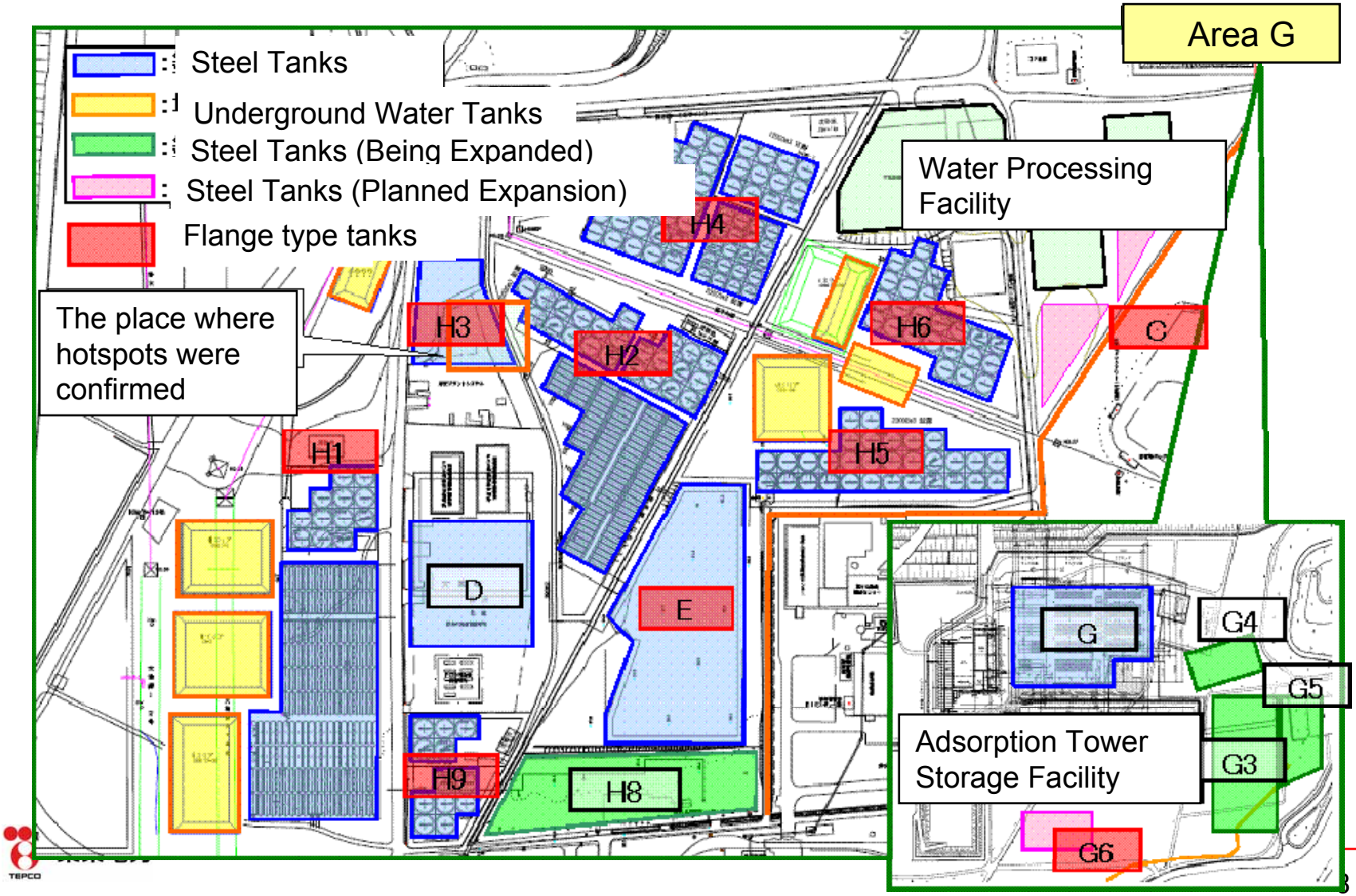
1－⑤ Enhancement of monitoring

☐Since August 20, monitoring for the trenches leading to the sea has been enhanced.

☐The possibility of further leakage into the sea is under investigation.

【Measure1－①】Tank installation status

■ **About 300 flange type tanks have been inspected from a total of 930 tanks storing contaminated water in Units 1 to 4.**

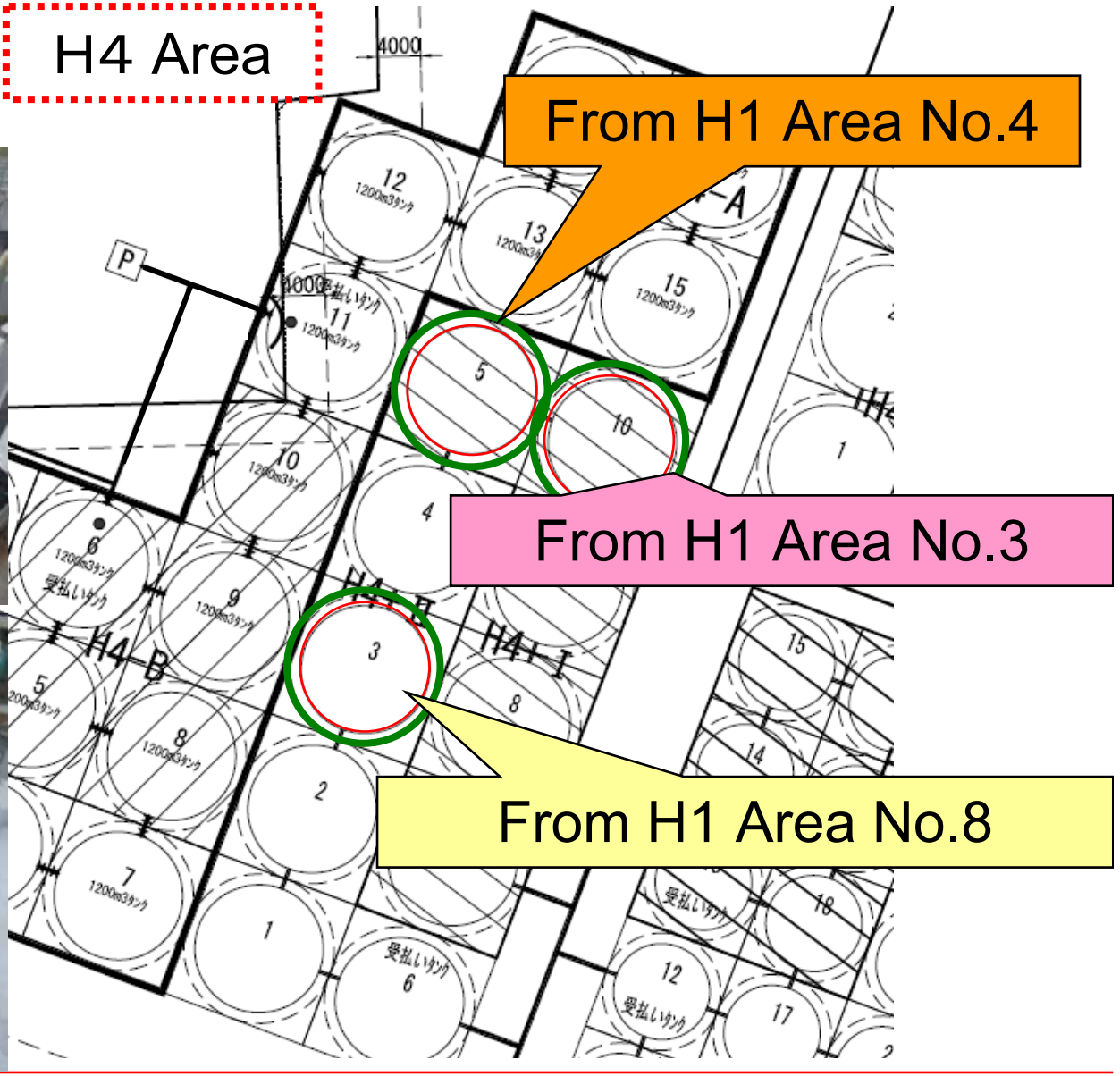


【 Measure 1－②】Location of tanks transferred from H1 area to H4 area

●H4- Ⅰ -No.5 tank leakage confirmed on August 19

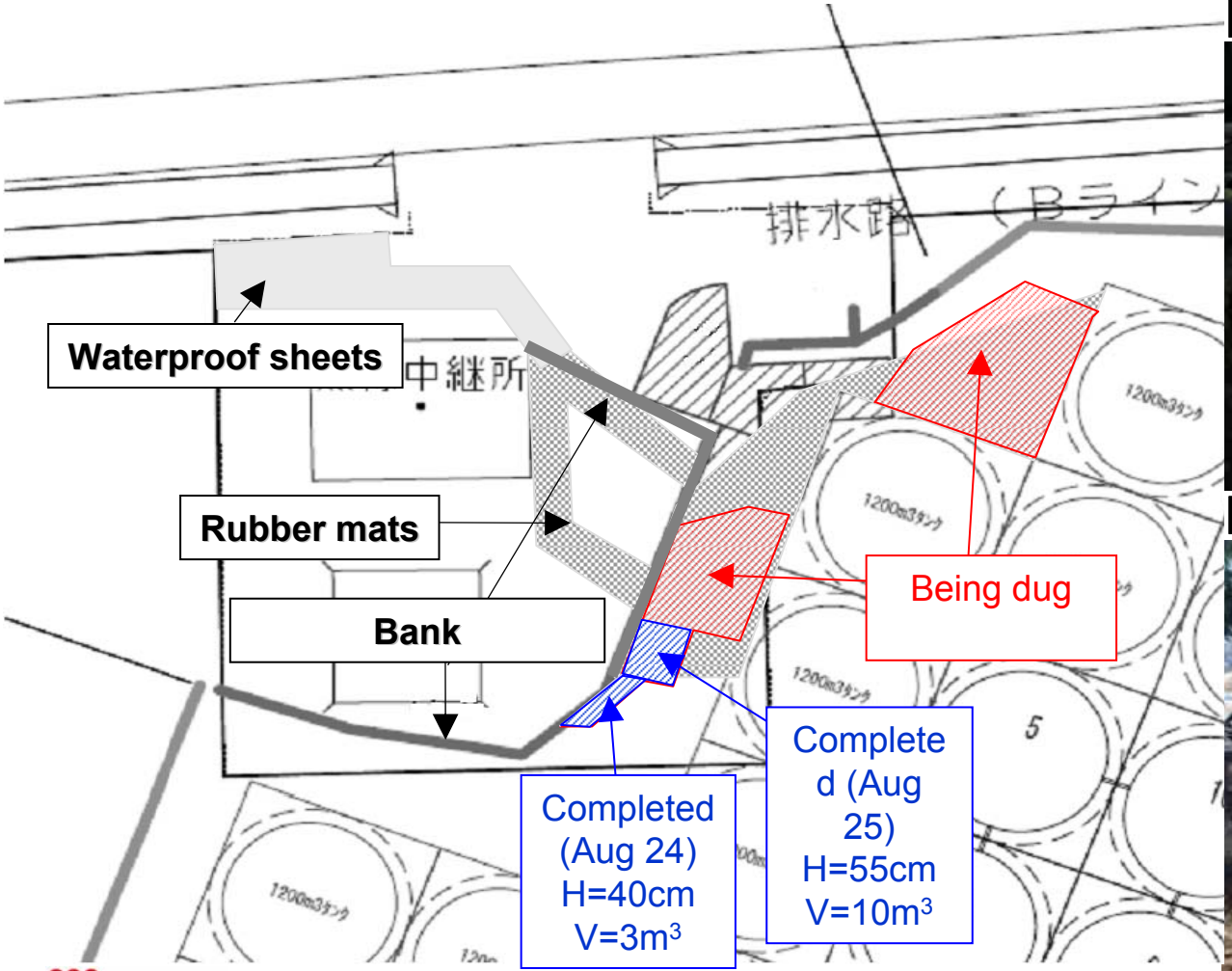
H4- Ⅰ -No.5 Tank
（underwater pumps inserted）

H4-B-No.10 Tank
(tank for transfer）



【Measure1－③】Contaminated soil collection status

- Collection of contaminated soil from the surrounding bank was started on August 23.
- The collection points were confirmed not to be contaminated at a depth of 40-50cm.

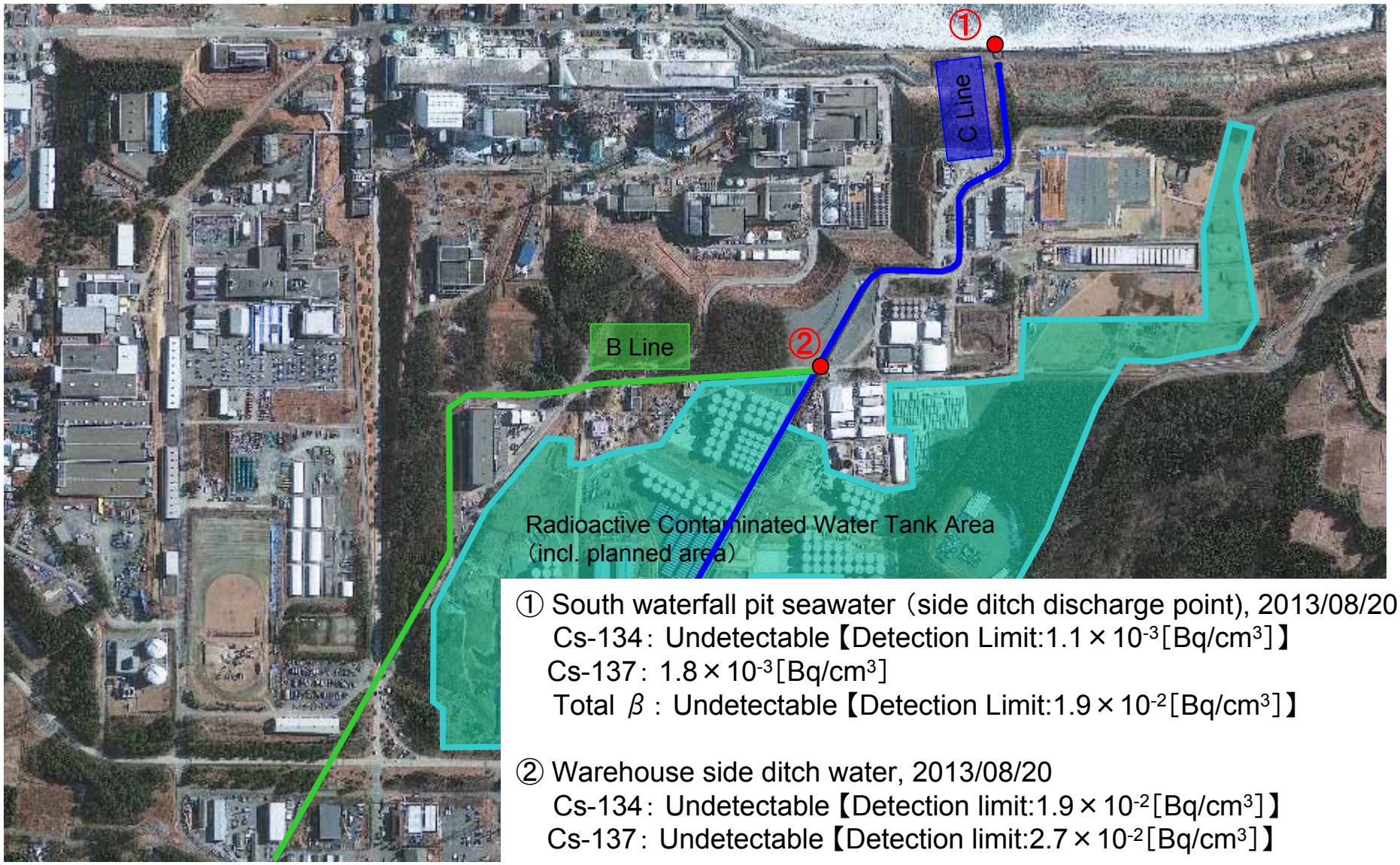


【Performing measurements】

【Condition after measuring】

【Measure１－④】Current status of land embankment and waterproof sheet installation （Aug 20）

【Measure1－⑤】Investigation of water outflow into the ocean



① South waterfall pit seawater（side ditch discharge point), 2013/08/20
Cs-134： Undetectable【Detection Limit:1.1×10^{-3}[Bq/cm^3]】
Cs-137： 1.8×10^{-3}[Bq/cm^3]
Total β ： Undetectable【Detection Limit:1.9×10^{-2}[Bq/cm^3]】

② Warehouse side ditch water, 2013/08/20
Cs-134： Undetectable【Detection limit:1.9×10^{-2}[Bq/cm^3]】
Cs-137： Undetectable【Detection limit:2.7×10^{-2}[Bq/cm^3]】

Total β ：9.3×10^{-2}[Bq/cm^3] （Note）β ray:70μm radiation dose rate

東京電力 TEPCO

2. Emergency Measures

2－① Reinforcement of Patrols

☐ Urgent reinforcement to approx. 50 patrol workers, adding affiliated company employees to TEPCO employees
☐ Adoption of “post responsibility system” at each tank. Early recognition of any sign of accident by carefully monitoring situation
☐ Inspection & recording of any leak, leak trace, and/or suspicious puddles with a 360-degree view, including side/bottom of each tank
☐ Checking & recording of radiation levels, always carrying a “handy dosimeter”, and further measurement & recording with an “ionization chamber dosimeter” if any significant variation in radiation levels is detected

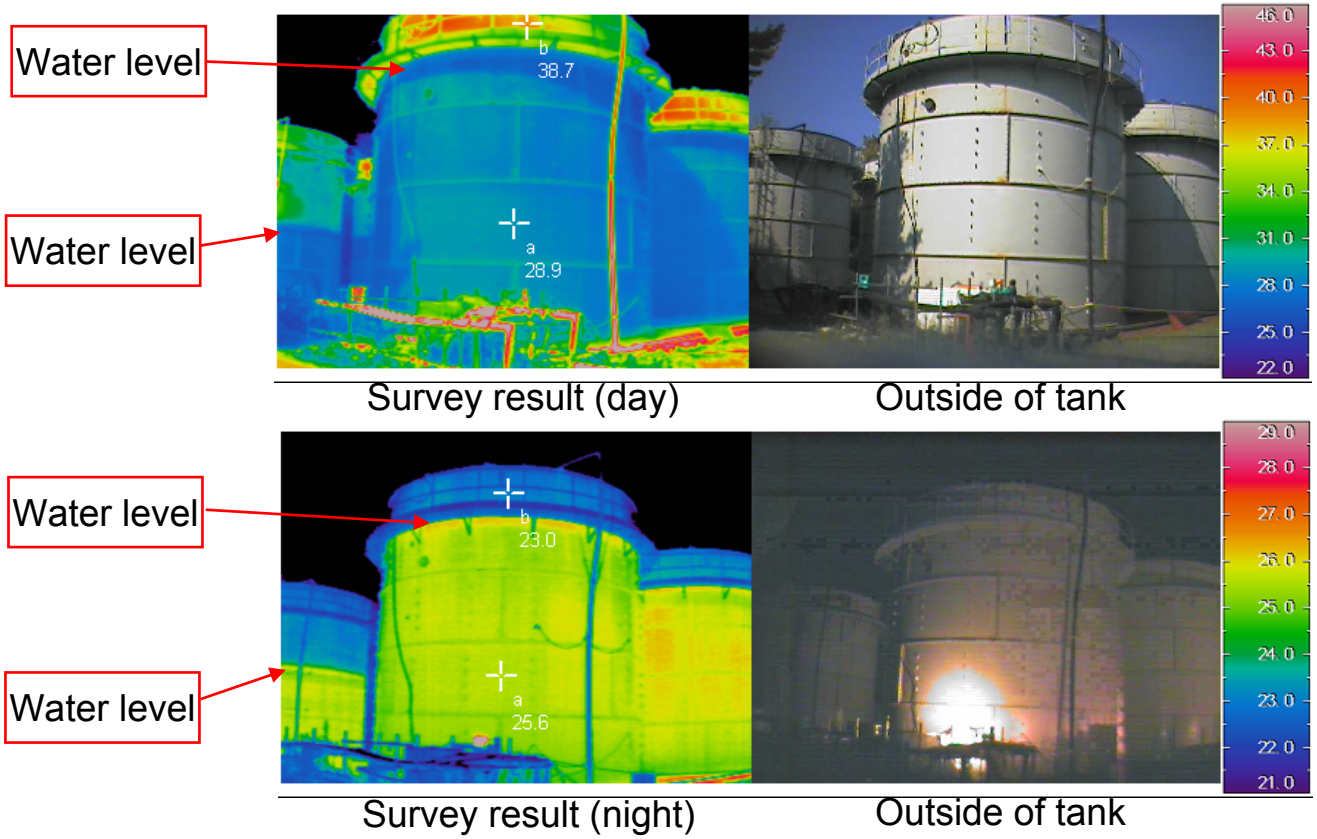
2－② “Normally closed" drain valve operation for radioactive contaminated water tanks

☐ Switch to “normally closed” drain valve operation from “normally open”, in addition to rainwater pit management

2－③ Water level management in contaminated water tanks

☐ Introduction of thermographic water-level-reduction management system to flange type tanks

Example



＜Note＞
The display of color tone and temperature of temperature survey results by thermo-camera differs between day and night.

3. Conclusion

- ✓ The measures presented are to be implemented immediately.
- ✓ Furthermore, we are also working on radical measures, including the following:
  - ☐ Placement of water gauges in all flange type tanks and introduction of a central control system
  - ☐ Increase of welded type tanks and replacement of flange type tanks
- ✓ Taking into consideration opinion and instruction from various national meetings and working groups, we have been making every effort to resolve this problem as the highest priority management matter.