

F1 (Fukushima Daiichi Nuclear Power Station) Issues

**As of 5 September, 2013
Nuclear Regulation Authority (NRA), Japan**

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- Current information on radioactivity in seawater
- Further supervision by the NRA
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I. Current situation of contaminated water leakage

There are 305 bolted-joint storage tanks for contaminated water at the Fukushima Daiichi Nuclear Power Station. According to the TEPCO's reports to the NRA, one of 305 bolted-joint storage tanks had an incident of water leakage, four storage tanks have the high possibility of water leakage, and one connection pipe between bolted-joint storage tanks had an incident of water leakage. **[Attachments 1 and 2]**

Contaminated water leakage (approximately 300 tons) in H4 Tank Area was found by TEPCO on 19 August, and falling-down of drops of contaminated water from the connection pipe between storage tanks in H5 Tank Area was found by TEPCO. **[Attachment 3]**

Four storage tanks (two tanks in H3 Tank Area **[Attachment 4]**, one tank in H6 Tank Area **[Attachment 5]** and one tank in H4 Tank Area **[Attachment 6]**) have the high possibility of water leakage. In addition, other two storage tanks in H4 Tank Area have the possibility of contaminated water leakage. **[Attachment 6]**

At this moment, any contaminated water leakage from storage tanks other than the tank in H4 Tank Area has not been found definitely, and falling-down of drops of contaminated water from the connection pipe between storage tanks in H5 Tank Area has been stopped by TEPCO's countermeasures. Any out-flow of contaminated water beyond the dike installed surrounding the storage tanks other than the storage tank in H4 Tank Area has not found by TEPCO so far.

Regarding contaminated water leakage from the tank in the H4 Tank Area that was found by TEPCO on 19 August, the radioactivity (sampling date: 19 August) of some water retained in the dike installed surrounding the tank was as follows:

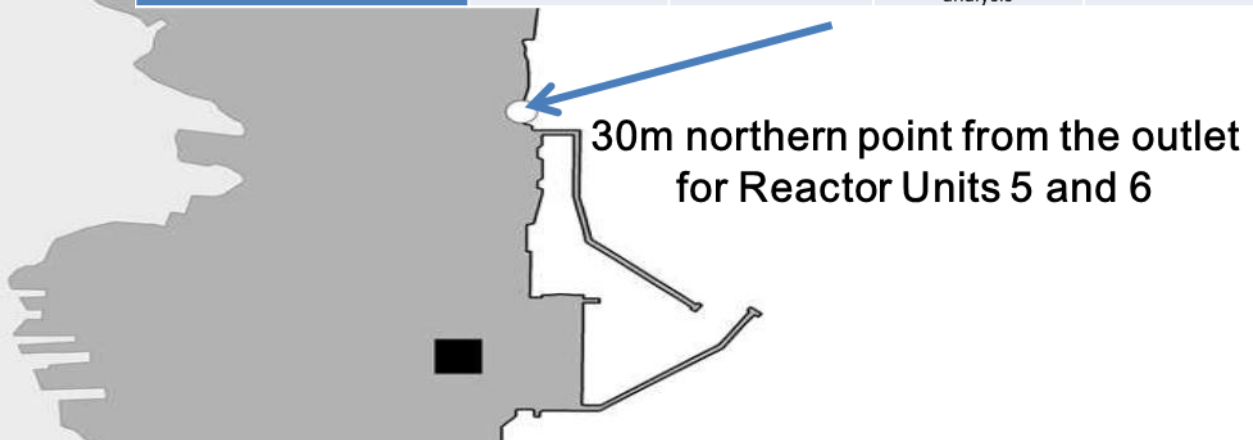
Cesium-134: $4.6 \times 10^1 \text{ Bq/cm}^3$
 Cesium-137: $1.0 \times 10^2 \text{ Bq/cm}^3$
 Total Beta: $8.0 \times 10^4 \text{ Bq/cm}^3$

II. Current information on radioactivity in seawater

Monitoring results of seawater near Fukushima Daiichi Nuclear Power Station show that the concentration for Cs-137 and H-3 are less than 3.3 Bq/L and 8.6 Bq/L respectively, and the concentration for Cs-134 and total Beta are ND (under the limit of detection) for the past six months.

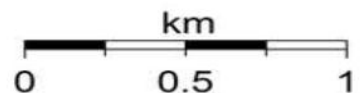
Current information on radioactivity in seawater

Sampling Date in 2013	Cs-134 (Bq/L)	Cs-137 (Bq/L)	H-3 (Bq/L)	Total Beta (Bq/L)
15 April	ND (1.0)	ND (1.4)	3.8	ND (23)
13 May	ND (0.89)	ND (1.3)	ND (3.1)	ND (24)
26 June	ND (1.9)	3.3	8.6	ND (22)
29 July	ND (0.92)	ND (1.4)	ND (2.9)	ND (19)
26 August	ND (1.2)	ND (1.7)	8.3	ND (19)
2 September	ND (1.4)	ND (1.4)	In process of analysis	ND (16)



Sampling Date in 2013	Cs-134 (Bq/L)	Cs-137 (Bq/L)	H-3 (Bq/L)	Total Beta (Bq/L)
15 April	ND (1.0)	ND (1.4)	ND (3.1)	ND (23)
13 May	ND (0.89)	ND (1.3)	ND (3.1)	ND (24)
26 June	ND (1.1)	ND (1.3)	ND (2.9)	ND (22)
29 July	ND (1.0)	ND (1.3)	ND (2.9)	ND (21)
26 August	ND (1.2)	ND (1.7)	ND (1.7)	ND (19)
2 September	ND (1.4)	ND (1.4)	In process of analysis	ND (21)

1.3km southern point from the outlet for Reactor Units 1 to 4



III. Further supervision by the NRA

The Working Group on Countermeasures to Contaminated Water Leakage at Fukushima Daiichi Nuclear Power Station has been organized by the NRA to find out a possible solution to the serious issue of contaminated water leakage. In addition, supervision by the NRA including the NRA's Local Office for the site of Fukushima Daiichi Nuclear Power Station has been further enhanced as follows:

(a) Technical supports for TEPCO's radiation measurement

Technical advisors employed by the NRA have been working on teaching TEPCO the way of radiation monitoring and advising TEPCO to map an on-site radiation distribution.

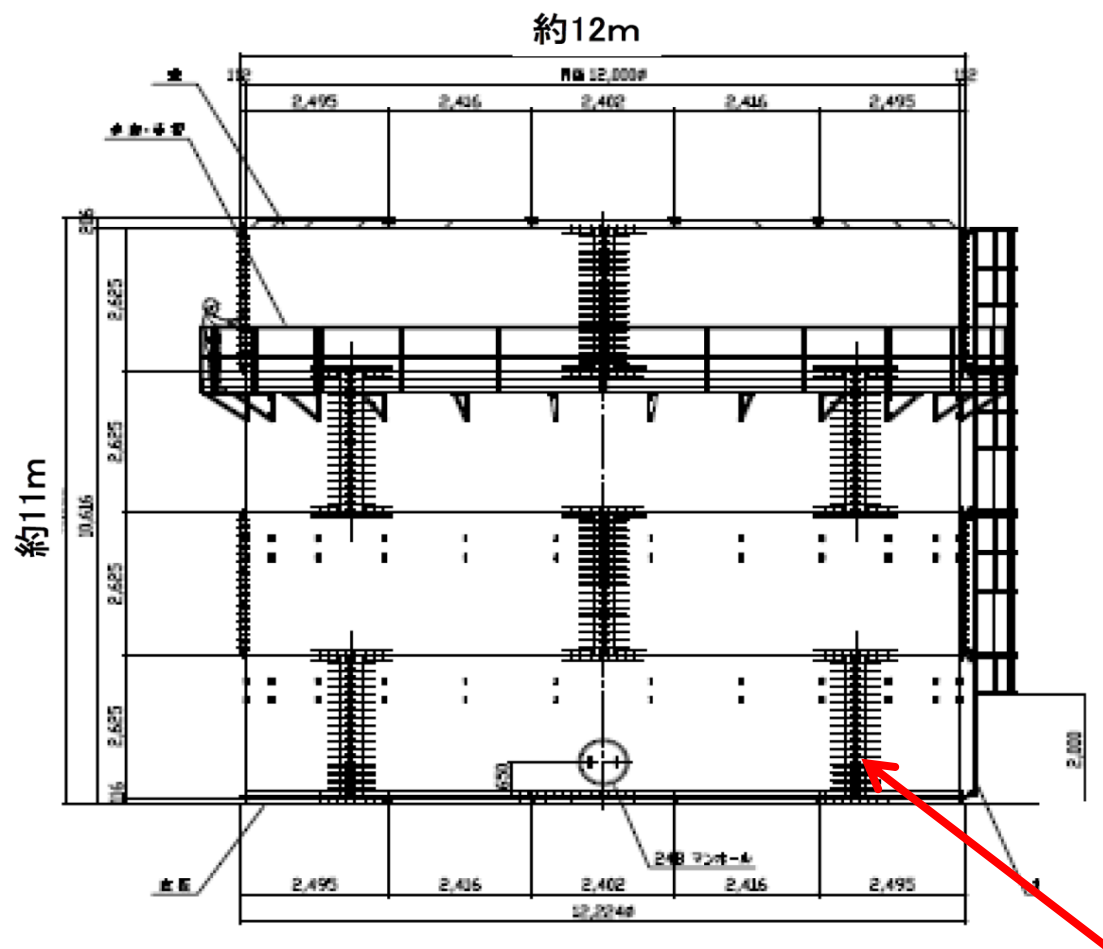
(b) Enhancement of safety inspection

Safety inspection started to be enhanced by the NRA and JNES (a technical support organization to the NRA) on 4 September 2013.

IV. Further facilitation of international communication

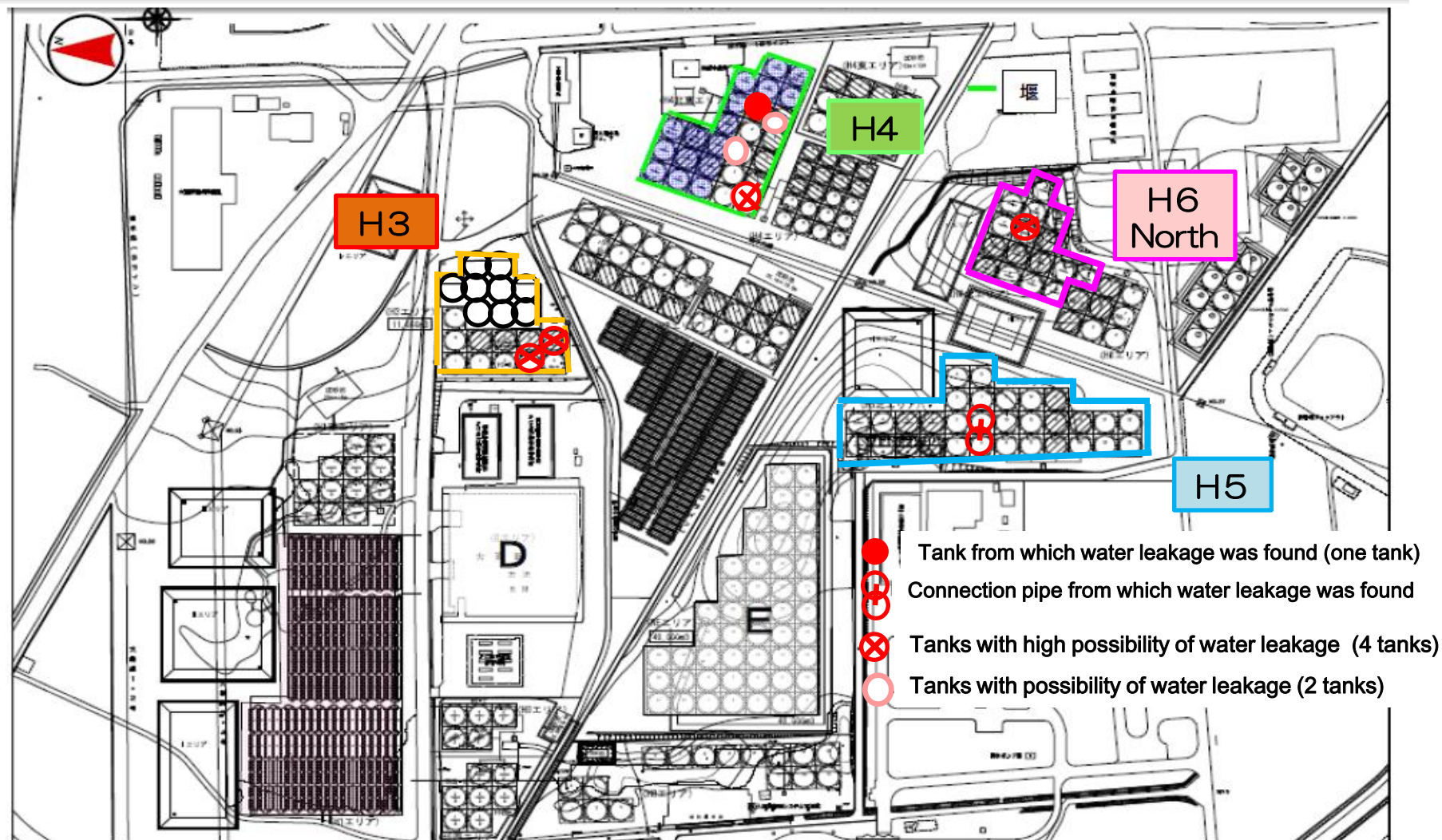
Information related to Fukushima Daiichi Nuclear Power Station such as regulatory activities of the NRA, radiation monitoring and incidents will be more available at the NRA's website. The NRA will provide the above-described information to the foreign press club in Japan and the international society including International Atomic Energy Agency (IAEA) in a proactive and prompt manner.

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Bolted-joint storage tank
cf. Weld-bonding storage tank

Location of Storage Tanks

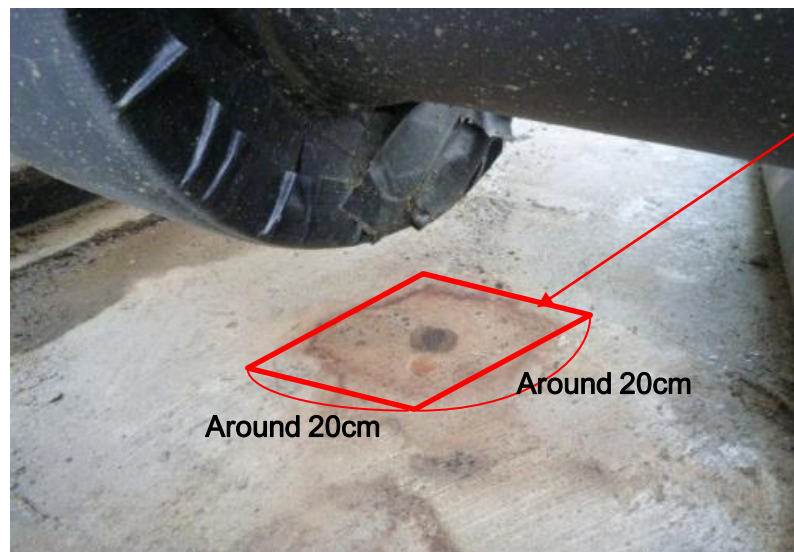
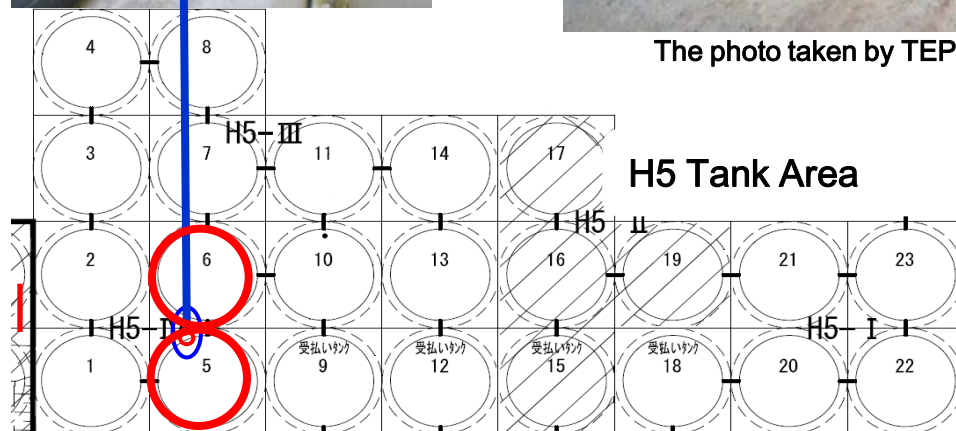


Water Leakage from Connection Pipe between Storage Tanks (H5 Tank Area)



Tank IV - No.5

Tank IV - No.6



Puddle trace (20 cm x 20 cm)

Around 20cm

Around 20cm

The photo taken by TEPCO on 31 August

At the point 5cm from the surface of the puddle trace 230 mSv/h * of β rays was detected by TEPCO on 31 August.

It was found by TEPCO that one drop of contaminated water fell every 90 seconds after the cover stuff of the flange was removed, and then this water drop has stopped by TEPCO's tightening up the bolts of flange on 1 September.

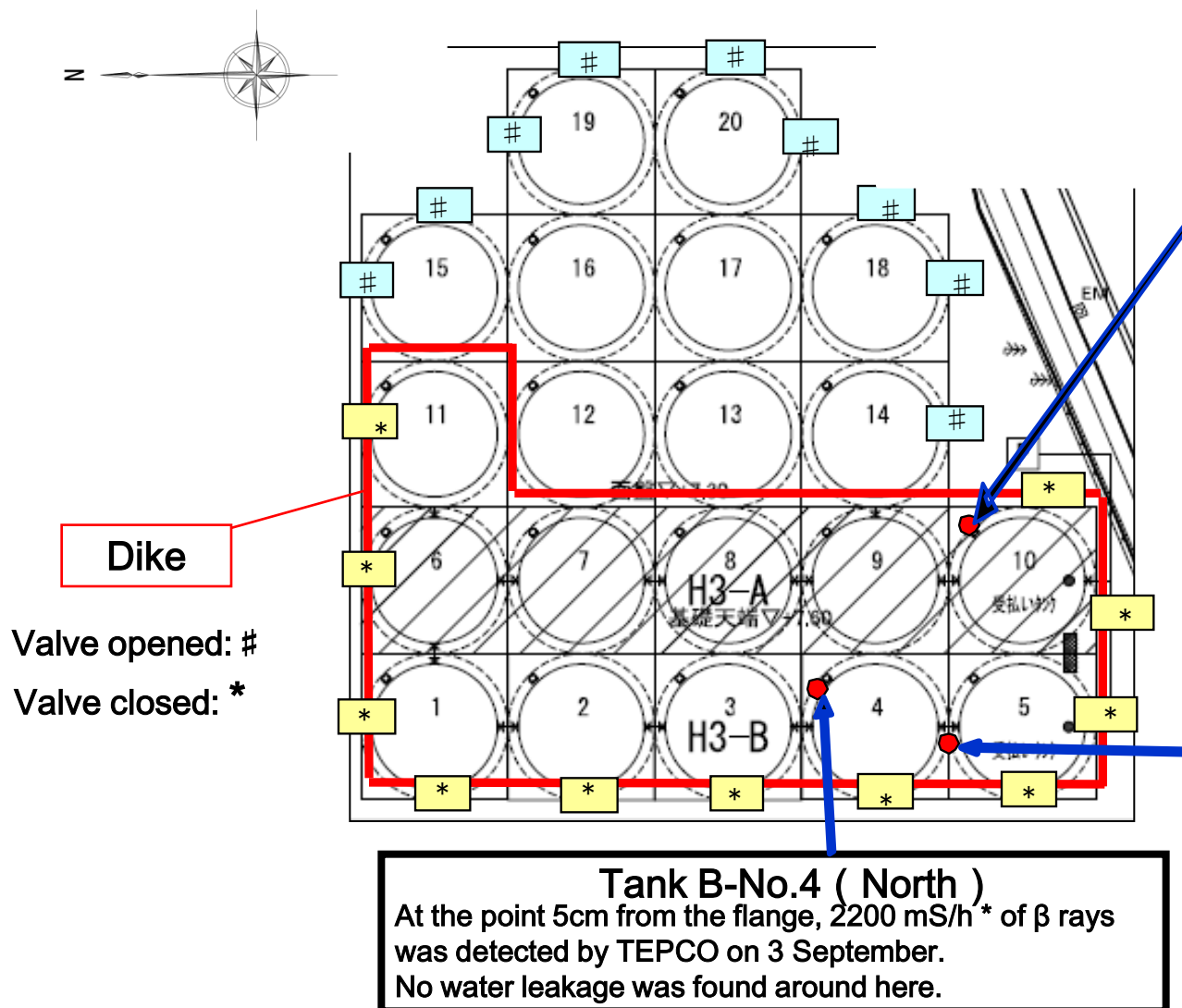
* This value is not guaranteed by the NRA.

Radioactivity (Sampling date: 31 August 2013)

Nuclide	Concentration (Bq/cm ³)
Cs-134	25
Cs-137	61
Total Beta	3.0×10^5

Modified by the NRA, Original illustrated by TEPCO

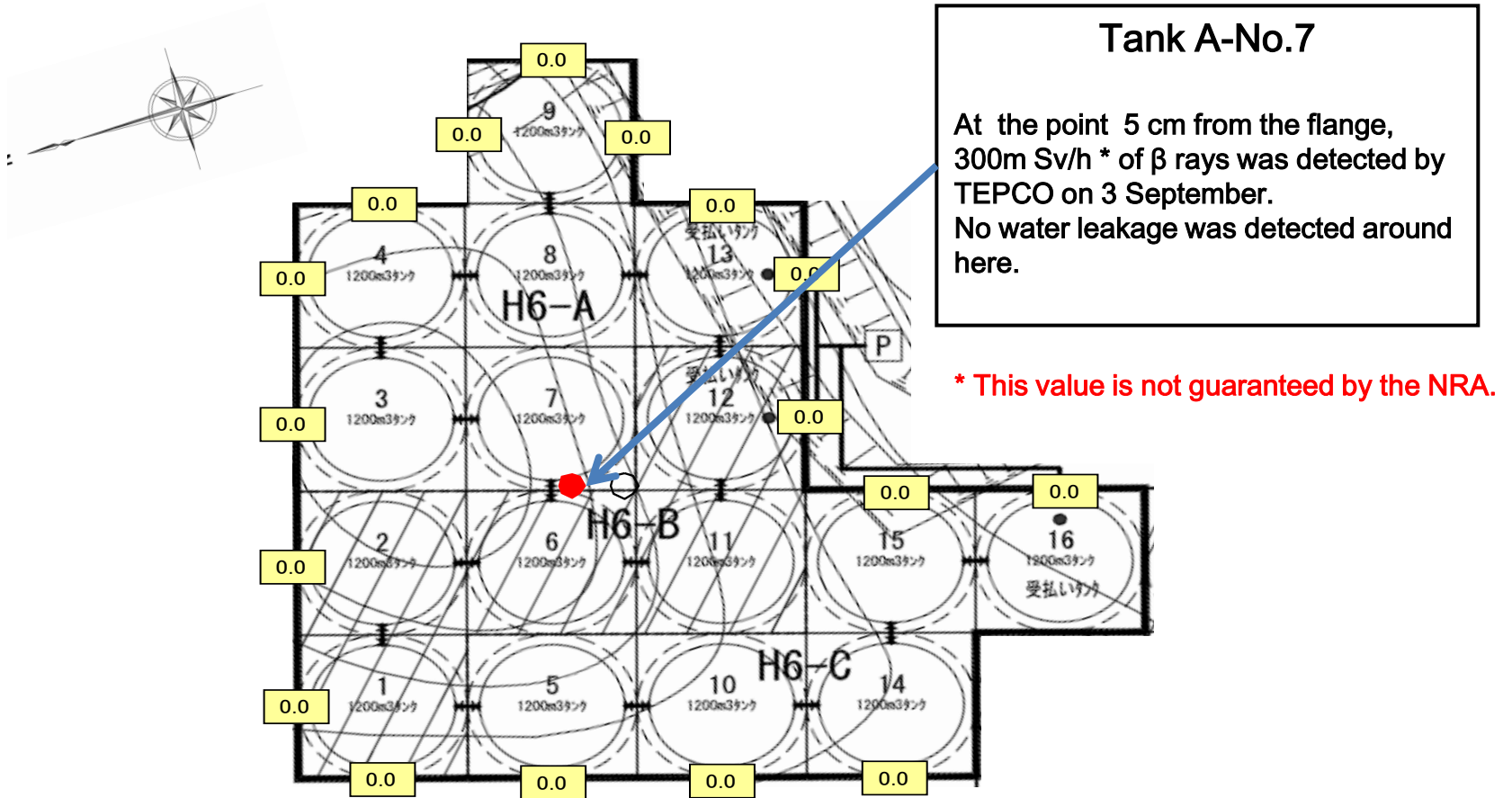
H3 Tank Area



* These values are not guaranteed by the NRA.

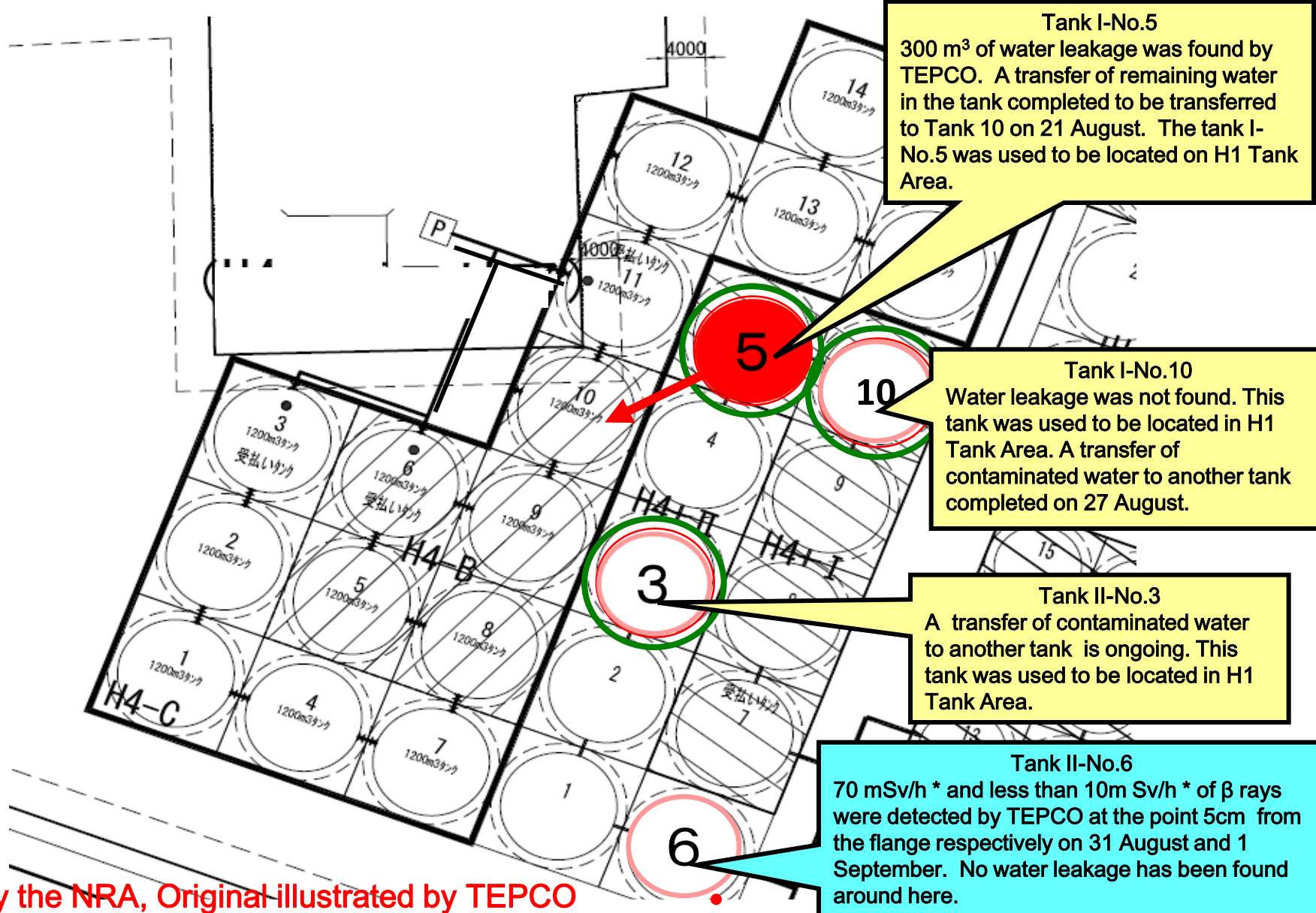
Modified by the NRA, Original illustrated by TEPCO

H 6 North Tank Area



Modified by the NRA, Original illustrated by TEPCO

H 4 Tank Area



Modified by the NRA, Original illustrated by TEPCO

* These values are not guaranteed by the NRA.