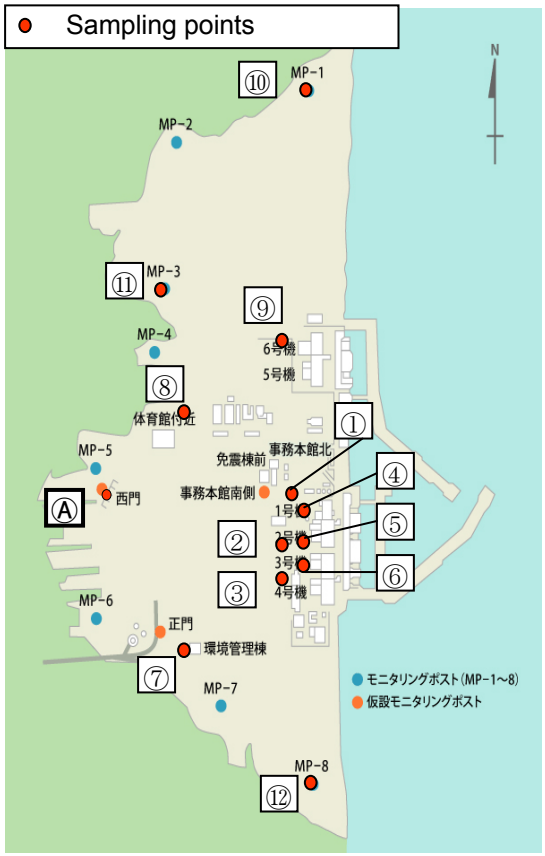
Revised Version

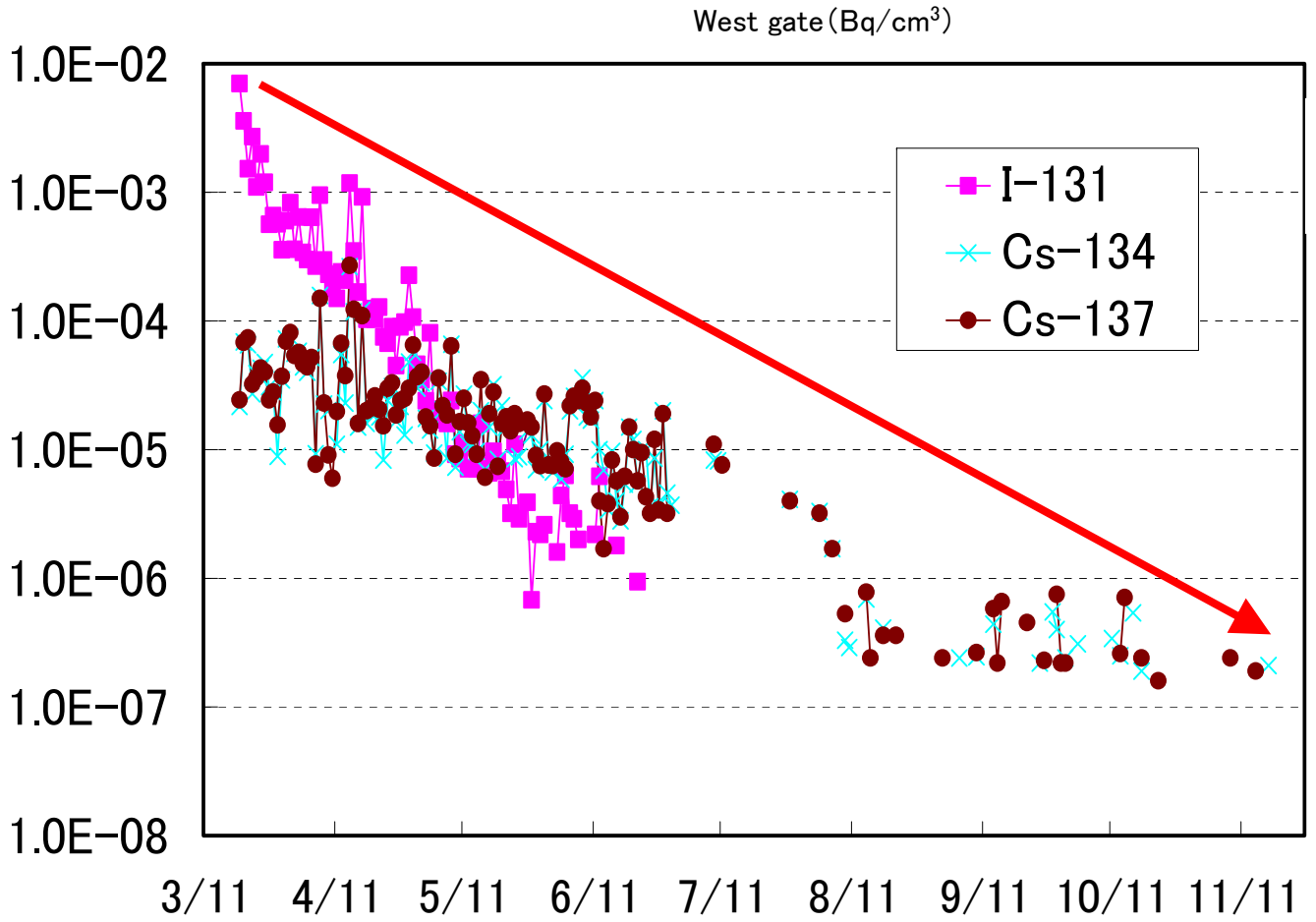
● The figure written in red letter in the page No.19 has been corrected on January 23, 2014.

<Reference>
December 3, 2011
Tokyo Electric Power Company

Changes in radioactive concentration and air dose rate at Fukushima Daiichi NPS

Radioactive concentration in the dust around the west gate of the power station



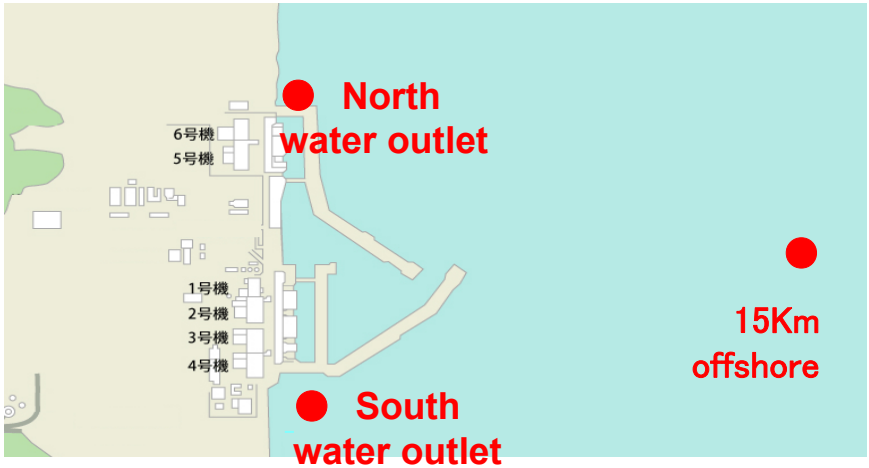


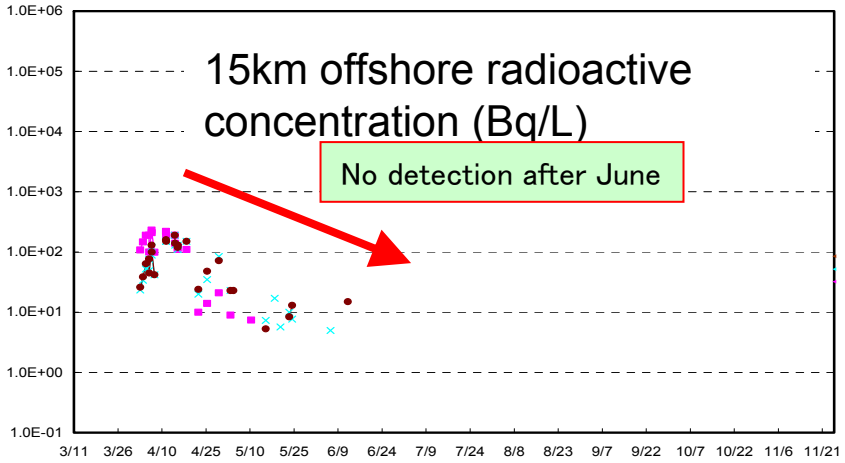
Number	Location	Number	Location
Ⓐ	West gate		
①	Slope, north of Unit 1	⑦	In front of the environment admin bldg
②	Slope, west of Units 1 & 2	⑧	In front of the water treatment bldg
③	Slope, west of Units 3 & 4	⑨	Switchyards of Units 5 & 6
④	Mountain side of Unit 1	⑩	MP-1
⑤	Mountain side of Unit 2	⑪	MP-3
⑥	Mountain side of Unit 3	⑫	MP-8

In comparison with the maximum at the time of the accident, Cs-137 reduced to below 1/100 and the density is reasonably below the notification level.

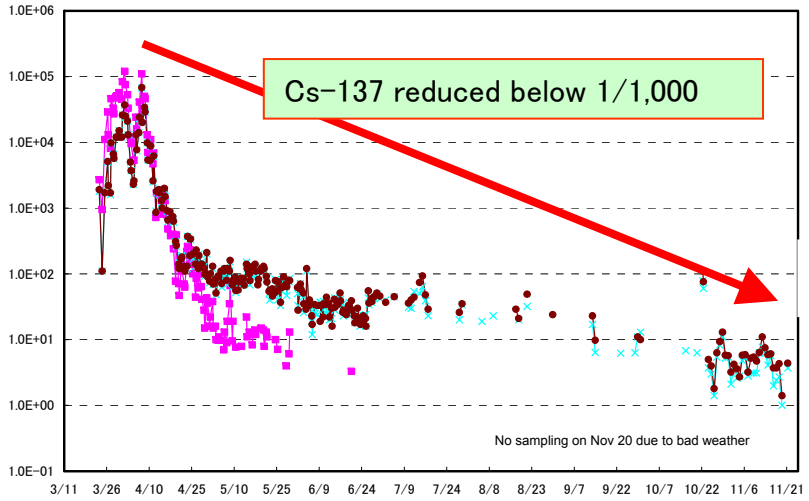
※Notification level　I-131…1.0E-03　Cs-134…2.0E-03　Cs-137…3.0E-03

Seawater (shore and offshore) radioactive concentration (1/6)

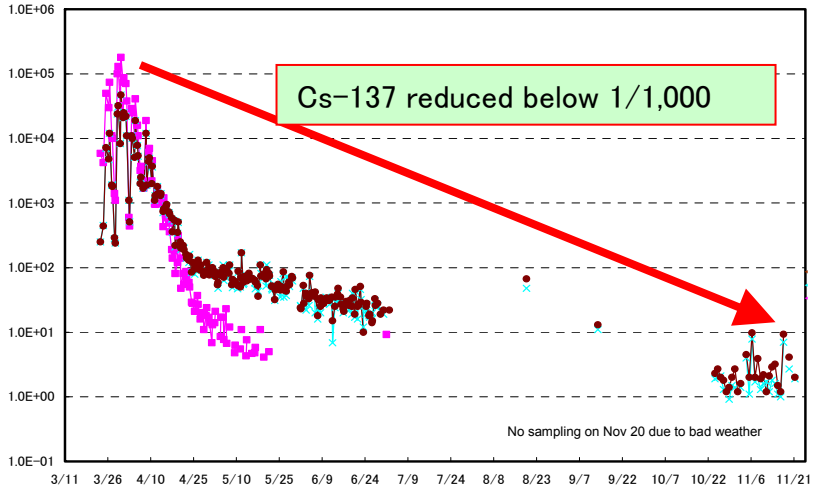




North water outlet radioactive concentration (Bq/L)



South water outlet radioactive concentration (Bq/L)

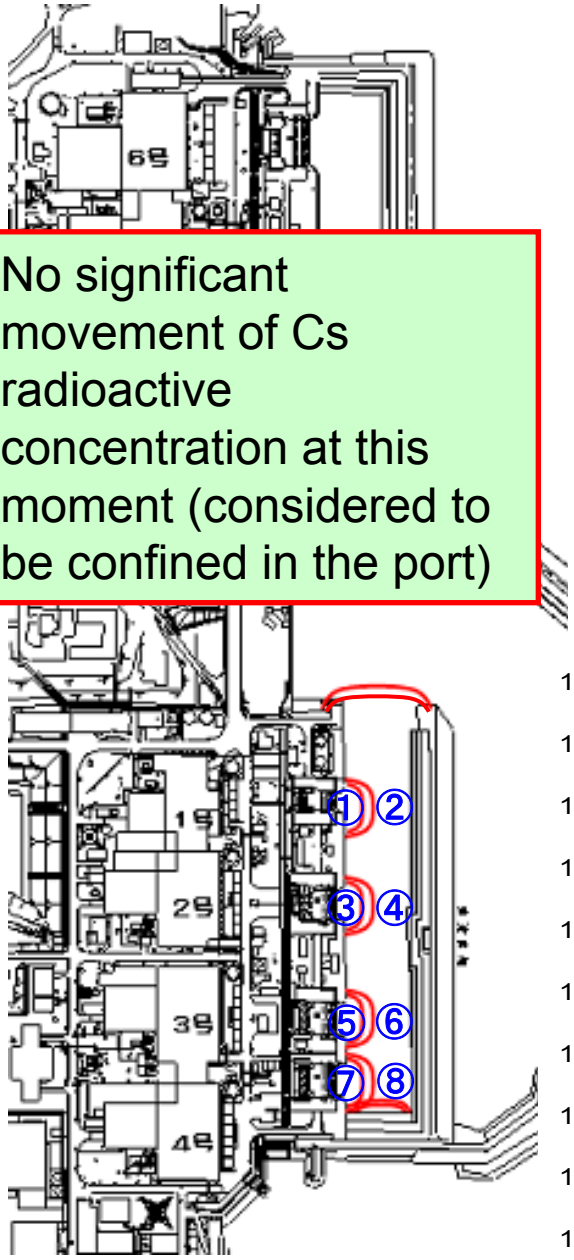


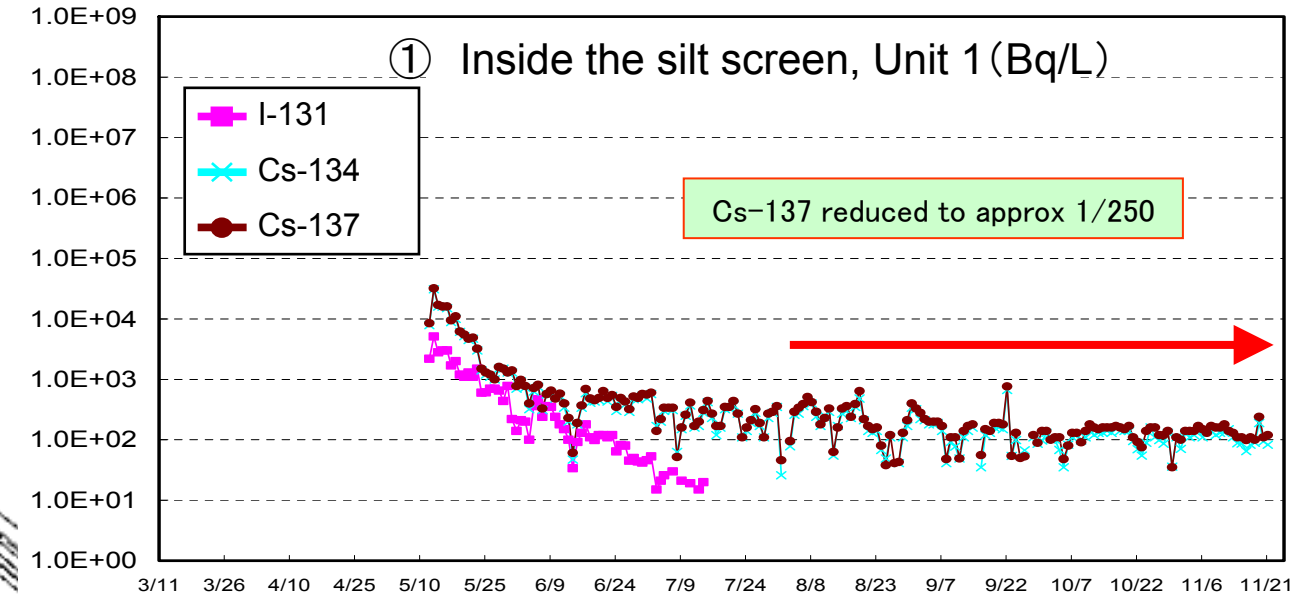
※graph scale vertical axis: 1E−1～1E+6, horizontal axis: Mar 11～Nov 25 I-131 Cs-134 Cs-137

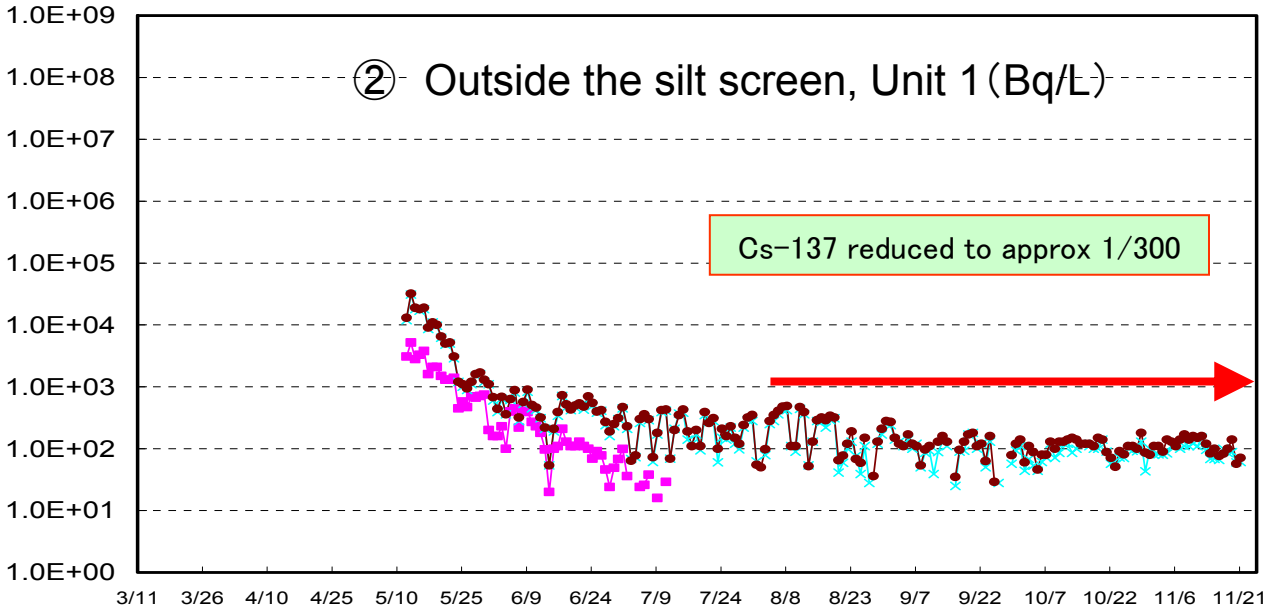
After the accident, in downward trend and currently below the notification level. ※Notification level I−131…40 Cs−134…60 Cs−137…90

Seawater (screen, Unit 1) radioactive concentration (2/6)

No significant movement of Cs radioactive concentration at this moment (considered to be confined in the port)

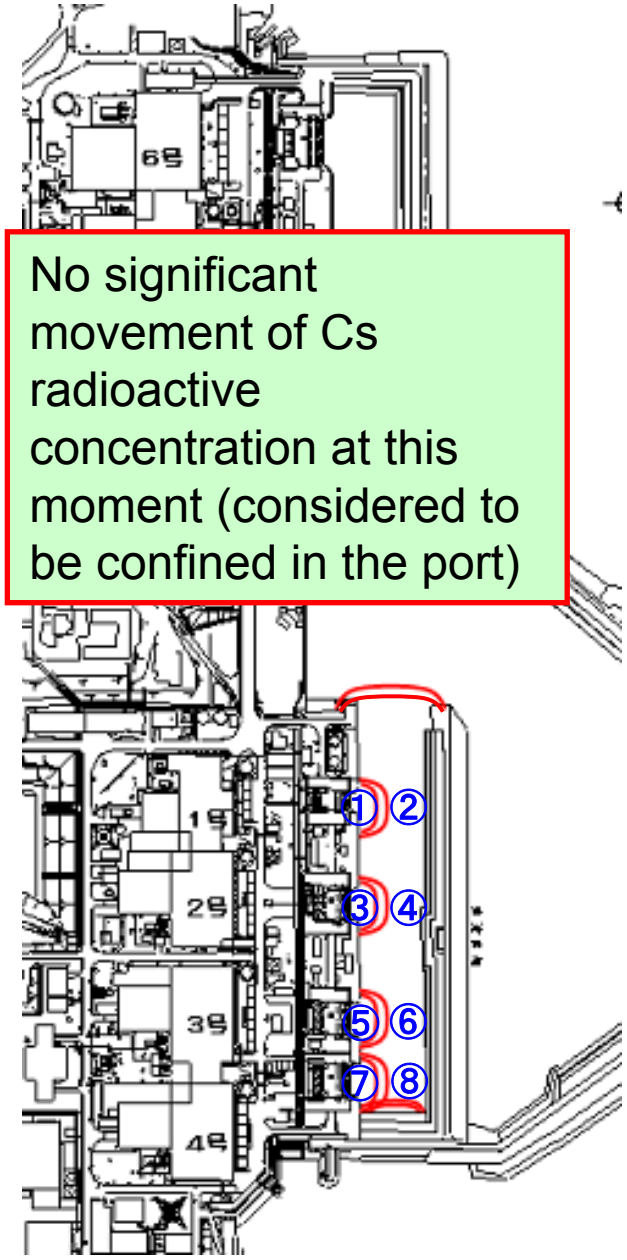


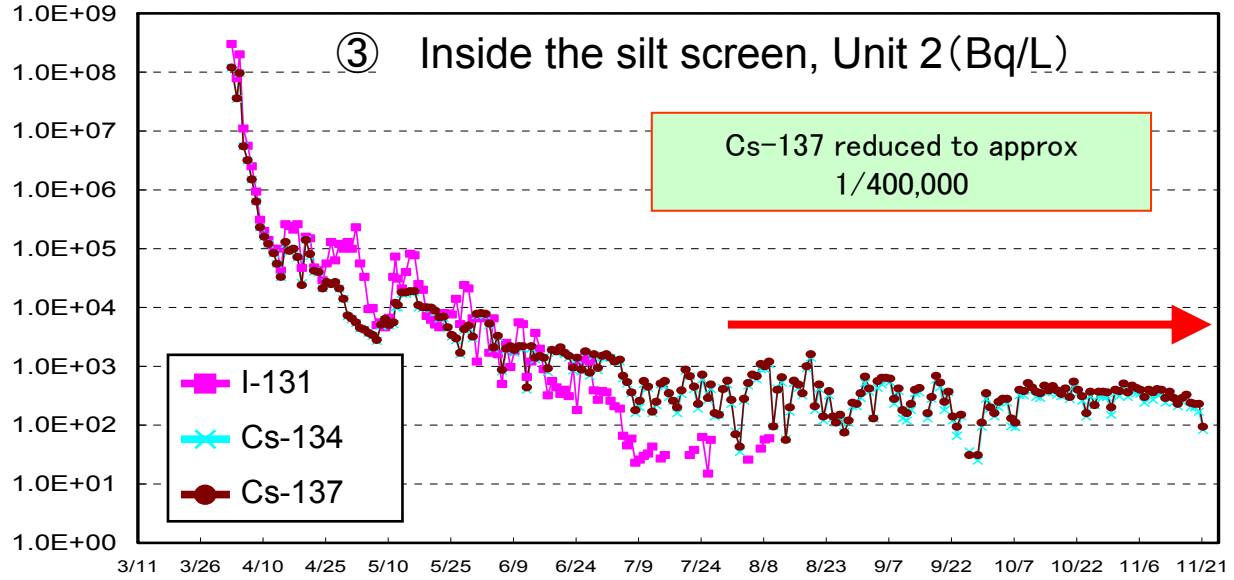


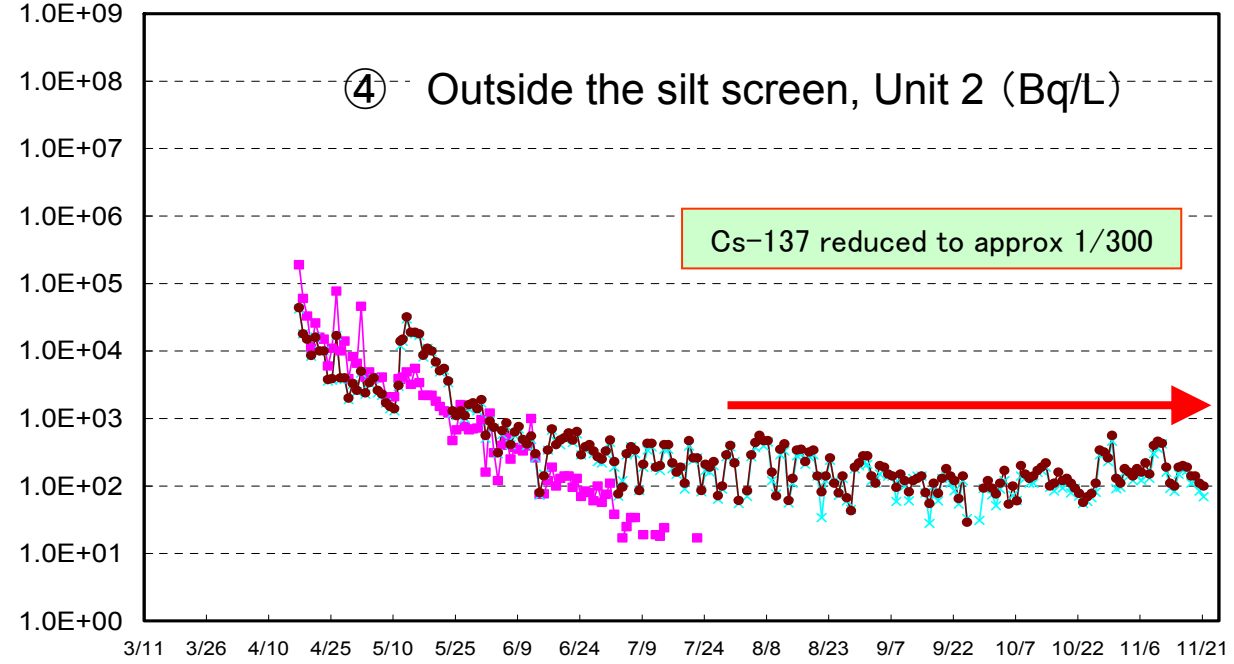


Seawater (screen, Unit 2) radioactive concentration (3/6)

No significant movement of Cs radioactive concentration at this moment (considered to be confined in the port)

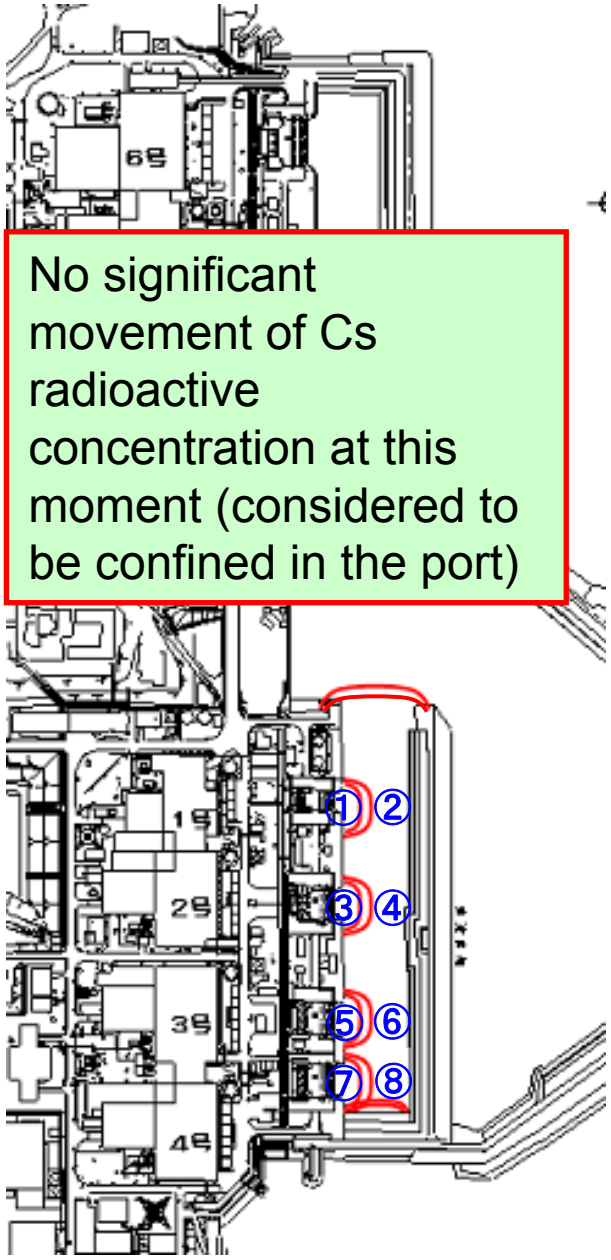


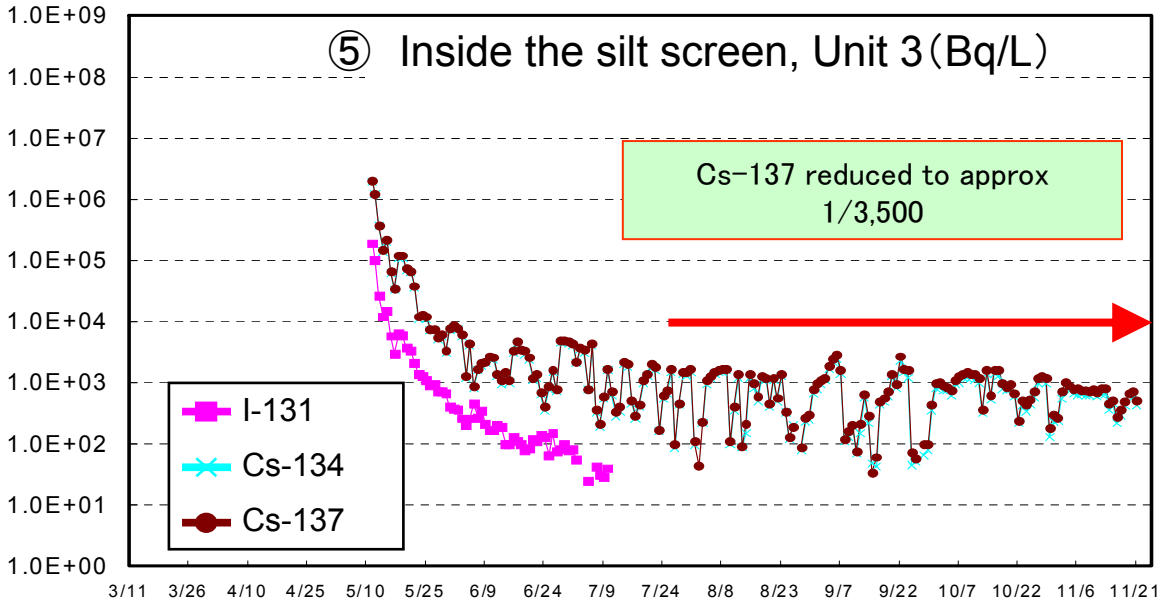


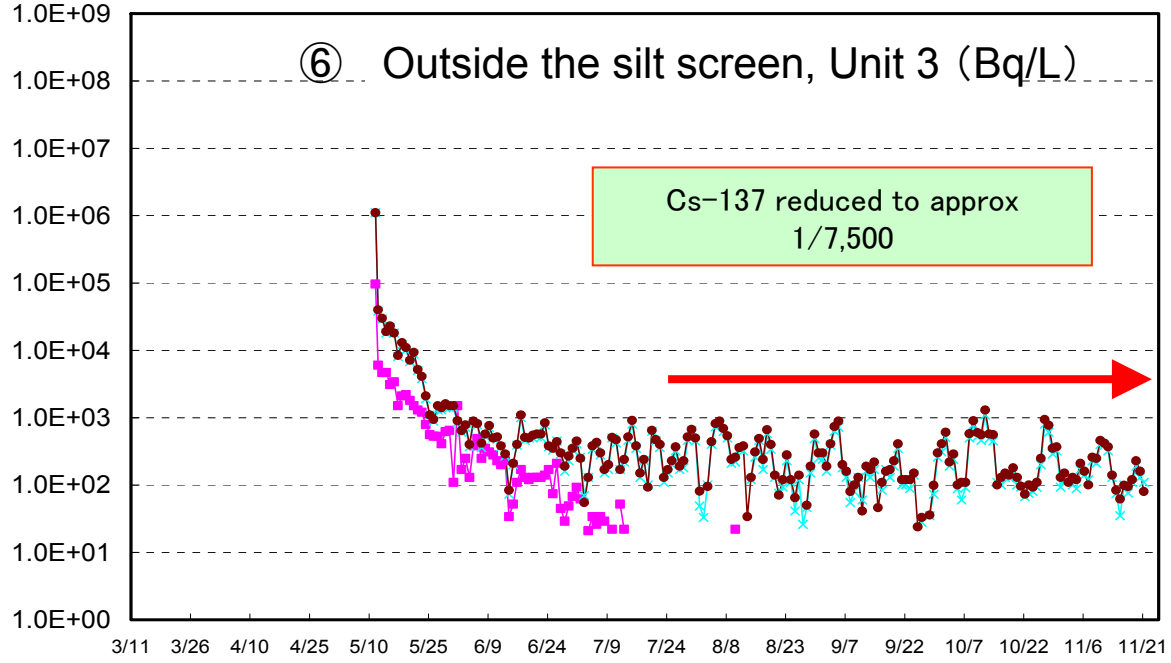


Seawater (screen, Unit 3) radioactive concentration (4/6)

No significant movement of Cs radioactive concentration at this moment (considered to be confined in the port)

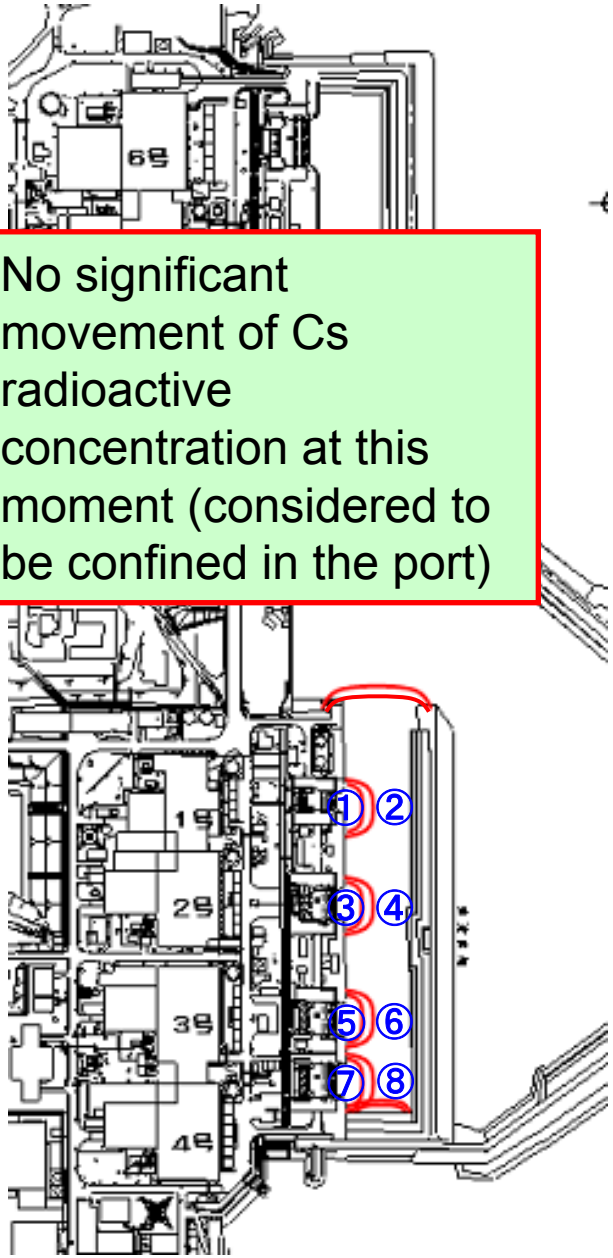


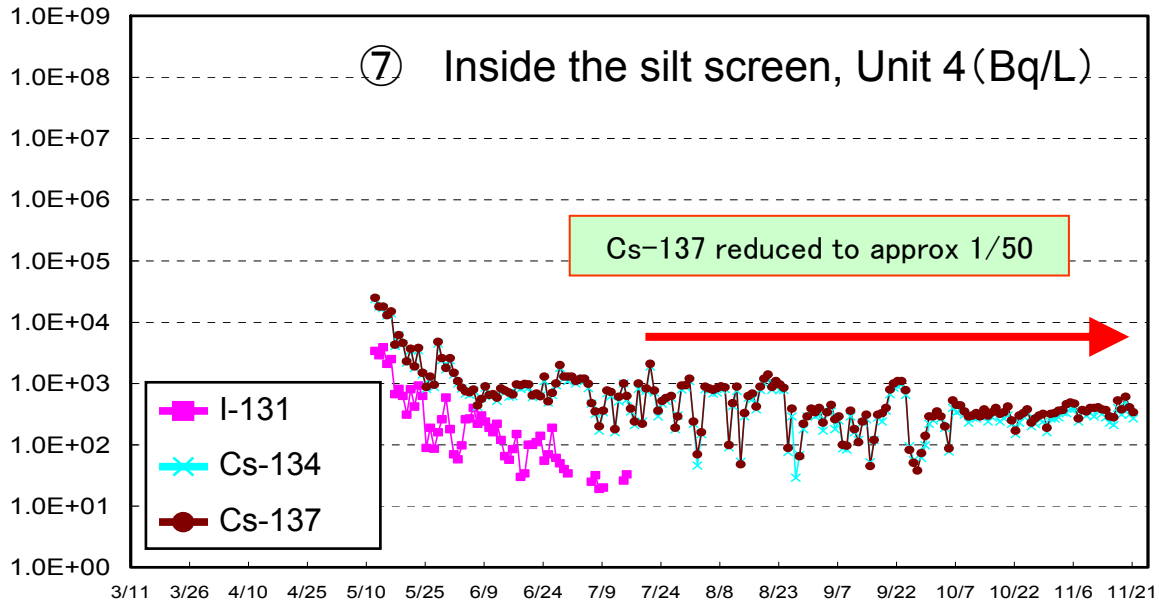


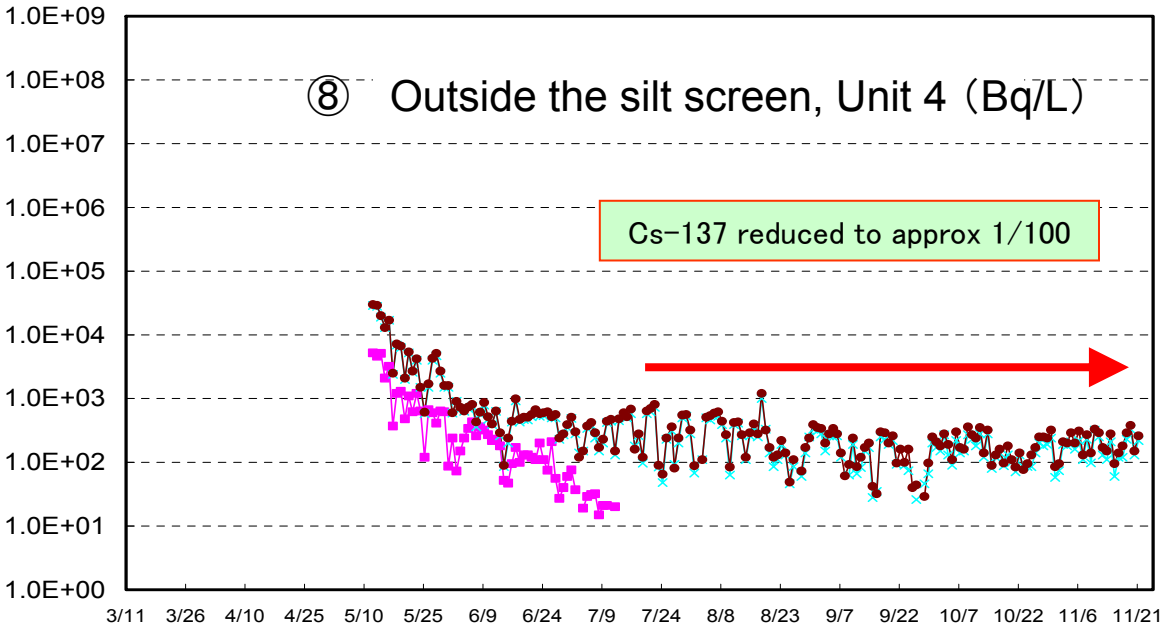


Seawater (screen, Unit 4) radioactive concentration(5/6)

No significant movement of Cs radioactive concentration at this moment (considered to be confined in the port)

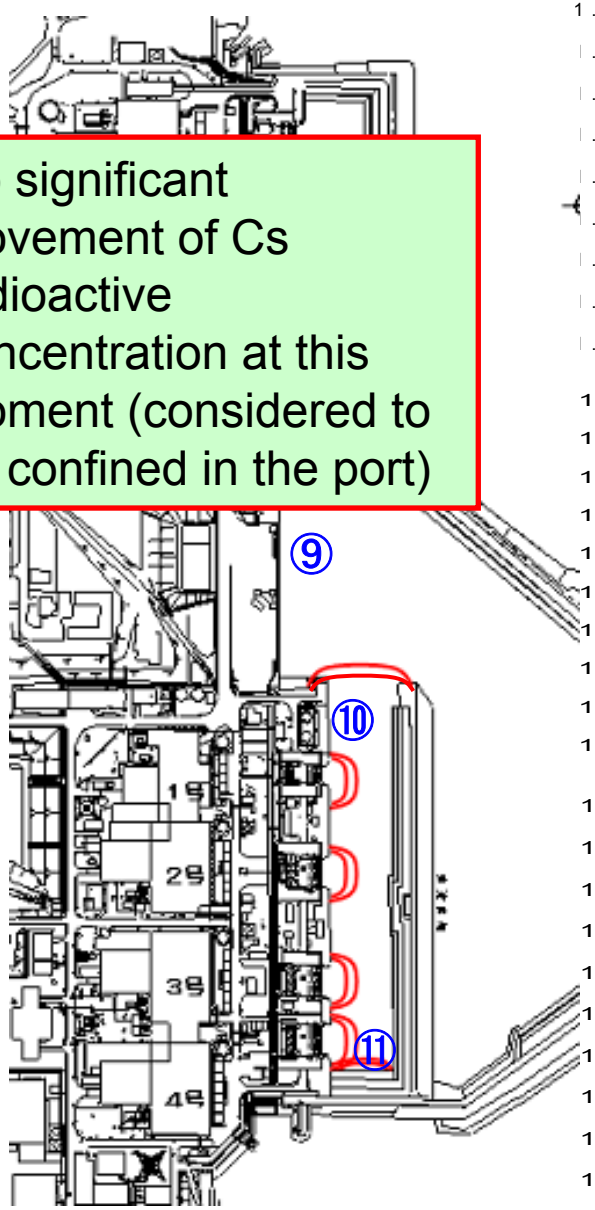


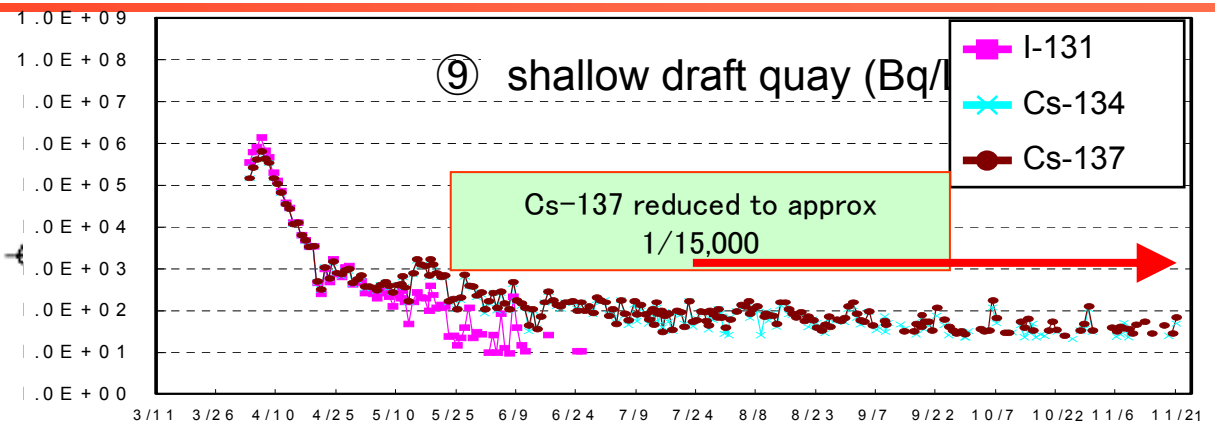


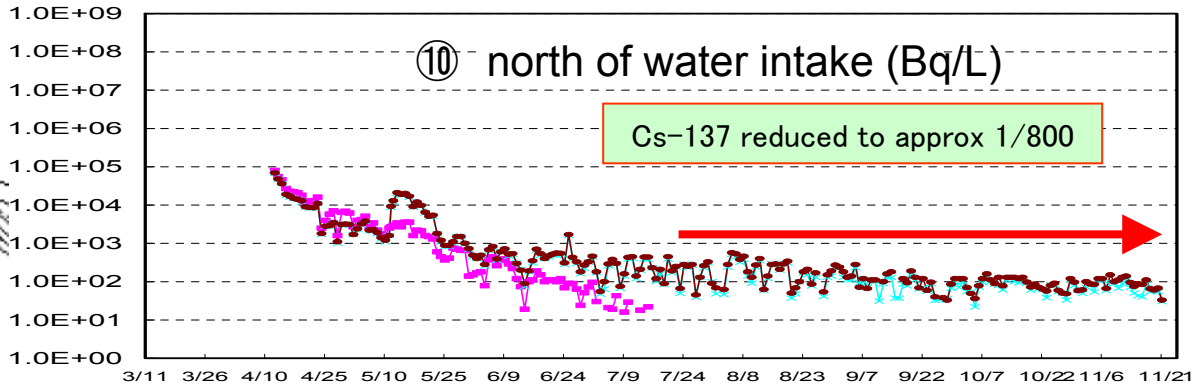


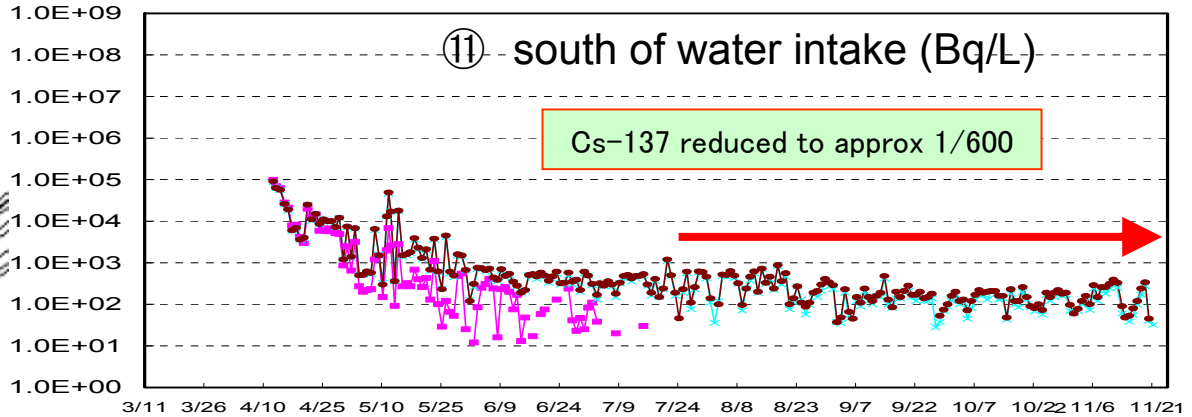
Seawater (shallow draft quay - south of water intake) radioactive concentration (6/6)

No significant movement of Cs radioactive concentration at this moment (considered to be confined in the port)

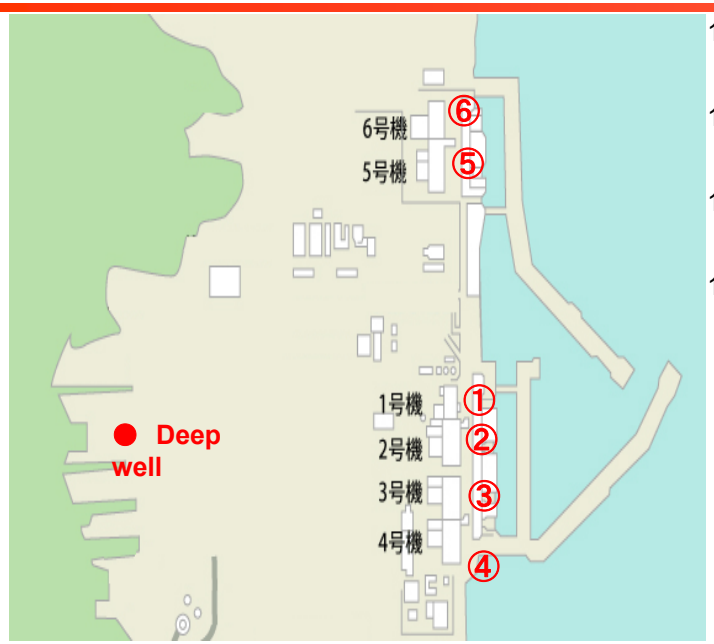


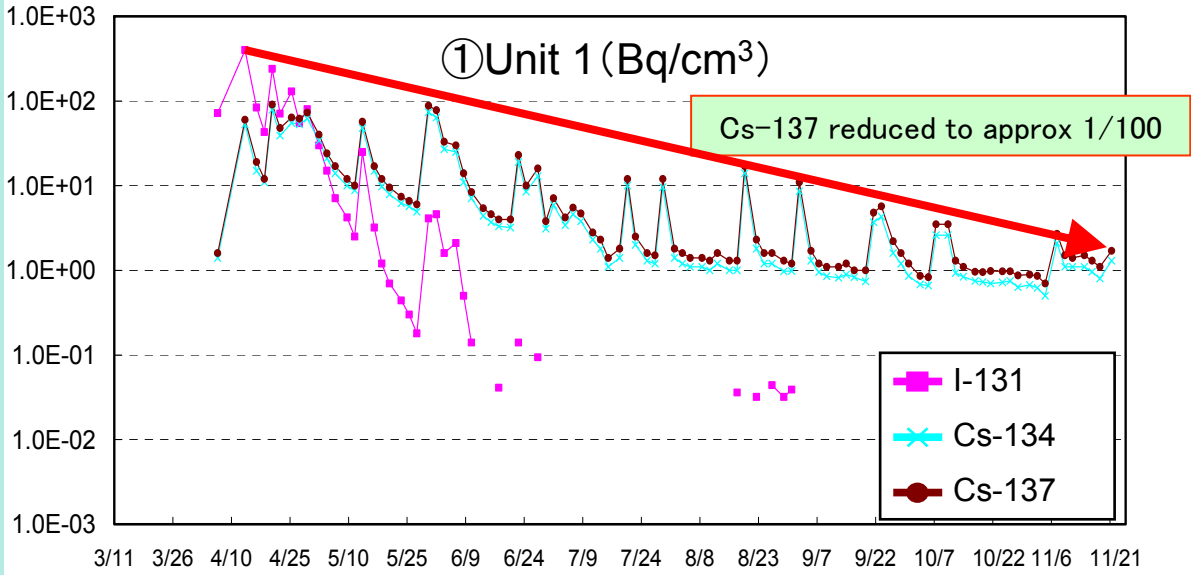




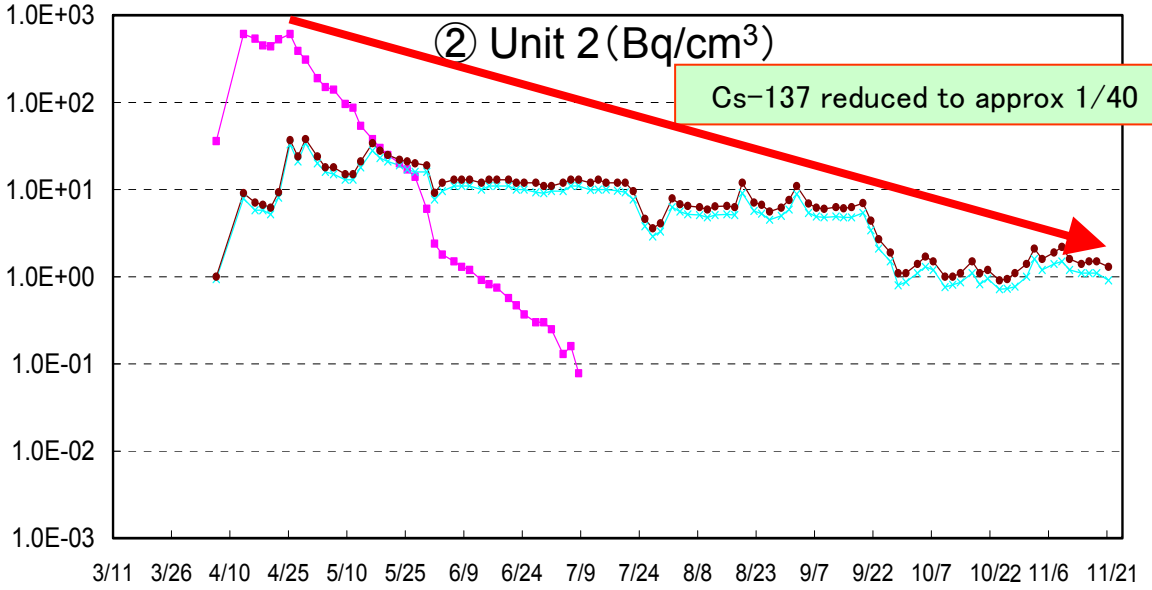


Sub drain radioactive concentration (1/3)

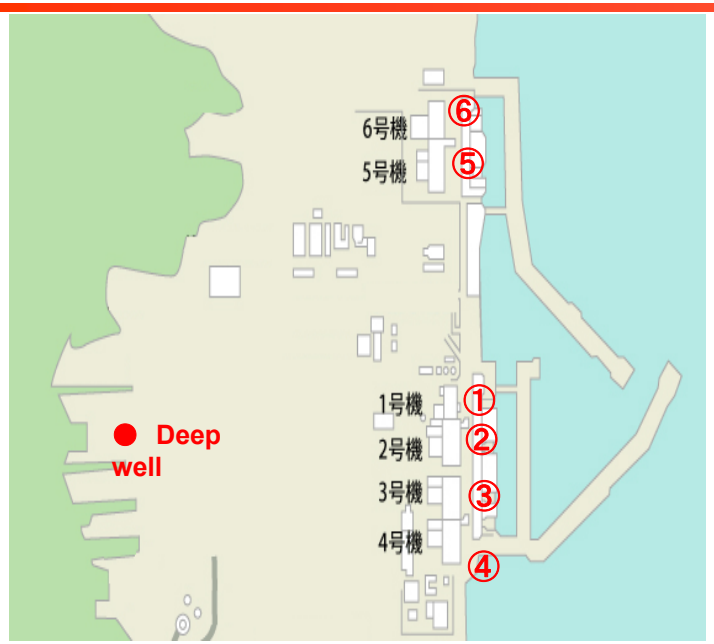


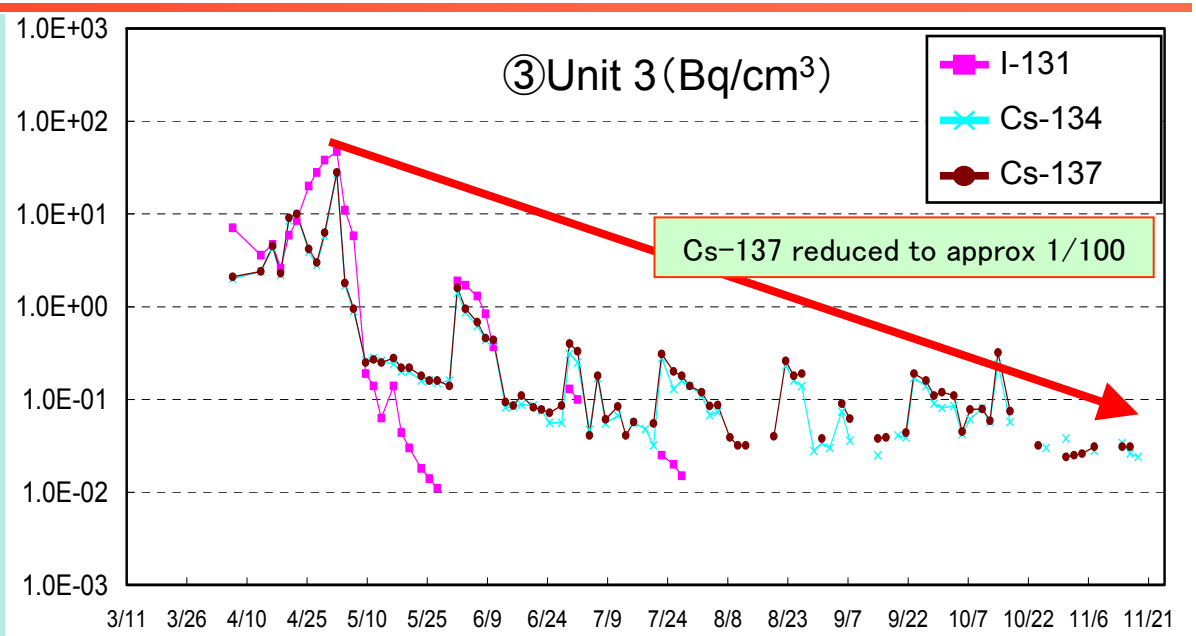


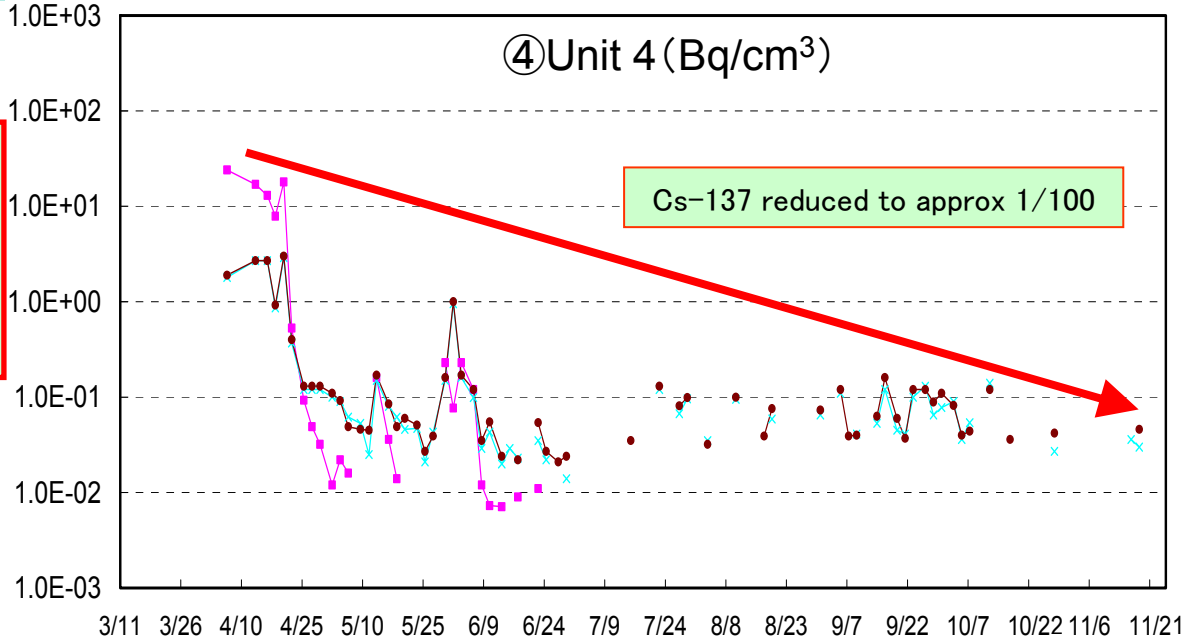
In downward trend after the accident. We do not observe increase of Cs radioactive concentration at this moment.



Sub drain radioactive concentration(2/3)

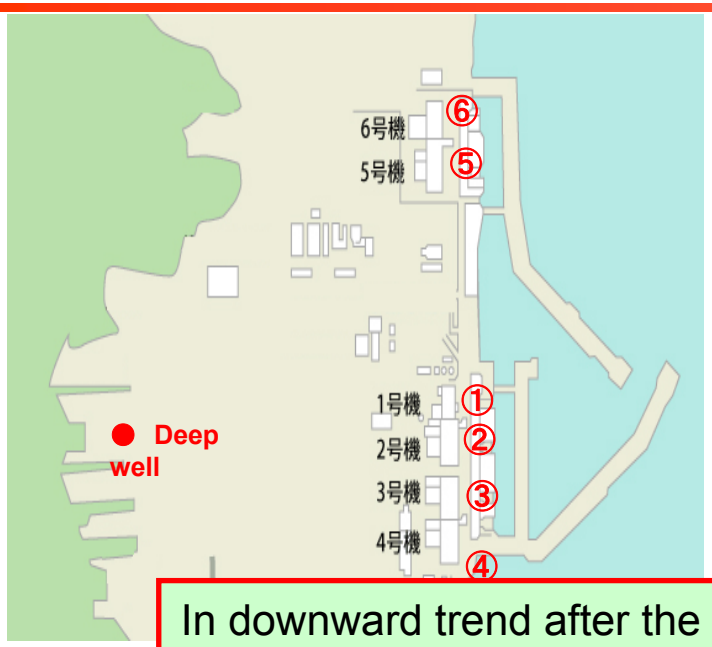




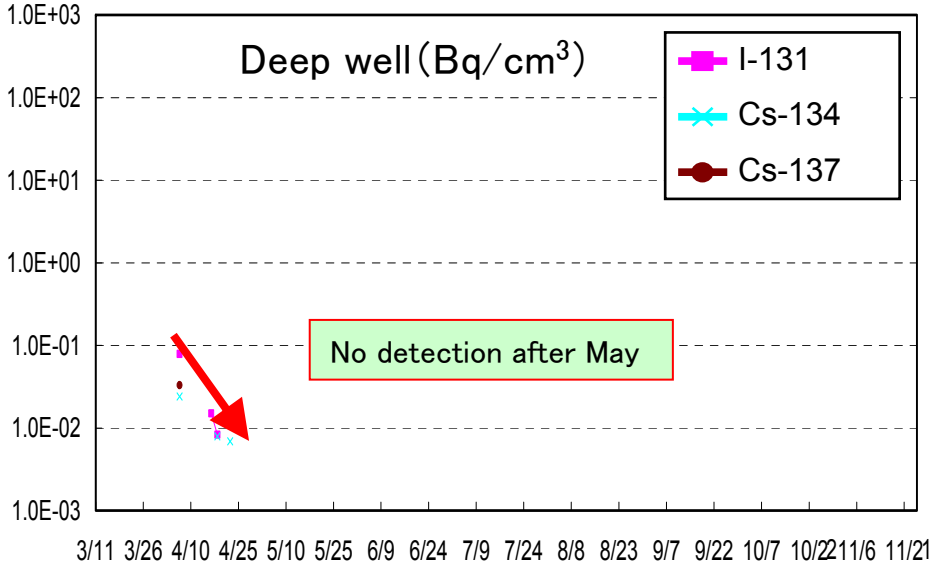


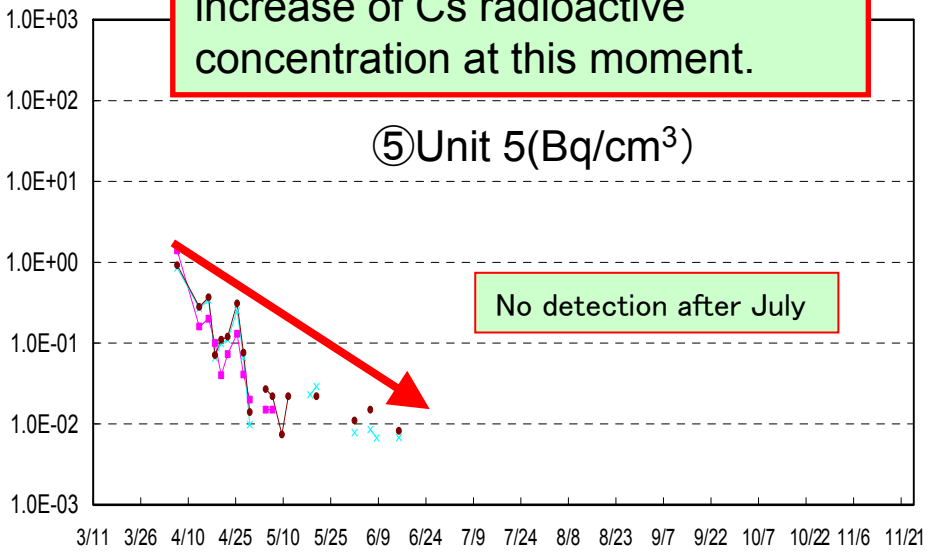
In downward trend after the accident. We do not observe increase of Cs radioactive concentration at this moment.

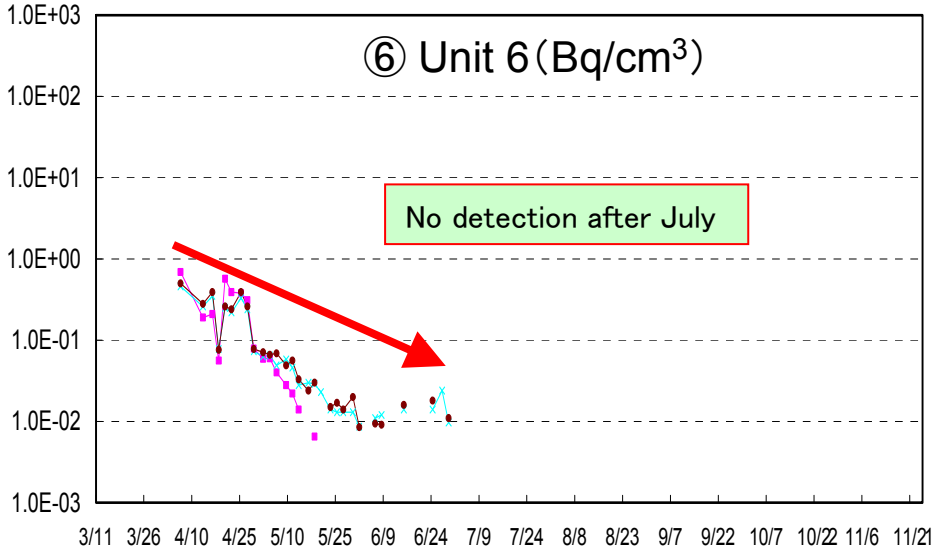
Sub drain radioactive concentration (3/3)



In downward trend after the accident. We do not observe increase of Cs radioactive concentration at this moment.

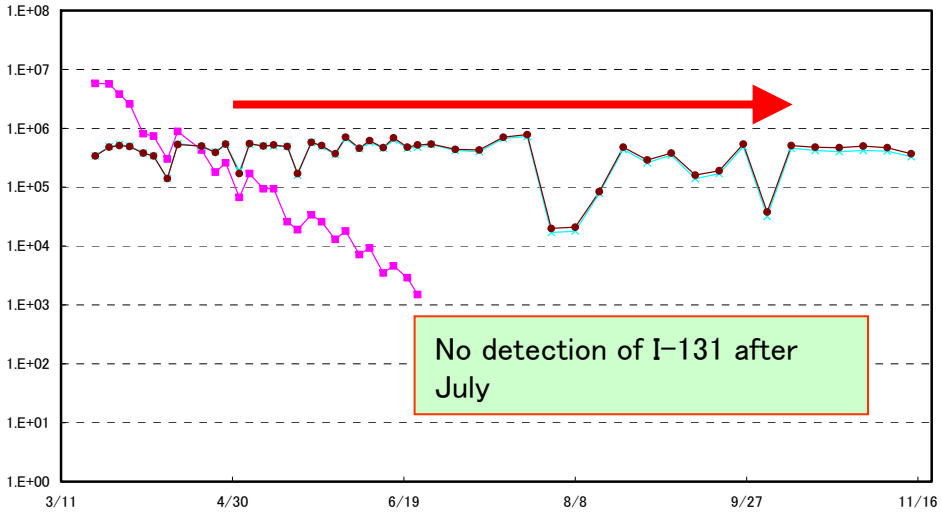




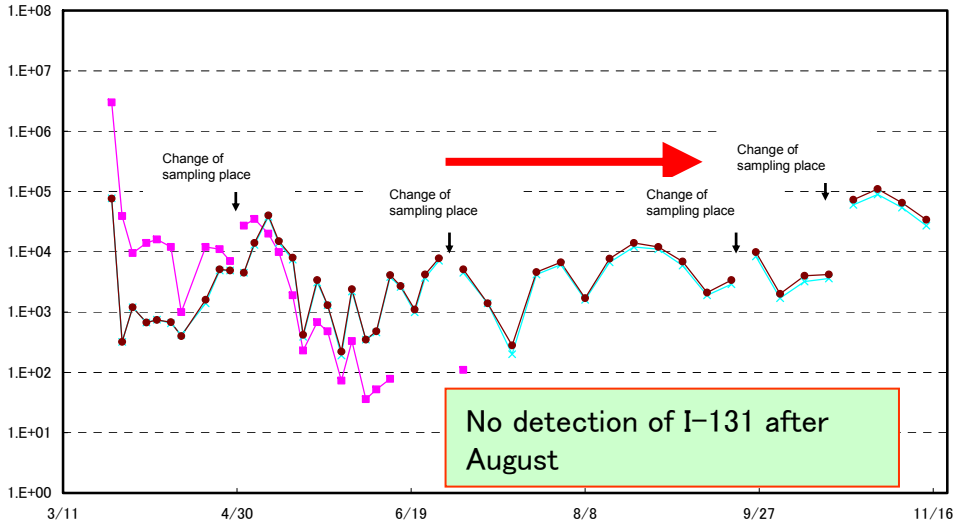


Soil radioactive concentration

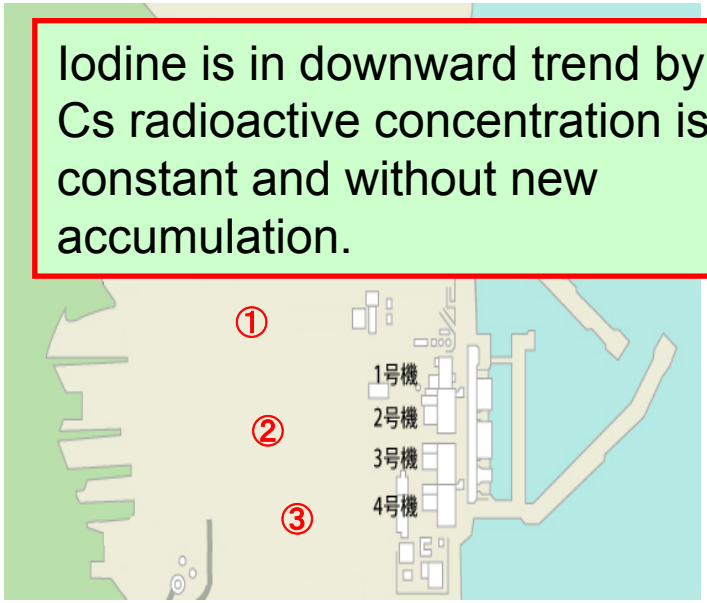
①ground（ 500m ENE of the stack, Units 1 & 2



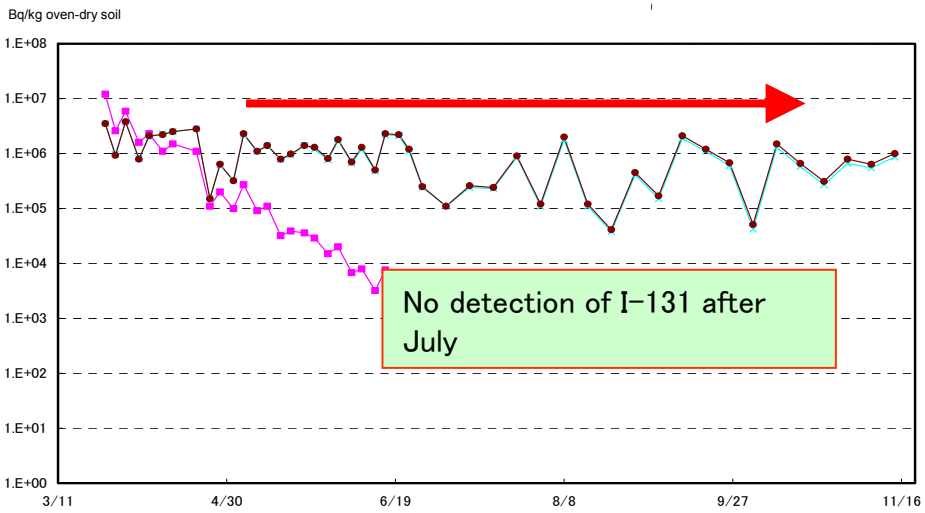
②Wild bird forest (500m east of the stack, Units 1 & 2



Iodine is in downward trend by decay. Cs radioactive concentration is almost constant and without new accumulation.

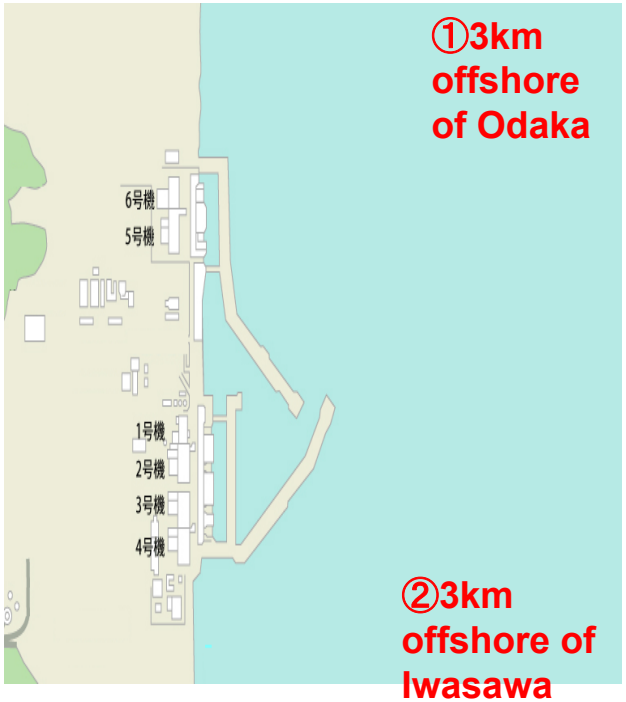


③Close to industrial waste disposal (500m SSW of the stack, Units 1 & 2)

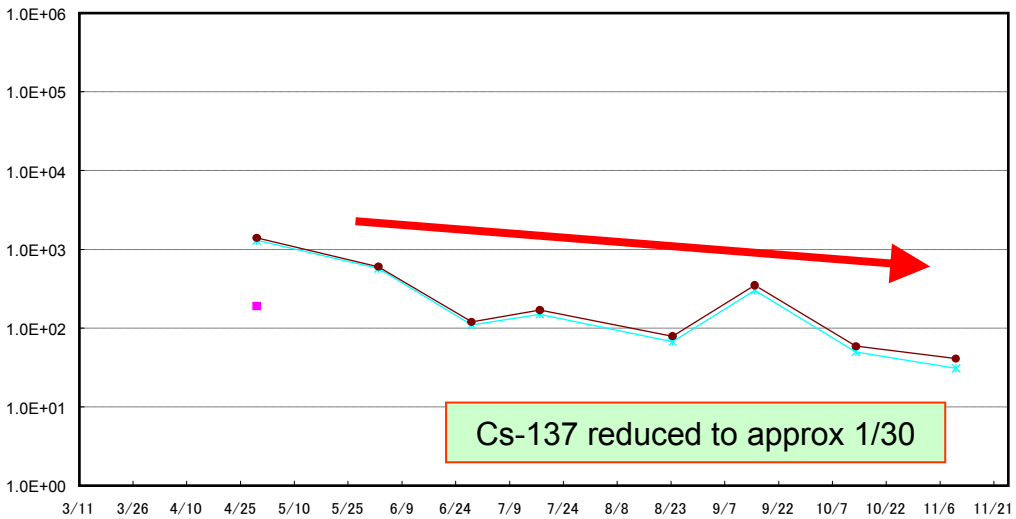


※graph scale vertical axis: 1E+0～1E+8 horizontal axis: Mar 21～Nov 14 I-131 Cs-134 Cs-137

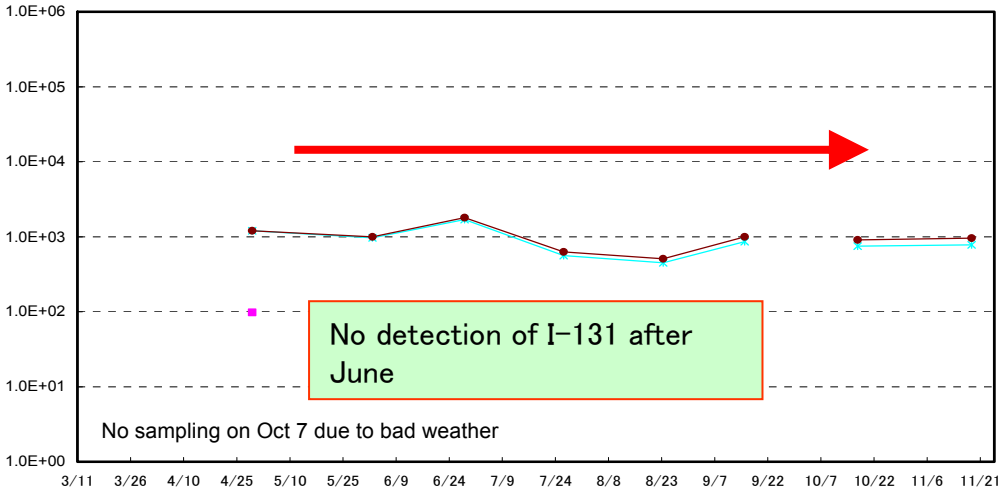
Seabed soil radioactive concentration



①radioactive concentration of seabed soil 3km offshore of Odaka ward (Bq/kg swampy soil)



② radioactive concentration of seabed soil 3km offshore of Iwasawa shore (Bq/kg swampy soil)

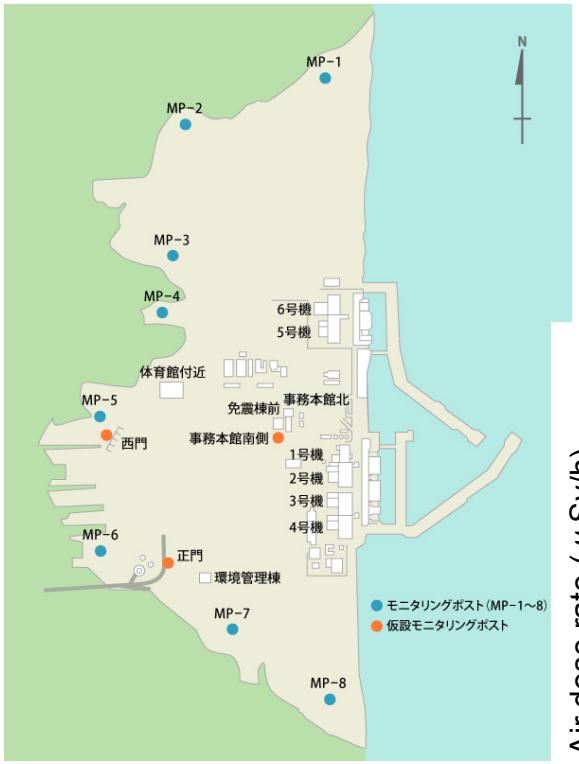


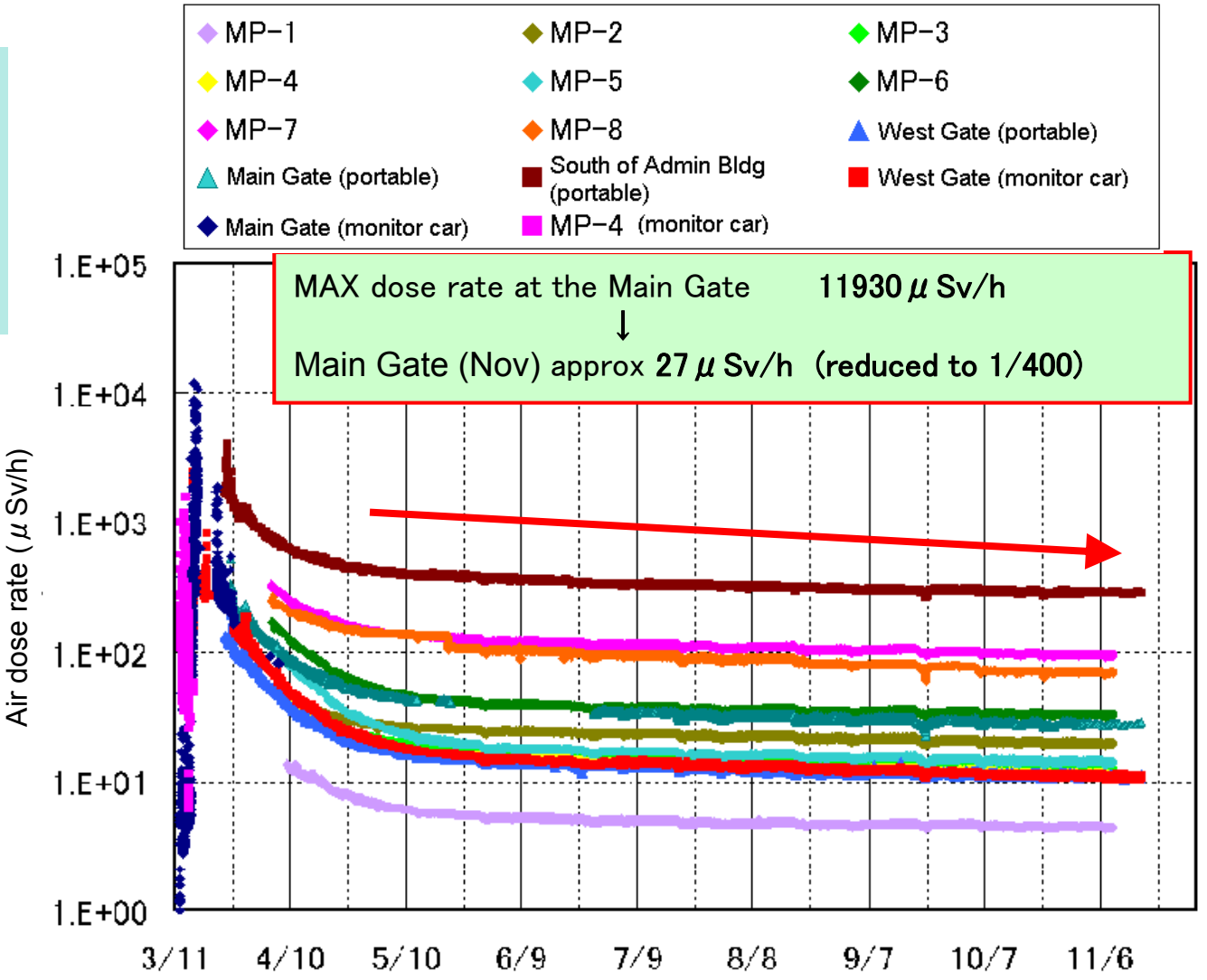
In downward trend or similar level. No new accumulation of radioactive substances.

※graph scale vertical axis: 1E+0～1E+6 horizontal axis: Apr 29～ Nov 18

I-131 Cs-134 Cs-137

Air dose rate by Monitoring Posts etc.



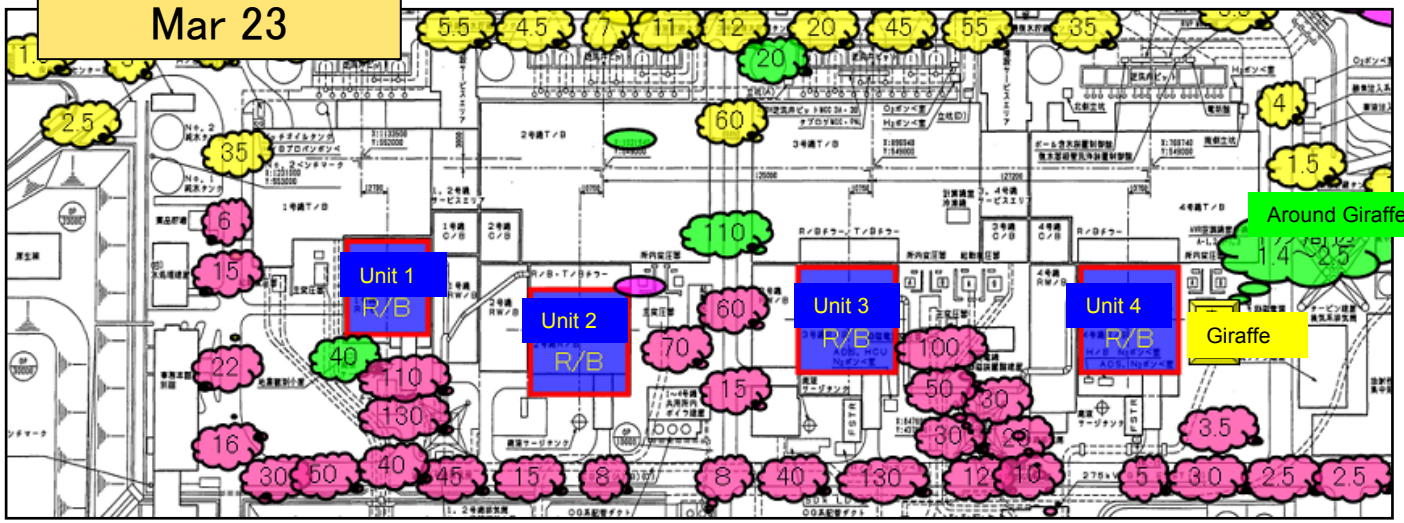


The air dose rates at each point were dramatically increased by the accident. After that, indicated steady downward trend and at this moment, at the background level at each point.

Air dose rate in the Power Station

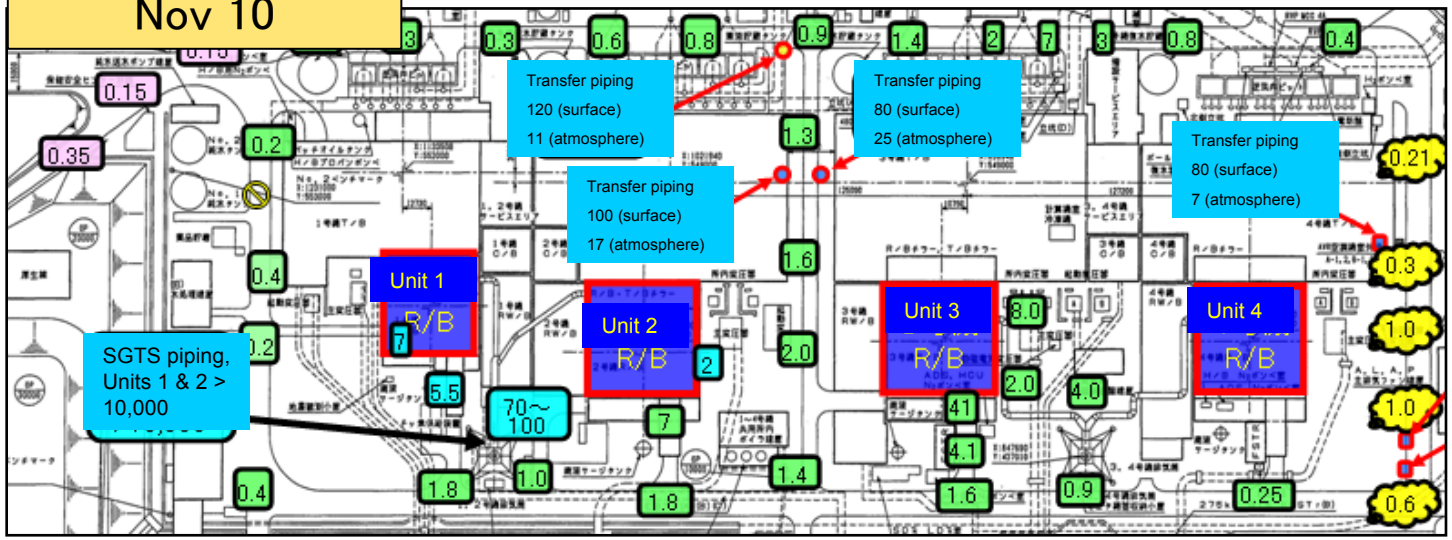
Air dose rate decreased by removal of rubbles

Mar 23



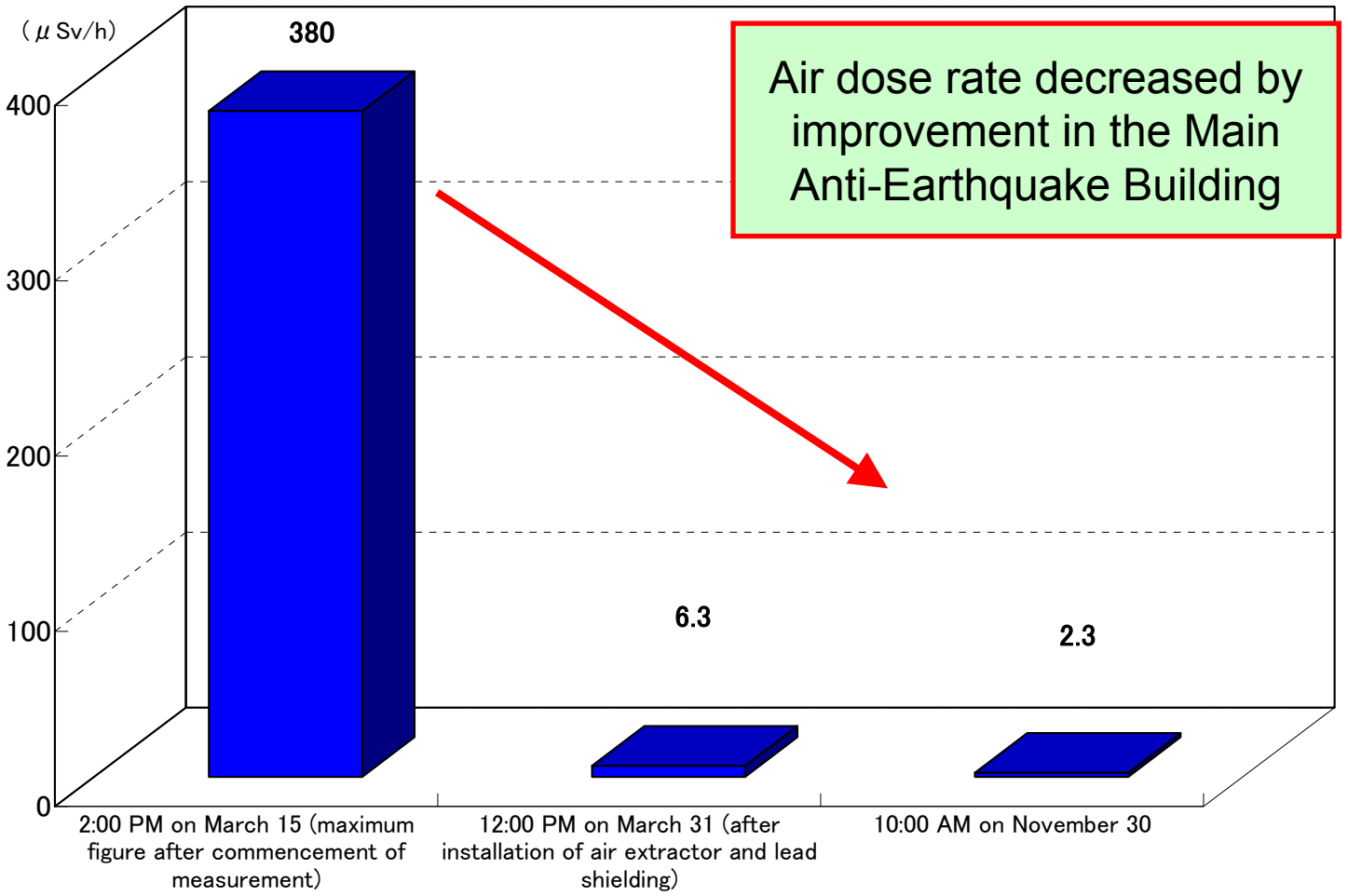
Unit: mSv/h

Nov 10



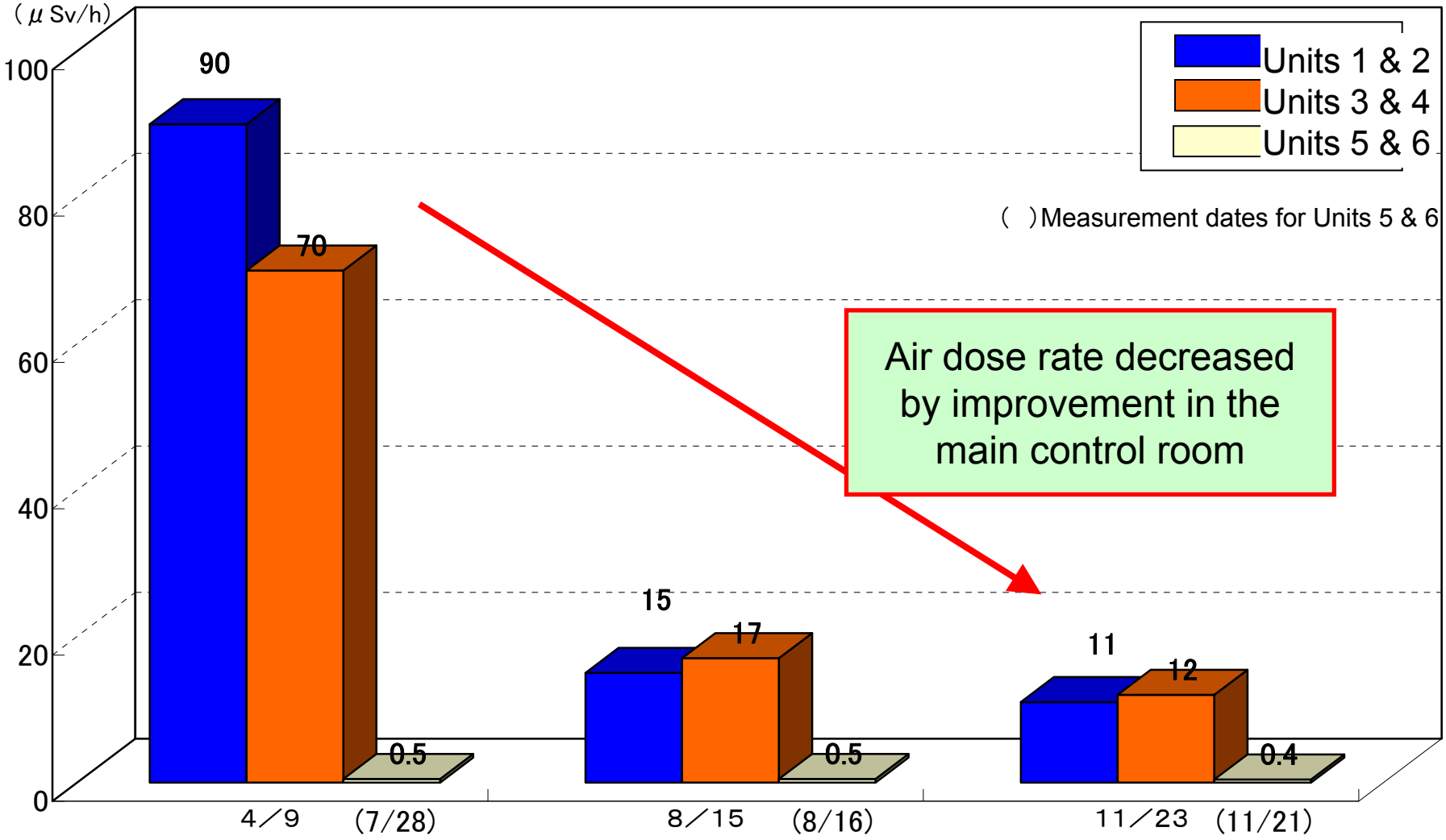
Air dose rate on 2FL, Main Anti-Earthquake Building

Air dose rate at the emergency response room, 2FL, Main Anti-Earthquake Building (the maximum at indoor)



Air dose rate in the main control room

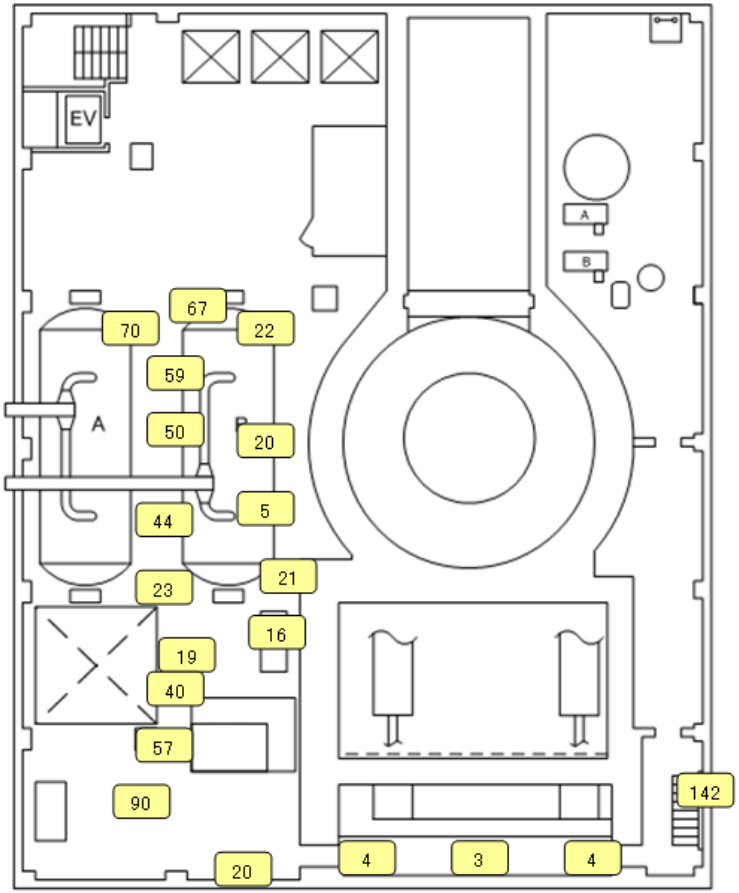
Air dose rate in the main control room for each Unit (sample point)



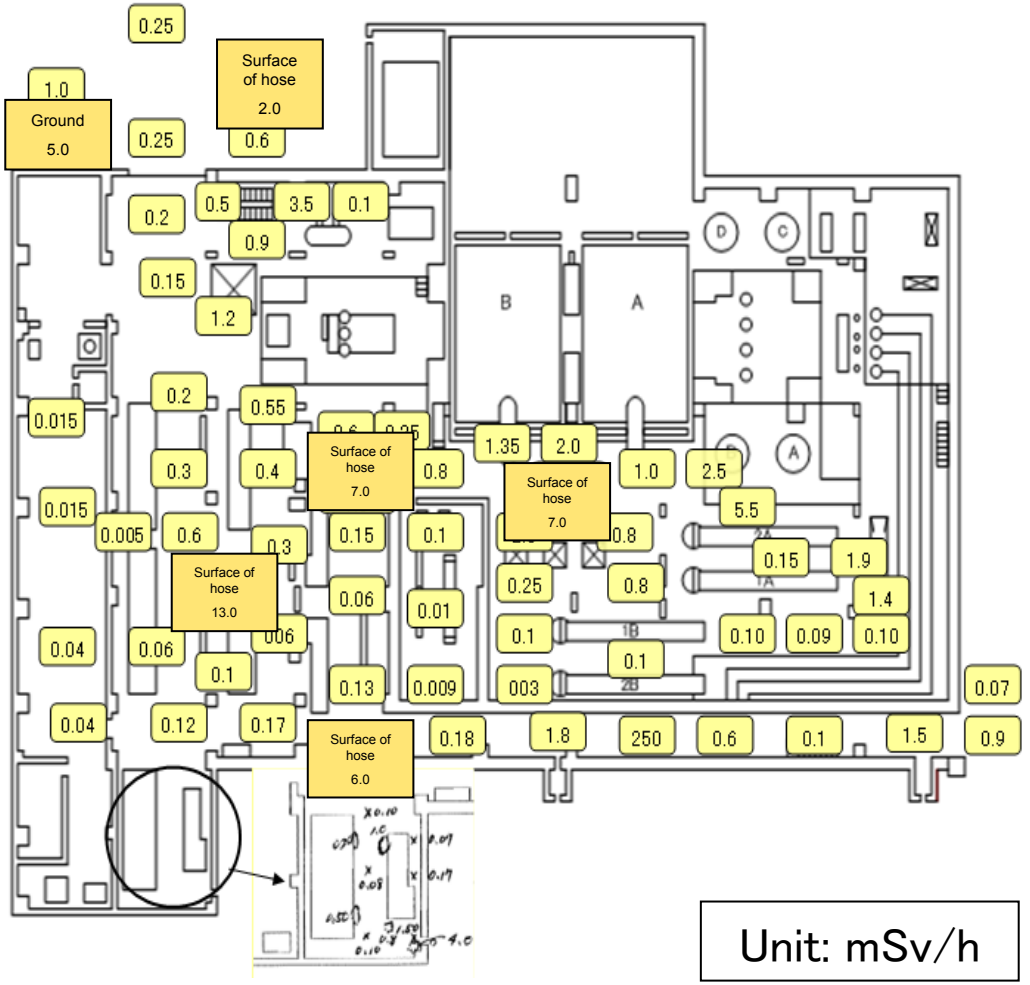
Air dose rate in buildings

We are endeavoring to reduce radiation dose by sharing info regarding the air dose rate at the work site.

- 4FL, R/B, Unit 1



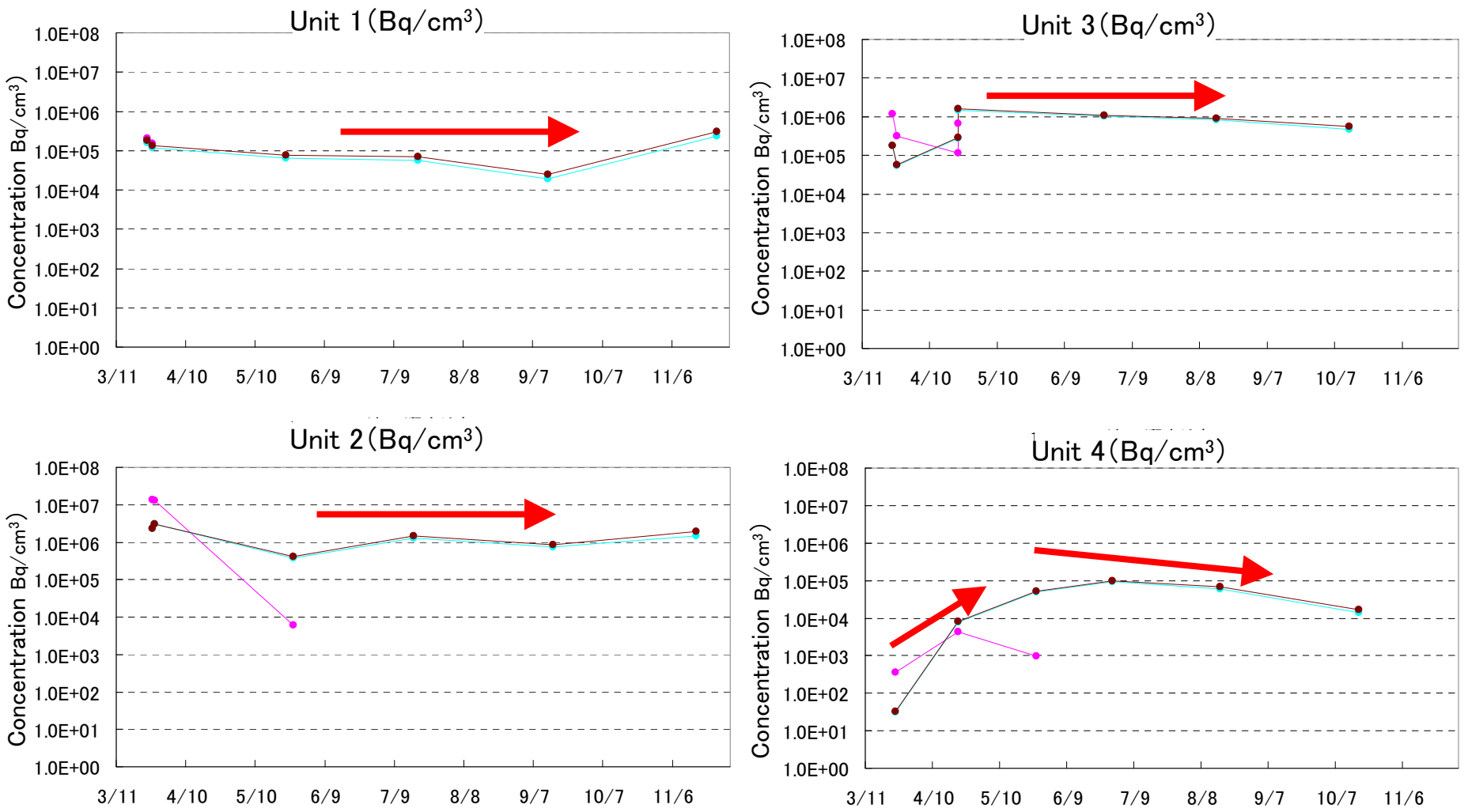
- 1FL, T/B, Unit 1



Unit: mSv/h

Radioactive concentration of accumulated water, T/B, Units 1-4

After the accident, Cs-134 and 137 are stable for Units 1-3. There was an increase at Unit 4 supposed to be from Unit 3. I-131 is on a downward trend by decay.



【Reference】 radioactive concentration of accumulated water, T/B, Units 1-4 (table)

Place of sampling	Accumulated water, basement, T/B, Unit 1, 1F							Accumulated water, basement, T/B, Unit 2, 1F						
Date of sampling	March 24, 2011 9:40 AM	March 26, 2011 12:00 PM	May 23, 2011 1:50 PM	July 19, 2011 10:10 AM	September 13, 2011 10:48 AM	November 25, 2011 10:00 AM		March 26, 2011 8:50 AM	March 27, 2011 8:40 PM	May 26, 2011 10:00 AM	July 17, 2011 9:15 AM	September 15, 2011 12:05 PM	November 16, 2011 10:00 AM	
Detected Nuclides (Half-life)	density of sample （Bq/cm3）							density of sample （Bq/cm3）						
I-131 (about 8 days)	2.1E+05	1.5E+05	ND	ND	ND	ND		1.3E+07	1.3E+07	6.2E+03	ND	ND	ND	
Cs-134 (about 2 years)	1.6E+05	1.2E+05	6.4E+04	5.7E+04	1.9E+04	2.3E+04 *		2.3E+06	3.1E+06	3.8E+05	1.3E+06	7.4E+05	1.5E+06	
Cs-137 (about 30 years)	1.8E+05	1.3E+05	7.6E+04	7.0E+04	2.5E+04	3.0E+04 *		2.3E+06	3.0E+06	4.2E+05	1.5E+06	8.7E+05	1.9E+06	
Y-91 (about 59 days)	5.2E+04	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	
Mo-99 (about 66 hours)	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	
Tc-99m (about 6 hours)	ND	ND	ND	ND	ND	ND		3.0E+04	ND	ND	ND	ND	ND	
Te-129m (about 34 days)	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	
Te-132 (about 78 hours)	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	
I-132 (about 2 hours)	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	
Cs-136 （about 13 days）	1.7E+04	1.1E+04	3.1E+02	ND	ND	ND		2.5E+05	3.2E+05	1.1E+03	ND	ND	ND	
Ba-140 (about 13 days)	ND	ND	ND	ND	ND	ND		4.9E+05	6.8E+05	ND	ND	ND	ND	
La-140 (about 40 hours)	3.0E+02	ND	ND	ND	ND	ND		1.9E+05	3.4E+05	ND	ND	ND	ND	
H-3 (about 12 years)	7.0E+02	–	–	–	–	–		–	2.4E+04	–	–	–	–	

* The figure written in red letter has been corrected on January 23, 2014.

【Reference】 radioactive concentration of accumulated water, T/B, Units 1-4 (table)

Place of sampling	Accumulated water, basement, T/B, Unit 3, 1F							Accumulated water, basement, T/B, Unit 4, 1F						
Date of sampling	March 24, 2011 9:00 PM	March 26, 2011 8:30 AM	April 22, 2011 8:50 AM	April 22, 2011 9:00 AM	June 26, 2011 2:40 PM	August 15, 2011 9:45 AM	October 13, 2011 2:30 PM	March 24, 2011 9:00 PM	April 21, 2011 2:05 PM	May 26, 2011 9:30 AM	June 29, 2011 9:00 AM	August 16, 2011 3:00 PM	October 17, 2011 10:50 AM	
Detected Nuclides (Half-life)	density of sample （Bq/cm3)							density of sample （Bq/cm3)						
I-131 (about 8 days)	1.2E+06	3.2E+05	1.2E+05	6.6E+05	ND	ND	ND	3.6E+02	4.3E+03	9.9E+02	ND	ND	ND	
Cs-134 (about 2 years)	1.8E+05	5.5E+04	2.7E+05	1.5E+06	1.0E+06	8.3E+05	4.7E+05	3.1E+01	7.8E+03	4.9E+04	9.2E+04	6.0E+04	1.4E+04	
Cs-137 (about 30 years)	1.8E+05	5.6E+04	2.8E+05	1.6E+06	1.1E+06	9.2E+05	5.6E+05	3.2E+01	8.1E+03	5.1E+04	9.9E+04	6.7E+04	1.7E+04	
Y-91 (about 59 days)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Mo-99 (about 66 hours)	ND	ND	ND	ND	ND	ND	ND	1.0E+00	ND	ND	ND	ND	ND	
Tc-99m (about 6 hours)	2.0E+03	6.8E+02	ND	ND	ND	ND	ND	6.5E-01	ND	ND	ND	ND	ND	
Te-129m (about 34 days)	ND	ND	ND	ND	ND	ND	ND	1.3E+01	ND	ND	ND	ND	ND	
Te-132 (about 78 hours)	ND	ND	ND	ND	ND	ND	ND	1.4E+01	ND	ND	ND	ND	ND	
I-132 (about 2 hours)	ND	ND	ND	ND	ND	ND	ND	1.3E+01	ND	ND	ND	ND	ND	
Cs-136 （about 13 days）	2.3E+04	6.5E+03	7.7E+03	4.4E+04	ND	ND	ND	3.7E+00	2.4E+02	2.1E+02	ND	ND	ND	
Ba-140 (about 13 days)	5.2E+04	1.9E+04	1.8E+04	9.6E+04	8.4E+03	ND	ND	ND	6.0E+02	ND	ND	ND	ND	
La-140 (about 40 hours)	9.1E+03	3.1E+03	1.7E+04	9.3E+04	4.9E+03	ND	ND	4.1E-01	4.8E+02	4.3E+02	ND	ND	ND	
H-3 (about 12 years)	3.0E+03	—	—	—	—	—	—	6.5E+00	—	—	—	—	—	