

April 15, 2011

Nuclear and Industrial Safety Agency

Seismic Damage Information (the 94th Release)  
(As of 08:00 April 15th, 2011)

Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa NPS, Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai Dai-ni NPS, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows.

1. Nuclear Power Stations (NPSs)

● Fukushima Dai-ichi NPS

- Fresh water spray of 25t for Unit 3 using Concrete Pump Truck (50t/h) was carried out. (From 15:56 till 16:32 April 14th)
- Regarding Unit 4, the work for sampling water in the Spent Fuel Pool was carried out in order to grasp the conditions of the fuels that are kept in the pool. (From 12:00 till 13:04 April 12th) Nuclide analysis of radio active materials was carried out regarding the sampled water of the Spent Fuel Pool. (April 13th) As a result of nuclide analysis,  $2.2 \times 10^2 \text{Bq/cm}^3$  of  $^{131}\text{I}$  (Iodine),  $8.8 \times 10^1 \text{Bq/cm}^3$  of  $^{134}\text{Cs}$  (Caesium),  $9.3 \times 10^1 \text{Bq/cm}^3$  of  $^{137}\text{Cs}$  (Caesium) were detected. (April 14th)
- The test implementation of spraying antiscattering agent to prevent the spread of radioactive materials on the ground surface was carried out in the area of about 1,600 m<sup>2</sup> on the mountain-side of the Common Pool. (From 12:00 till 13:30 April 14th)
- In the 3 soil samples (6 samples in total) collected on 31 March and 4 April from the soil at the 3 points on the site of Fukushima Dai-ichi NPS where the regular sampling is to be carried out,  $^{238}\text{Pu}$  (Plutonium),  $^{239}\text{Pu}$  (Plutonium) and  $^{240}\text{Pu}$  (Plutonium) were detected. (18:30 April 14th announced by TEPCO). The concentration of the detected plutonium was at the equivalent level of the fallout (radioactive fallout) that was observed in Japan concerning the past atmospheric nuclear testing, i.e. at

the equivalent level of the normal condition of environment, and was not at the level of having harmful influence on human body.

## 2. Actions taken by NISA

- NISA directed TEPCO orally to strengthen the monitoring of the Sub Drain (the groundwater collected and controlled in the facilities) of Units 1 and 2, because the radioactive concentration of the water sampled on 13 April rose one digit up in comparison with the preceding result.

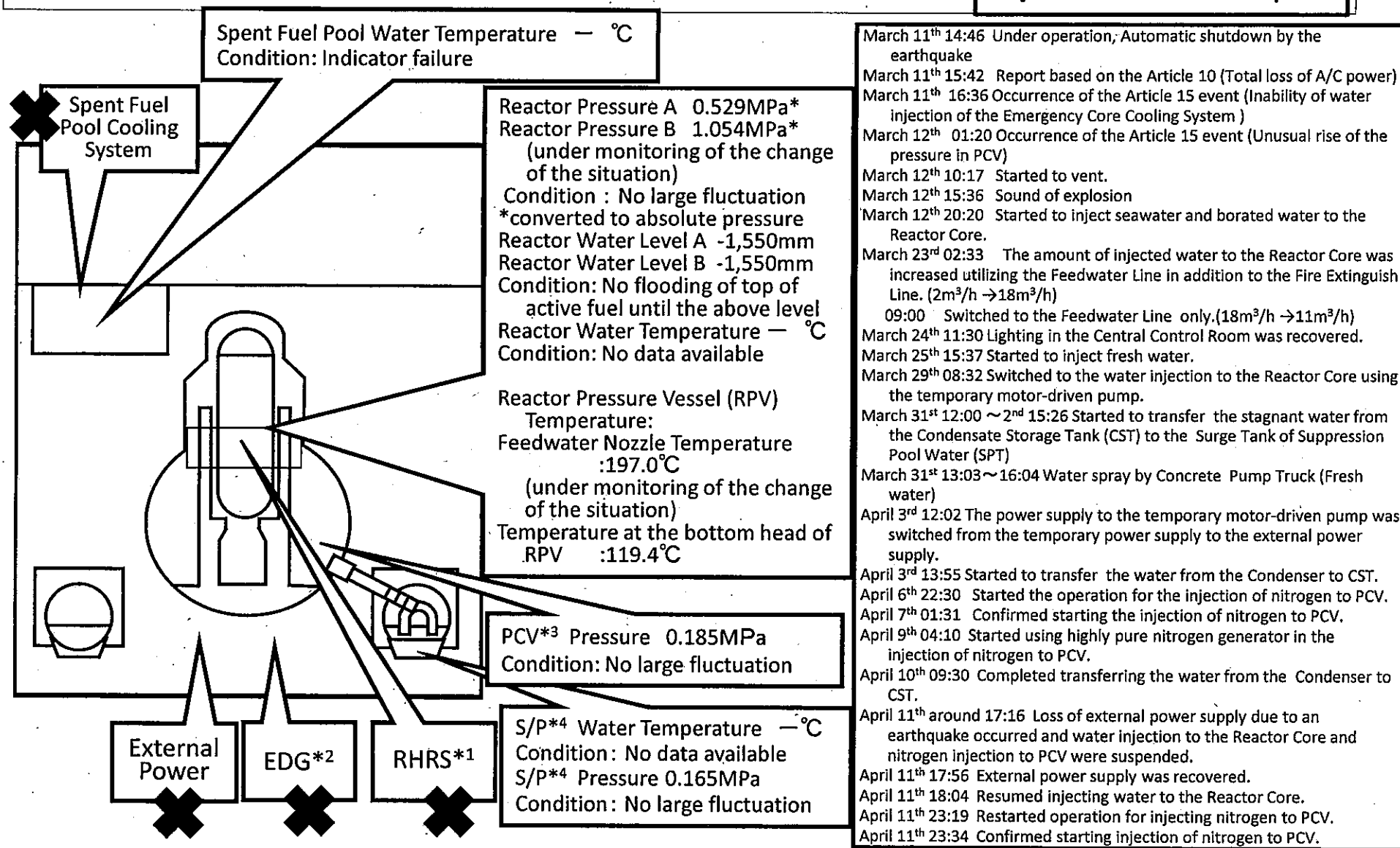
For more information:

NISA English Home Page

<http://www.nisa.meti.go.jp/english/index.html>

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 1 (As of 6:00 April 15th, 2011)

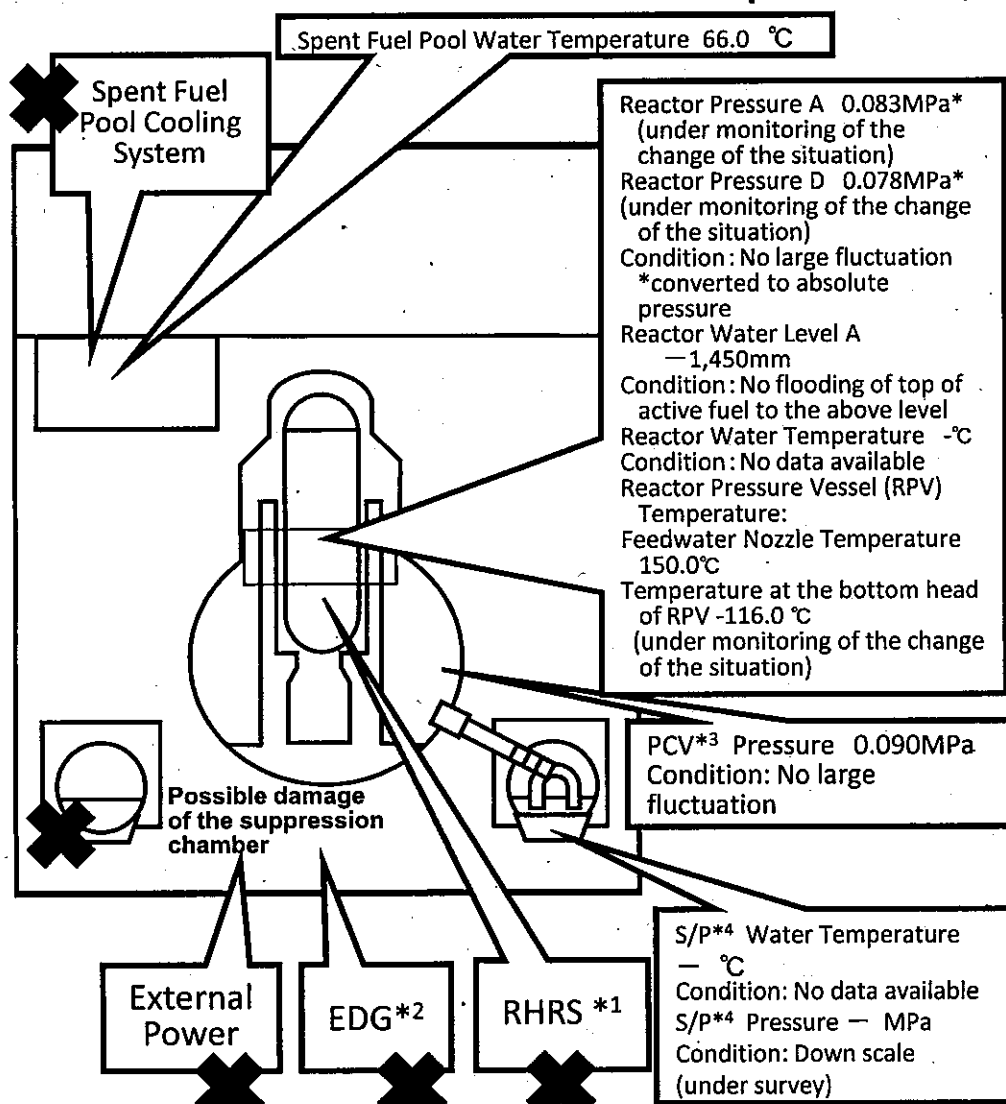
## Major Events after the Earthquake



- \*1 Residual Heat Removal System
- \*2 Emergency Diesel Generator
- \*3 Primary Containment Vessel
- \*4 Suppression Pool

Current Conditions : Fresh water is being injected to the Spent Fuel Pool and the Reactor Core

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 2 ( As of 6:00 April 15th, 2011 )



## Major Events after the Earthquake 1/2

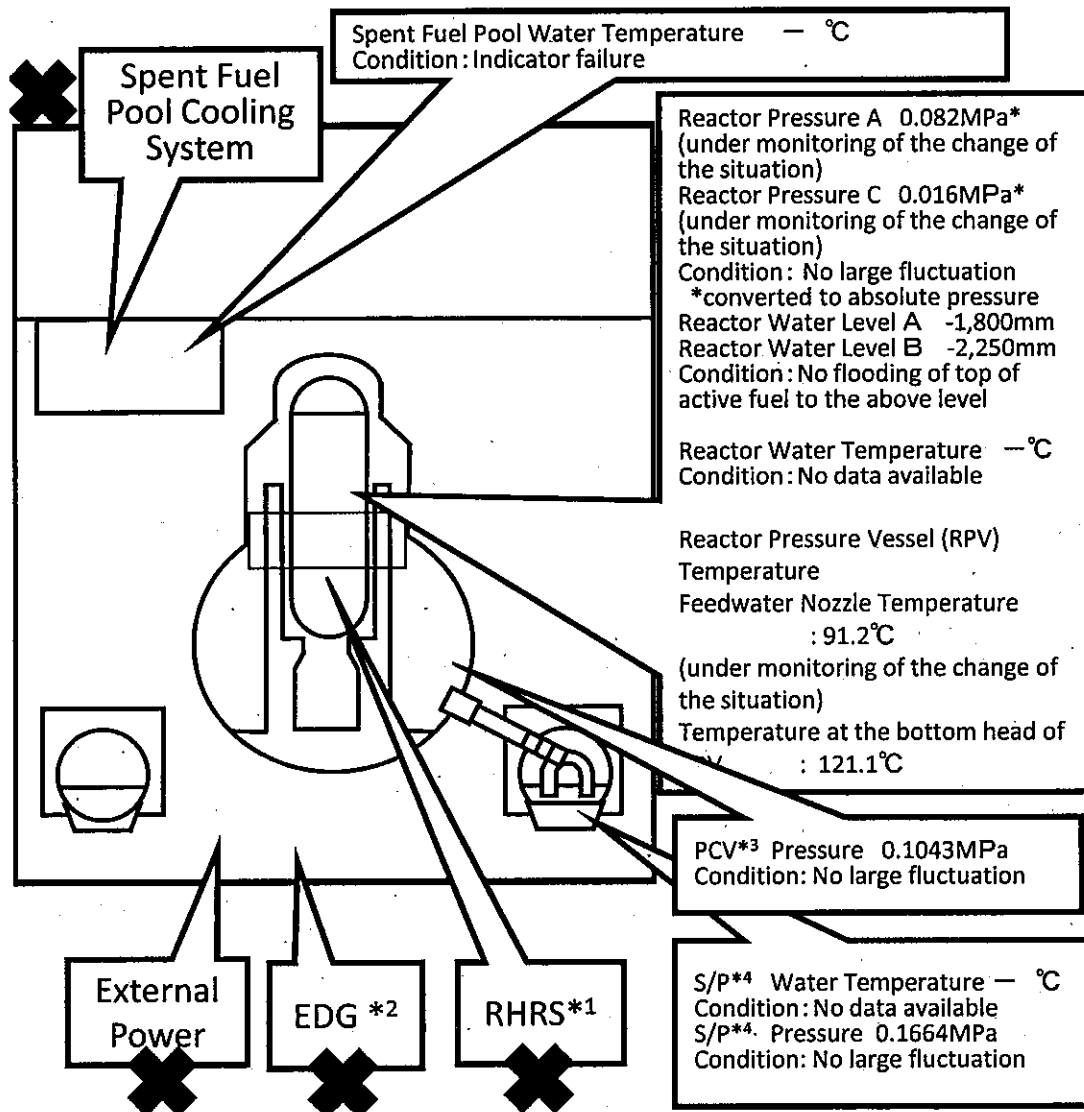
- March 11<sup>th</sup> 14:46 Under operation, Automatic shutdown by the earthquake
- March 11<sup>th</sup> 15:42 Report based on the Article 10 (Total loss of A/C power)
- March 11<sup>th</sup> 16:36 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System )
- March 13<sup>th</sup> 11:00 Started to vent.
- March 14<sup>th</sup> 13:25 Occurrence of the Article 15 event (Loss of reactor cooling functions)
- March 14<sup>th</sup> 16:34 Started to inject seawater to the Reactor Core.
- March 14<sup>th</sup> 22:50 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
- March 15<sup>th</sup> 00:02 Started to vent.
- March 15<sup>th</sup> 06:10 Sound of explosion
- March 15<sup>th</sup> around 06:20 Possible damage of the suppression chamber
- March 20<sup>th</sup> 15:05~17:20 Approximately 40 ton seawater injection to the Spent Fuel Pool (SFP) via the Fuel Pool Cooling Line (FPC)
- March 20<sup>th</sup> 15:46 Power Center received electricity.
- March 21<sup>st</sup> 18:22 White smoke generated. The smoke died down and almost invisible at 07:11 March 22<sup>nd</sup>.
- March 22<sup>nd</sup> 16:07 Injection of around 18 tons of seawater to SFP
- March 25<sup>th</sup> 10:30~12:19 Sea water injection to SFP via FPC
- March 26<sup>th</sup> 10:10 Started to inject fresh water to the Reactor Core.
- March 26<sup>th</sup> 16:46 Lighting in the Central Control Room was recovered.
- March 27<sup>th</sup> 18:31 Switched to the water injection to the core using the temporary motor-driven pump.
- March 29<sup>th</sup> 16:30~18:25 Switched to the temporary motor-driven pump injecting fresh water to SFP.
- March 29<sup>th</sup> 16:45~1<sup>st</sup> 11:50 Transferred the water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)
- March 30<sup>th</sup> 9:25~23:50 Confirmed malfunction of the temporary motor-driven pump injecting fresh water to SFP(9:45). Switched to the injection using the fire pump Truck, but suspended as cracks were confirmed in the hose. (12:47, 13:10) Resumed injection of fresh water(19:05)
- April 1<sup>st</sup> 14:56~17:05 Freshwater injection to SFP via FPC using the temporary motor-driven pump.
- April 2<sup>nd</sup> around 9:30 The water, of which the dose rate was at the level of more than 1,000mSv/h, was confirmed to be collected in the pit located near the Intake Channel of Unit 2. The outflow from the lateral surface of the pit into the sea was also confirmed.
- April 2<sup>nd</sup> 17:10 Started to transfer the water from the Condenser to the CST.
- April 3<sup>rd</sup> 12:12 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.
- April 3<sup>rd</sup> 13:47~14:30 20 bags of sawdust, 80 bags of high polymer absorbent and 3 bags of cutting-processed newspaper were put into the Pit for the Conduit.
- April 4<sup>th</sup> 7:08~7:11 Approximately 13kg of tracer (bath agent) was put in from the Pit for the Duct for Seawater Pipe.
- April 4<sup>th</sup> 11:05~13:37 Freshwater injection to SFP via FPC using the temporary motor-driven pump.
- April 5<sup>th</sup> 14:15 Tracer is confirmed to outflow through the permeable layer around the pit into the sea. 15:07 Started to inject coagulant.
- April 6<sup>th</sup> around 5:38 The water outflow from the lateral surface of the pit was confirmed to stopped.
- April 7<sup>th</sup> 13:29~14:34 Freshwater injection to SFP via FPC (Around 36 ton)
- April 9<sup>th</sup> 13:10 Completed transferring the water from the Condenser to CST.
- April 10<sup>th</sup> 10:37~12:38 Freshwater injection to SFP via FPC using the temporary motor-driven pump (Around 60 ton).
- April 11<sup>th</sup> around 17:16 Loss of external power supply due to an earthquake occurred. Water injection to the Reactor Core was suspended.
- April 11<sup>th</sup> 17:56 External power supply was recovered.
- April 11<sup>th</sup> 18:04 Resumed injecting water to the Reactor Core.

\*1 Residual Heat Removal System  
\*2 Emergency Diesel Generator  
\*3 Primary Containment Vessel  
\*4 Suppression Pool

**Current Conditions:** Fresh water is being injected to the Spent Fuel Pool and the Reactor Core

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 3 ( As of 6:00 April 15th, 2011 )

## Major Events after the Earthquake



March 11<sup>th</sup> 14:46 Under operation, Automatic shutdown by the earthquake  
 March 11<sup>th</sup> 15:42 Report based on the Article 10 (Total loss of A/C power)  
 March 13<sup>th</sup> 05:10 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)  
 March 13<sup>th</sup> 08:41 Started to vent.  
 March 13<sup>th</sup> 13:12 Started to inject seawater and borated water to the Reactor Core.  
 March 14<sup>th</sup> 05:20 Started to vent.  
 March 14<sup>th</sup> 07:44 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)  
 March 14<sup>th</sup> 11:01 Sound of explosion  
 March 16<sup>th</sup> around 08:30 White smoke generated.  
 March 17<sup>th</sup> 09:48~10:01 Water discharge by the helicopters of Self-Defense Force  
 March 17<sup>th</sup> 19:05~19:15 Water spray from the ground by High pressure water-cannon trucks of Police  
 March 17<sup>th</sup> 19:35~20:09 Water spray from the ground by fire engines of Self-Defense Force  
 March 18<sup>th</sup> before 14:00~14:38 Water spray from the ground by 6 fire engines of Self-Defense Force  
 March 18<sup>th</sup> ~14:45 Water spray from the ground by a fire engine of the US Military  
 March 19<sup>th</sup> 00:30 ~01:10 Water spray by Hyper Rescue Unit of Tokyo Fire Department  
 March 19<sup>th</sup> 14:10 ~ 20<sup>th</sup> 03:40 Water spray by Hyper Rescue Unit of Tokyo Fire Department  
 March 20<sup>th</sup> 11:00 Pressure of PCV rose(320kPa).Afterward fell.  
 March 20<sup>th</sup> 21:36 ~ 21<sup>st</sup> 03:58 Water spray by Hyper Rescue Unit of Tokyo Fire Department  
 March 21<sup>st</sup> around 15:55 .Grayish smoke generated and was confirmed to be died down at 17:55.  
 March 22<sup>nd</sup> 15:10 ~16:00 Water spray by Hyper Rescue Unit of Tokyo Fire Department and Osaka City Fire Bureau.  
 March 22<sup>nd</sup> 22:46 Lighting in the Central Control Room was recovered.  
 March 23<sup>rd</sup> 11:03 ~13:20 Injection of about 35 ton of sea water to the Spent Fuel Pool (SFP) via the Fuel Pool Cooling Line (FPC)  
 March 23<sup>rd</sup> around 16:20 Black smoke generated and was confirmed to be died down at around 23:30 and 24<sup>th</sup> 04:50.  
 March 24<sup>th</sup> 05:35~16:05 Injection of around 120 ton of sea water to SFP via FPC  
 March 25<sup>th</sup> 13:28~16:00 Water spray by Kawasaki City Fire Bureau supported by Tokyo Fire Department  
 March 25<sup>th</sup> 18:02 Started fresh water injection to the core.  
 March 27<sup>th</sup> 12:34~14:36 Water spray by Concrete Pump Truck  
 March 28<sup>th</sup> 17:40~31<sup>st</sup> around 8:40 Transferring the water from the Condensate Storage Tank (CST) to the Surge Tank of Suppression Pool Water (SPT)  
 March 28<sup>th</sup> 20:30 Switched to the water injection to the core using a temporary motor-driven pump.  
 April 3<sup>rd</sup> 12:18 The power supply to the temporary motor-driven pump was switched from the temporary power supply to the external power supply.  
 April 11<sup>th</sup> around 17:16 Loss of external power supply of Unit 1 and 2 occurred and water injection to the Reactor Core was suspended.  
 April 11<sup>th</sup> 18:04 External power supply of Units 1 and 2 recovered (April 11<sup>th</sup> 17:56). Resumed injecting water to the Reactor Core.  
 <Water spray by Concrete Pump Truck (Fresh water)>  
 March 29<sup>th</sup> 14:17~18:18, March 31<sup>st</sup> 16:30~19:33, April 2<sup>nd</sup> 09:52~12:54, April 4<sup>th</sup> 17:03~19:19, April 7<sup>th</sup> 06:53 ~08:53, April 8<sup>th</sup> 17:06~20:00, April 10<sup>th</sup> 17:15 ~19:15, April 12<sup>th</sup> 16:26~17:16, April 14<sup>th</sup> 15:56~16:32

**Current Conditions:** Fresh water is being injected to the Spent Fuel Pool and the Reactor Core

- \*1 Residual Heat Removal System
- \*2 Emergency Diesel Generator
- \*3 Primary Containment Vessel
- \*4 Suppression Pool

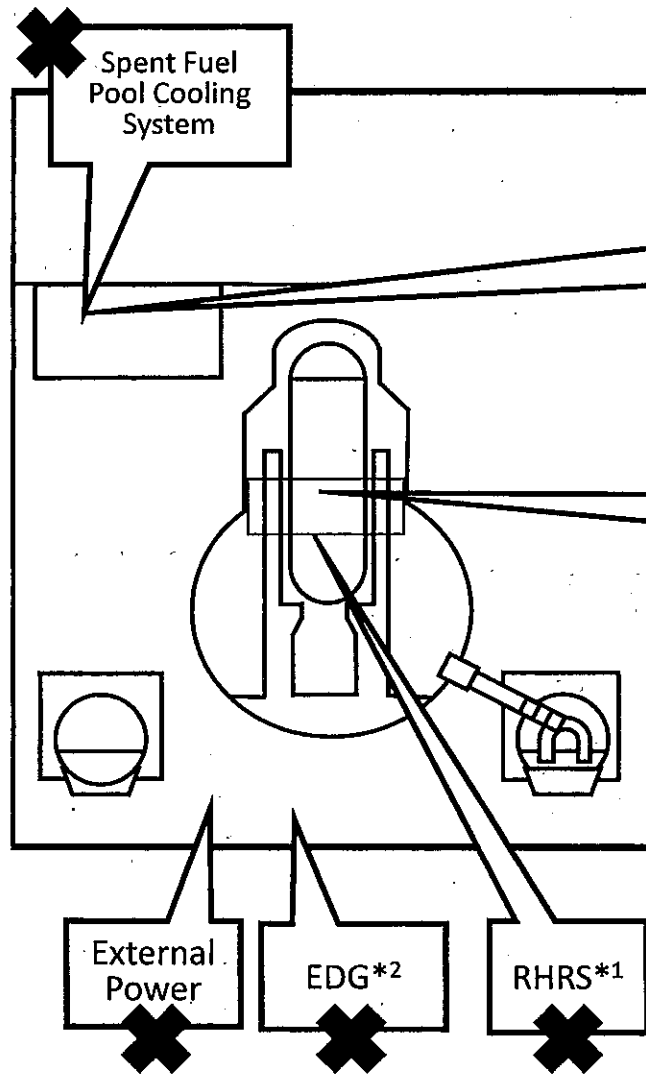
## Major Events after the Earthquake 2/2

April 12<sup>th</sup> 19:35 ~ April 13<sup>th</sup> 17:04 Transfer from the trench of the turbine building to the Condenser.

April 13<sup>th</sup> 11:00 Suspended the transfer for checking leaks, etc.

April 13<sup>th</sup> 13:15 ~ 14:55 Freshwater injection to SFP via FPC using the temporary motor-driven pump.

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 4 ( As of 6:00 April 15th, 2011 )



- \*1 Residual Heat Removal System
- \*2 Emergency Diesel Generator
- \*3 Reactor Pressure Vessel

## Major Events after the Earthquake

In periodic inspection outage when the earthquake occurred

March 14<sup>th</sup> 04:08 Water temperature in the Spent Fuel Pool (SFP), 84°C

March 15<sup>th</sup> 06:14 Confirmed the partial damage of wall in the 4<sup>th</sup> floor.

March 15<sup>th</sup> 09:38 Fire occurred in the 3<sup>rd</sup> floor. (12:25 extinguished)

March 16<sup>th</sup> 05:45 Fire occurred. TEPCO couldn't confirm any fire on the ground. (06:15)

March 20<sup>th</sup> 08:21~09:40 Water spray over SFP by Self-Defense Force

March 20<sup>th</sup> around 18:30~19:46 Water spray over SFP by Self-Defense Force

March 21<sup>st</sup> 06:37~08:41 Water spray over SFP by Self-Defense Force

March 21<sup>st</sup> around 15:00 Work for laying cable to Power Center was completed.

March 22<sup>nd</sup> 10:35 Power Center received electricity.

<Water spray by Concrete Pump Truck (Seawater)>

March 22<sup>nd</sup> 17:17~20:32, March 23<sup>rd</sup> 10:00~13:02, March 24<sup>th</sup> 14:36~17:30, March 25<sup>th</sup> 19:05~22:07, March 27<sup>th</sup> 16:55~19:25

March 25<sup>th</sup> 06:05~10:20 Sea water injection to SFP via the Fuel Pool Cooling Line (FPC)

March 29<sup>th</sup> 11:50 Lighting in the Central Control Room was recovered.

April 11<sup>th</sup> around 17:16 An earthquake occurred.

April 12<sup>th</sup> 12:00~13:04 Sampled the water in SFP.

< Water spray by Concrete Pump Truck (Fresh water)>

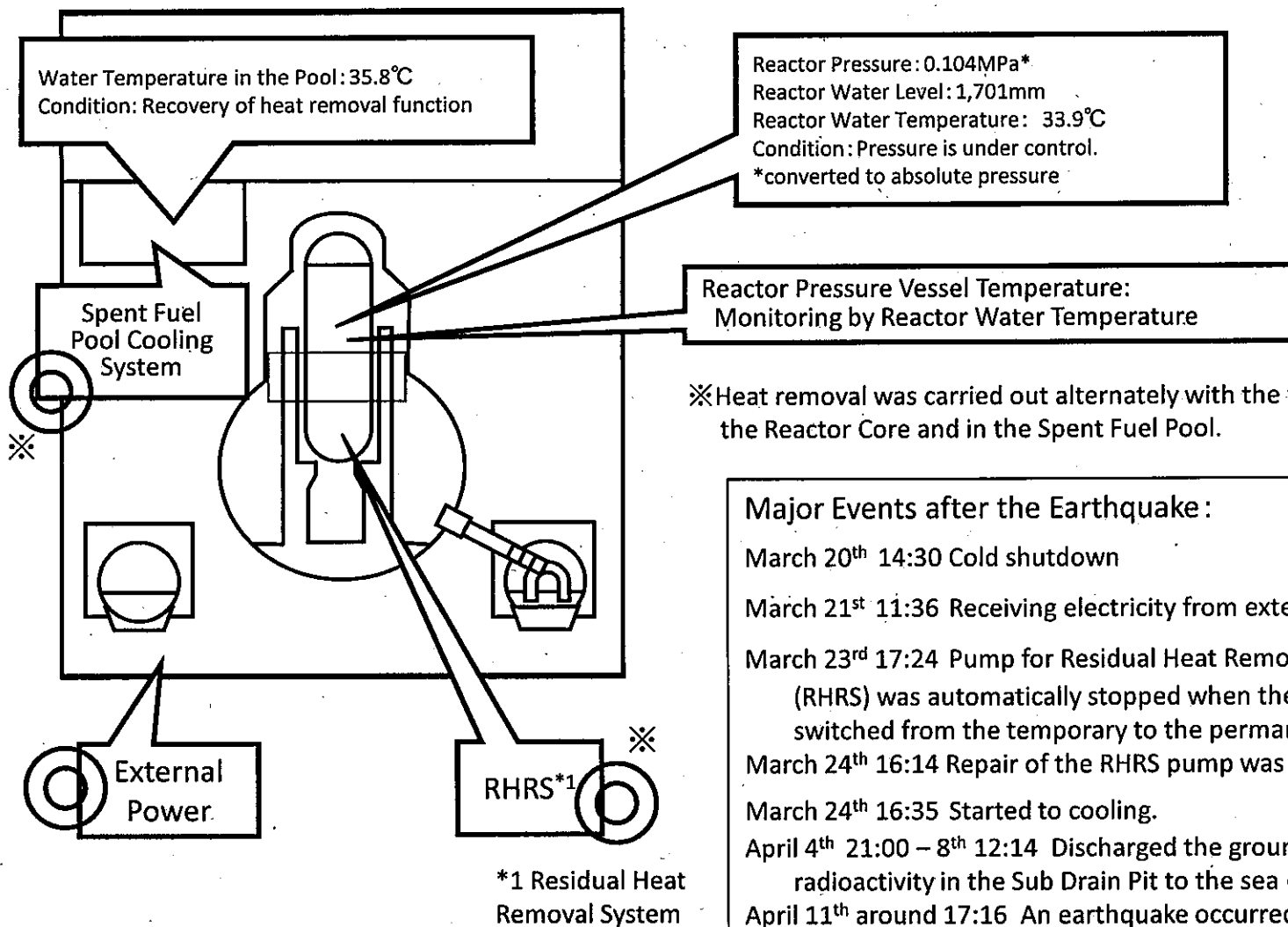
March 30<sup>th</sup> 14:04~18:33, April 1<sup>st</sup> 08:28~14:14, April 3<sup>rd</sup> 17:14~22:16, April 5<sup>th</sup> 17:35~18:22, April 7<sup>th</sup> 18:23~19:40, April 9<sup>th</sup> 17:07~19:24, April 13<sup>th</sup> 0:30~6:57

**Current Conditions: No fuel is in RPV\*3.  
Fresh water is being injected to the Spent Fuel Pool.**

(Editorial committee for Nuclear Energy Handbook, Nuclear Energy Handbook)

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5 ( As of 6:00 April 15th, 2011 )

In periodic inspection outage



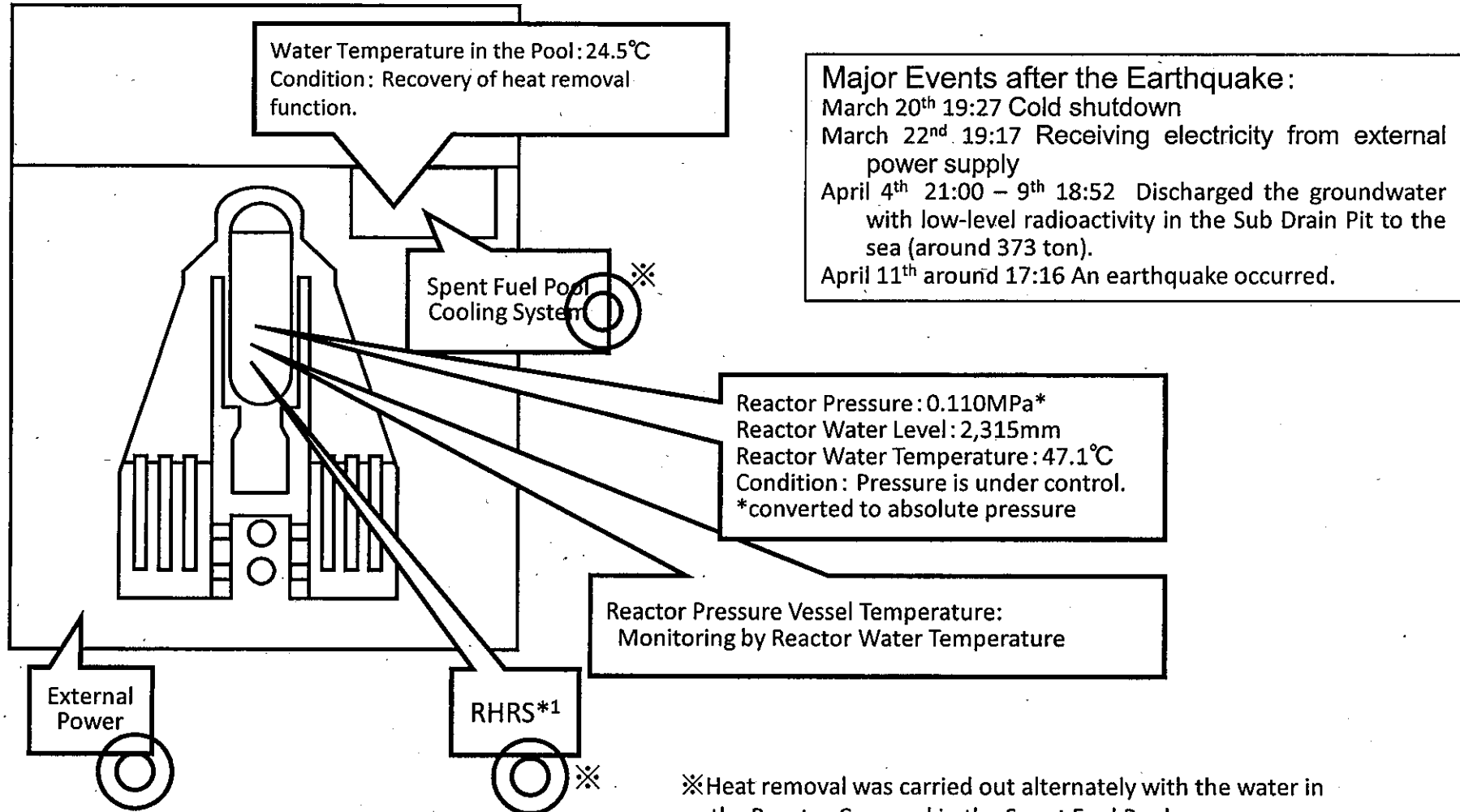
## Major Events after the Earthquake:

- March 20<sup>th</sup> 14:30 Cold shutdown
- March 21<sup>st</sup> 11:36 Receiving electricity from external power supply
- March 23<sup>rd</sup> 17:24 Pump for Residual Heat Removal Seawater System (RHRS) was automatically stopped when the power supply was switched from the temporary to the permanent.
- March 24<sup>th</sup> 16:14 Repair of the RHRS pump was completed.
- March 24<sup>th</sup> 16:35 Started to cooling.
- April 4<sup>th</sup> 21:00 – 8<sup>th</sup> 12:14 Discharged the groundwater with low-level radioactivity in the Sub Drain Pit to the sea (around 950 ton).
- April 11<sup>th</sup> around 17:16 An earthquake occurred.



# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 6 ( As of 6:00 April 15th, 2011 )

In periodic inspection outage



**Major Events after the Earthquake:**  
 March 20<sup>th</sup> 19:27 Cold shutdown  
 March 22<sup>nd</sup> 19:17 Receiving electricity from external power supply  
 April 4<sup>th</sup> 21:00 – 9<sup>th</sup> 18:52 Discharged the groundwater with low-level radioactivity in the Sub Drain Pit to the sea (around 373 ton).  
 April 11<sup>th</sup> around 17:16 An earthquake occurred.

\*1 Residual Heat Removal System

※Heat removal was carried out alternately with the water in the Reactor Core and in the Spent Fuel Pool.

Regarding the discharge of the waste water, of which the concentration of radioactive materials exceeds the concentration limit by the notification to the sea (Report)

April 15, 2011

Nuclear and Industrial Safety Agency

1. Course of the event

- (1) Tokyo Electric Power Co., Inc. (TEPCO) discharged the radioactive waste water of low concentration collected in the Sub Drain Pits of Units 5 and 6 of Fukushima Dai-ichi Nuclear Power Station (NPS) as well as the Radioactive Waste Treatment Facilities to the sea, as an emergency measure in accordance with paragraph 1 of Article 64 of the Nuclear Regulation Act.
- (2) Prior to this, Nuclear and Industrial Safety Agency (NISA) collected reports from TEPCO in advance regarding the views on discharge and impact assessment, etc. and confirmed those contents. NISA also requested technical advices from the Nuclear Safety Commission. As a result, NISA judged that there was no significant impact on human health and the discharge was imperative in order to avoid substantial risks. Furthermore, NISA directed TEPCO to survey and confirm the impact of the spread of radioactive materials by strengthening the monitoring of the sea and make efforts to share information, etc. (Press Released on April 4th)
- (3) Today, TEPCO reported the result of the discharge to the sea as well as the impact assessment, etc.

2. Outlines of the report by TEPCO

- (1) Regarding the stagnant water accumulated inside the Radioactive Waste Treatment Facilities, it was discharged to the sea on the south side of the Water Discharge Canal from 19:03 April 4th till 17:40 April 10th. (Amount of discharge was about 9,070t). Regarding the stagnant water collected in Sub Drain Pits of Units 5 and 6, it was discharged to the sea on the north side of the Water Discharge Canal from 21:00 April 4th till 18:52 April 9th (Amount of discharge was about 1,323t). The total amount of discharged stagnant water was 10,393 tons and the gross amount of

released radioactive materials was about  $1.5 \times 10^{11}$  Becquerels.

- (2) As a result of monitoring of the sea along the shore as well as off the coast, obvious deviation was not confirmed. The influence accompanied with the discharge of stagnant water to the sea is approximately 0.6 mSv/year of effective doses per year for adults even if they are supposed to eat fish and seaweeds etc. near the site every day.
- (3) Further observation on the results of ocean monitoring currently in operation and continuous implementation of impact assessment are needed.

### 3. Evaluation etc. by NISA

- (1) The relationship between the report by TEPCO dated April 4th and the items directed by NISA

According to the report by TEPCO dated April 4th, it was stated that the amount of stagnant water to be discharged would be 11,500 tons and the gross amount of radioactive materials to be released would be approximately  $1.7 \times 10^{11}$  Becquerels. However it was confirmed that the actual amount of discharged stagnant water and radioactive materials were below the amount above.

Regarding the strengthening of monitoring, it was confirmed that TEPCO carried it out through increasing the number of monitoring points off the coast (From 3 points to 6 points) as well as the frequency of monitoring (From once a day to twice a day). Also it was confirmed that even if compared to the data of transition since a week prior to the discharge, an outstanding deviation to the radioactive concentrations including ones in the vicinity of the NPS had not occurred as below.

- (a) The result of monitoring adjacent to Units 1 to 4 (Near the Southern Water Discharge Canal)

- Regarding this area, the high-level contaminated water has already been flowed out. (The outflow from the Pits for Conduit around the Intake Channel of Unit 2 on 2 April) The radioactive concentration in the peripheral area is still in the situation that it has once risen. (Iodine-131: Approximately 1~100 Bq/cm<sup>3</sup>, Cesium-137: Approximately 0.1~20 Bq/cm<sup>3</sup>)

- In this environment, the radioactive concentrations of contaminated

water discharged this time are 10 Bq/cm<sup>3</sup> of Iodine 131 and 5 Bq/cm<sup>3</sup> of Cesium 137, which are not outstandingly different from those of the surrounding environment.

- Even though some slight deviation is found, the results of measurement were obtained within the range almost similar to those measured before the discharge and none of the significant differences are found.

(b) The result of monitoring adjacent to Units 5 and 6 (Northern Water Discharge Canal)

- Regarding this area, the contaminated water with the highest level of radioactive dose of all the discharged water this time, has been discharged. (Approximately 20 Bq/cm<sup>3</sup> of Iodine 131 regarding the water in the Sub Drain Pit of Unit 6)
- Accompanied with the discharge this time, the radioactive concentrations were observed to have once risen. However they have shifted to decline.
- However the deviation of the radioactive concentrations are within the range almost similar to those measured before the discharge and none of the significant differences are found.

(c) The result of monitoring adjacent to the Fukushima Dai-ni NPS

- Accompanied with the discharge this time, the radioactive concentrations were observed to have once risen. However they have shifted to decline.
- However the deviation of the radioactive concentrations are within the range almost similar to those measured before the discharge and none of the significant differences are found.

(d) The results of monitoring at the points 15km off the coast.

- Compared to the environment adjacent to the Fukushima Dai-ichi NPS, the level of radiation is lower by numbers in two digits. Significant differences are not found accompanied with the discharge of contaminated water this time.
- The results measured at the newly installed 3 measuring points are at the almost same level as those at the existing 3 measuring points.

The addition of measuring points is thought to have contributed to the improvement of credibility of the measurement results.

Regarding the strengthening of the measurement to decrease the discharge to the sea that NISA directed, it was confirmed that TEPCO discharged from the Water Discharge Canal of NPS to the outskirts of the bay to heighten the effect of diffusion and dilution.

It was confirmed that TEPCO opened the information to the public appropriately by making press releases, etc. regarding the result of monitoring.

Observing the measured data at 30km off the coast that were obtained through the monitoring that the Ministry of Education, Culture, Sports, Science and Technology (MEXT) is carrying out, the data had a tendency to decrease as a whole. However the result that was obtained at the measuring points 30km off the coast of Fukushima Dai-ichi and Dai-ni NPS, had a tendency to increase. Even though it had not happened intentionally, as there is the course of the radioactive water of high concentration to leak from Fukushima Dai-ichi NPS, observation on the further trend is needed.

## (2) Actions to be taken

Regarding before and after of the discharge, even though outstanding deviation had not been confirmed, on the other hand, as there is the course of the radioactive water of high concentration to leak in the past from Fukushima Dai-ichi NPS without any intentions, continuous observation is necessary for its effects. Therefore, TEPCO needs to continue monitoring including the effects caused by the outflow of high level radioactive water as well as the impact assessment. NISA carries on confirming the results of monitoring, etc.

For this purpose, NISA gives directions to TEPCO as follows.

- ① Regarding the impact of the discharge to the sea this time, to implement the detailed assessment based on the amount of discharge this time and the results of monitoring, and to submit the outcome.
- ② In order to grasp more extensive effect in long term, to increase the numbers of monitoring points, to implement the monitoring, and to

announce publicly the results of the monitoring.

- ③ To sample fish, shellfish, etc. from the sea area in the vicinity of the NPS, to carry out the measurement of radiation dose, to assess the effect, and to announce publicly the result.

Discharge amount of the stagnant water with low-level radioactivity, etc. from the Fukushima Dai-ichi NPS

< Table 1 >

	Radioactive Concentration (Bq/cm <sup>3</sup> )				Discharge Amount (m <sup>3</sup> )	Periods of Discharge
	I-131	Cs-134	Cs-137	sum		
Stagnant water in the Radioactive Waste Treatment Facilities	6.3E+00	4.4E+00	4.4E+00	1.5E+01	9,070	4/4 19:03 - 4/6 6:30 4/6 18:00 - 4/8 22:20 4/8 23:45 - 4/10 17:40
Water in the Sub Drain Pit of the Unit 5	1.6E+00	2.5E-01	2.7E-01	2.1E+00	950	4/5 17:20 - 4/8 12:14
Water in the Sub Drain Pit of the Unit 6	2.0E+01	4.7E+00	4.9E+00	3.0E+01	373	4/4 21:00 - 4/9 18:52

※Radioactive Concentration (Bq/cm<sup>3</sup>) of the stagnant water in the Radioactive Waste Treatment Facilities is assessed by the maximum value of the samples in the two Facilities shown in the following table.

	Radioactive Concentration (Bq/cm <sup>3</sup> )			
	I-131	Cs-134	Cs-137	Sum
Stagnant water in the Radioactive Waste Treatment Facilities (In the Non-Controlled)	6.3E+00	2.7E+00	2.8E+00	1.2E+01
Stagnant water in the Radioactive Waste Treatment Facilities (In the Controlled Area)	8.7E-01	4.4E+00	4.4E+00	9.7E+00

< Table 2 >

	Total Amount of Radioactivity (Bq)			
	I-131	Cs-134	Cs-137	Sum
Stagnant water in the Radioactive Waste Treatment Facilities	5.7E+00	4.0E+10	4.0E+10	1.4E+11
Water in the Sub Drain Pit of the Unit 5	1.5E+09	2.4E+08	2.6E+08	2.0E+09
Water in the Sub Drain Pit of the Unit 6	7.5E+09	1.8E+09	1.8E+09	1.1E+10
Total	6.6E+10	4.2E+10	4.2E+10	1.5E+11

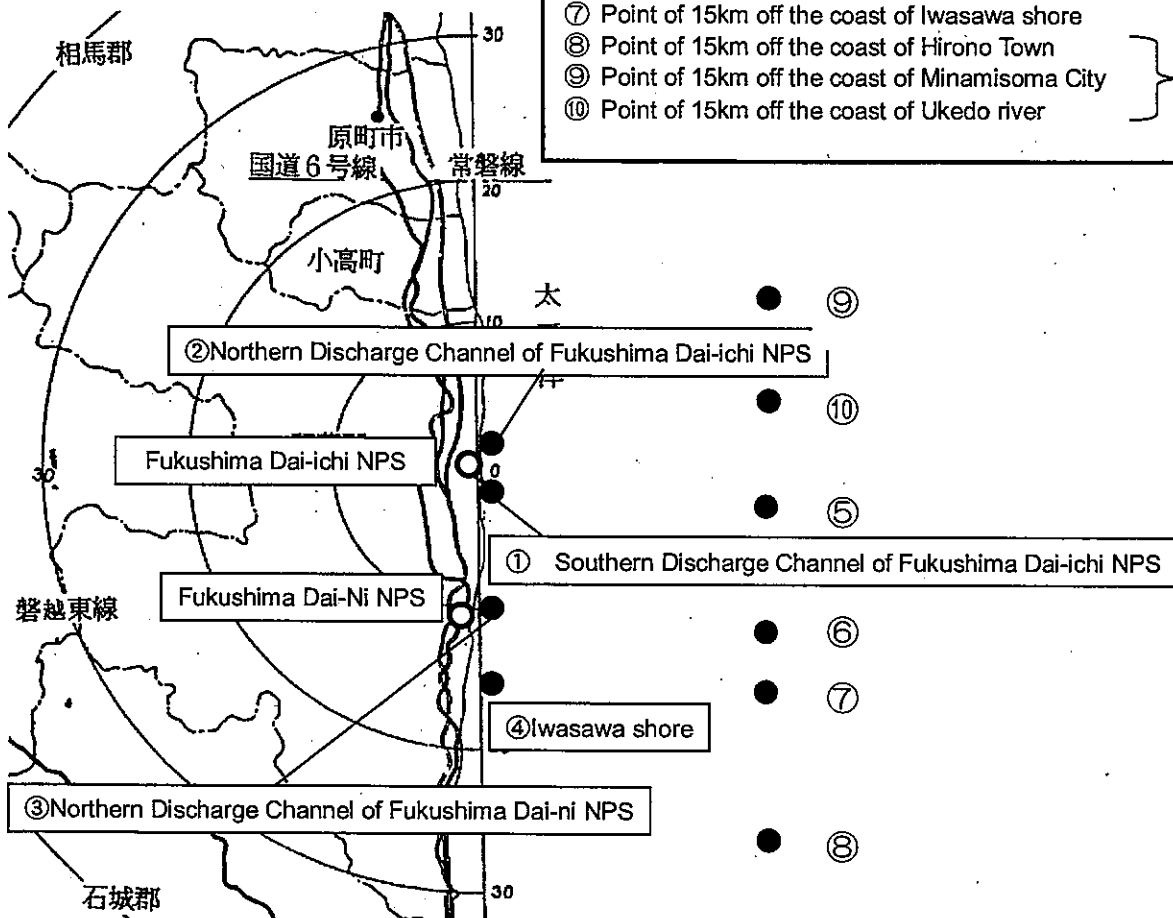
※0.0E - 0 means 0.0×10 - 0

## Sampling points

Measuring once a day at the following points

- ① Near Southern Water Discharge Canal of Fukushima Dai-ichi NPS (approx. 330m from South of Fukushima Dai-ichi NPS 1-4Us Water Discharge Canal)
- ② Approx. 30m Northward from the Fukushima Dai-ichi NPS 5-6Us Water Discharge Canal
- ③ Near Northern Water Discharge Canal of Fukushima Dai-ichi NPS (approx. 10km from Fukushima Dai-ichi NPS)
- ④ Near Iwasawa shore (approx. 16km from Fukushima Dai-ichi NPS)
- ⑤ Point of 15km off the coast of Fukushima Dai-ichi NPS
- ⑥ Point of 15km off the coast of Fukushima Dai-ichi NPS
- ⑦ Point of 15km off the coast of Iwasawa shore
- ⑧ Point of 15km off the coast of Hirono Town
- ⑨ Point of 15km off the coast of Minamisoma City
- ⑩ Point of 15km off the coast of Ukedo river

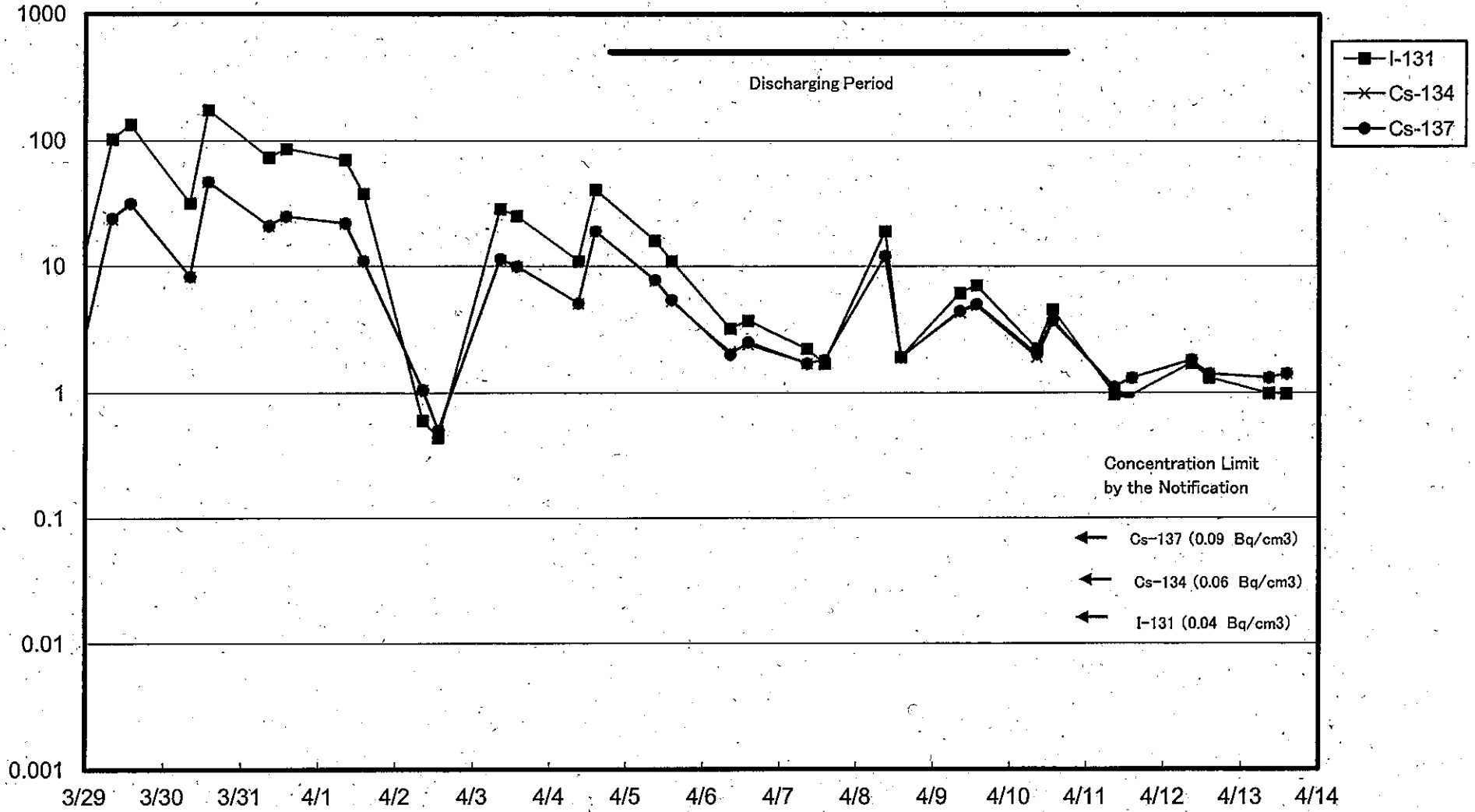
} Added sampling points



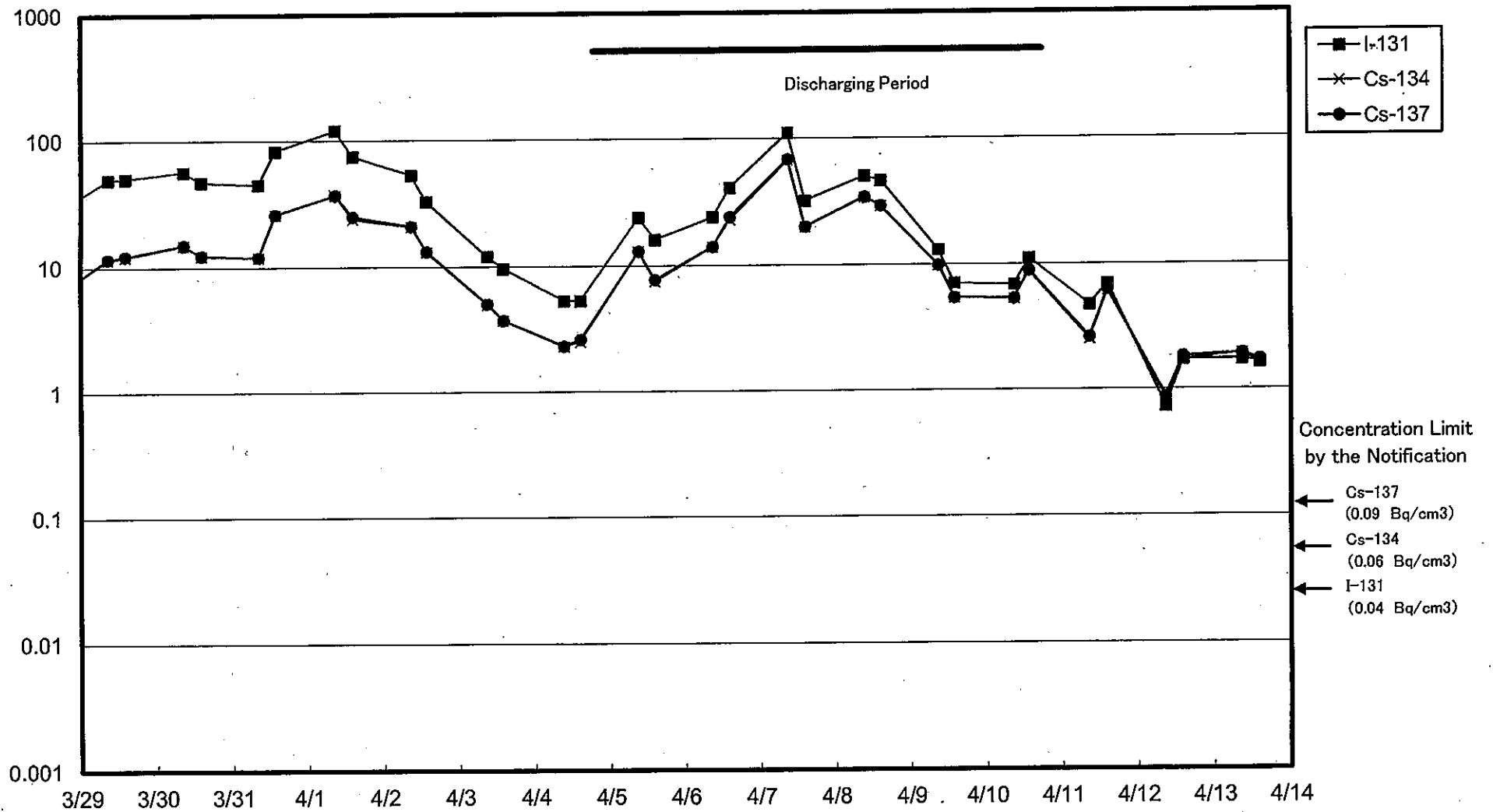
- |   |                   |
|---|-------------------|
| ⑤ Point of 15km off the coast of Fukushima Dai-ichi NPS | 37°25'N, 141°12'E |
| ⑥ Point of 15km off the coast of Fukushima Dai-ichi NPS | 37°20'N, 141°12'E |
| ⑦ Point of 15km off the coast of Iwasawa                | 37°15'N, 141°12'E |
| ⑧ Point of 15km off the coast of Hirono Town 15km       | 37°10'N, 141°12'E |
| ⑨ Point of 15km off the coast of Minamisoma City        | 37°35'N, 141°12'E |
| ⑩ Point of 15km off the coast of Ukedo river            | 37°30'N, 141°12'E |



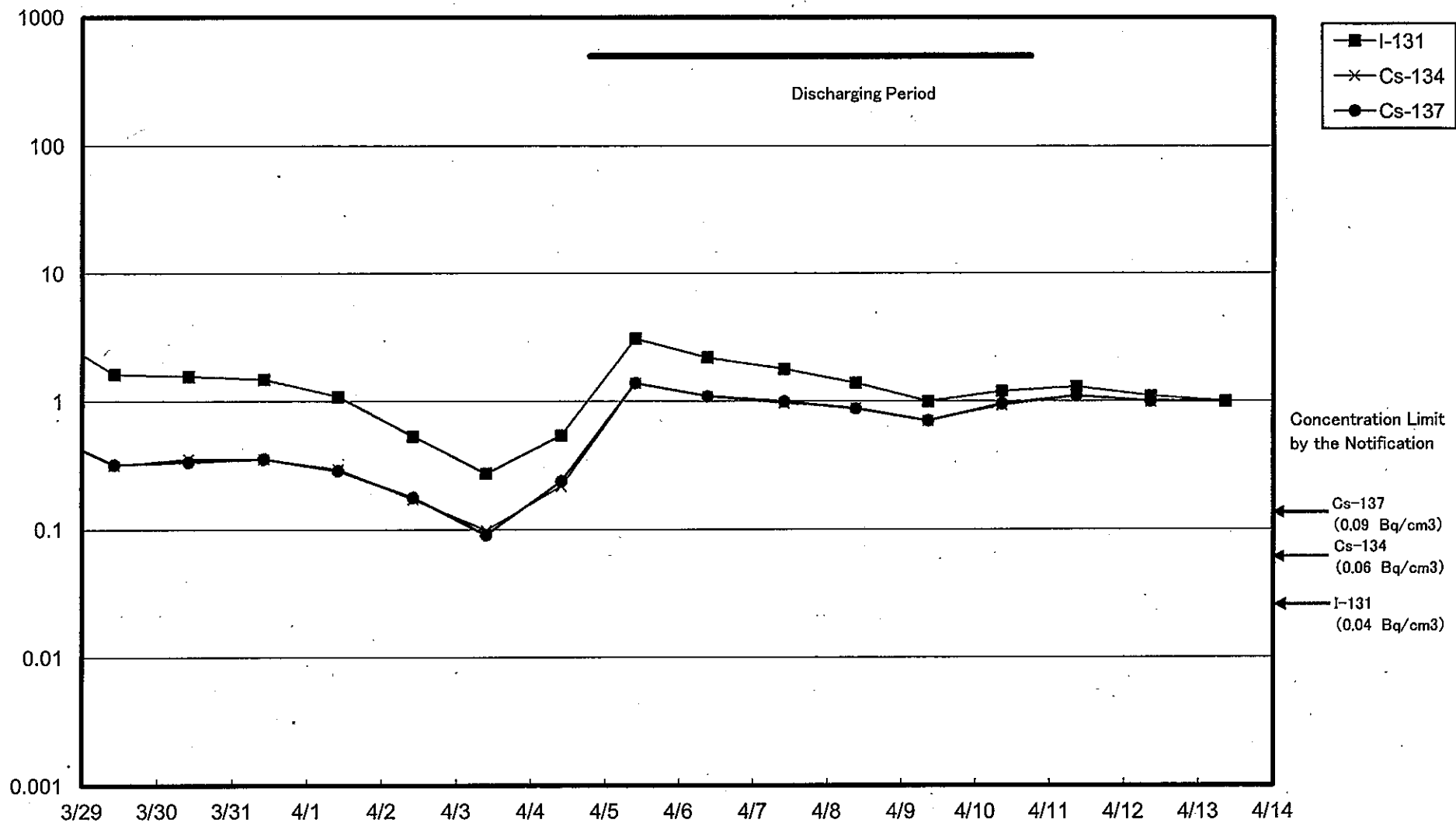
Radioactive Concentration of Seawater at Near Southern Water Discharge Canal of Fukushima Dai-ichi NPS (Bq/cm<sup>3</sup>)



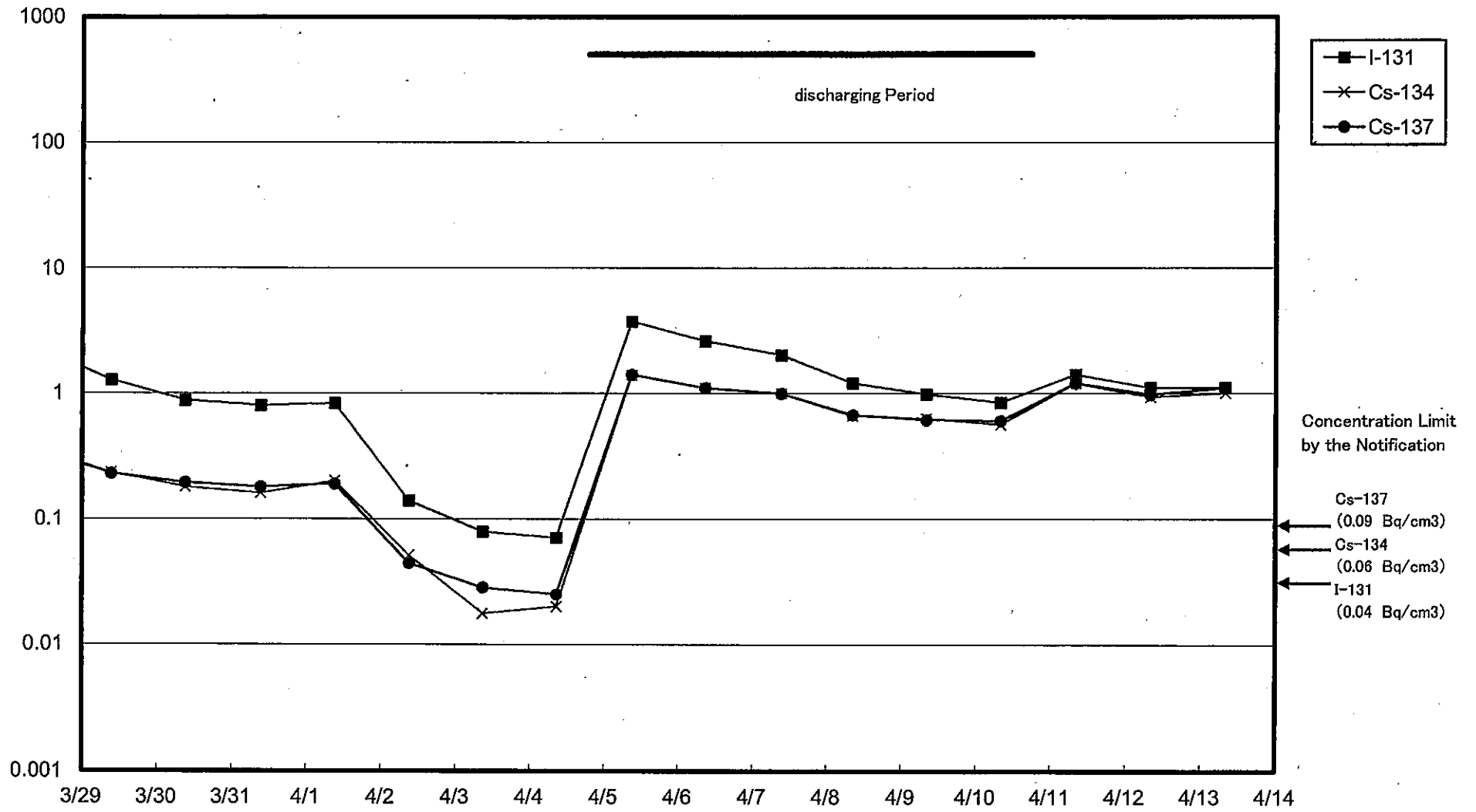
Radioactive Concentration of Seawater at the northern side of Water Discharge Canal of 5-6Us of Fukushima Dai-ichi NPS (Bq/ cm<sup>3</sup>)



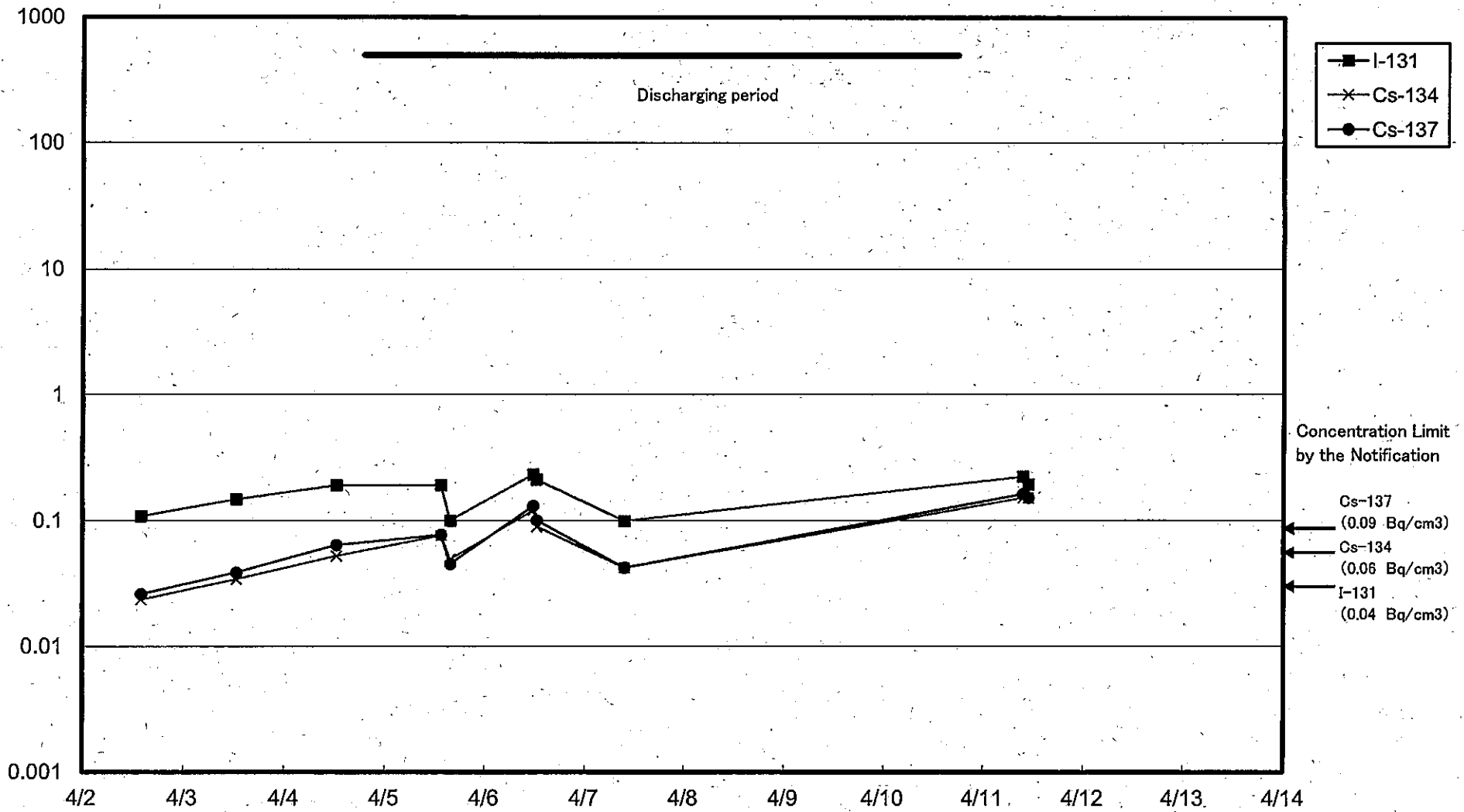
Radioactive Concentration of Seawater at Near Northern Water Discharge Canal of Fukushima Dai-ri NPS (Bq/cm<sup>3</sup>)



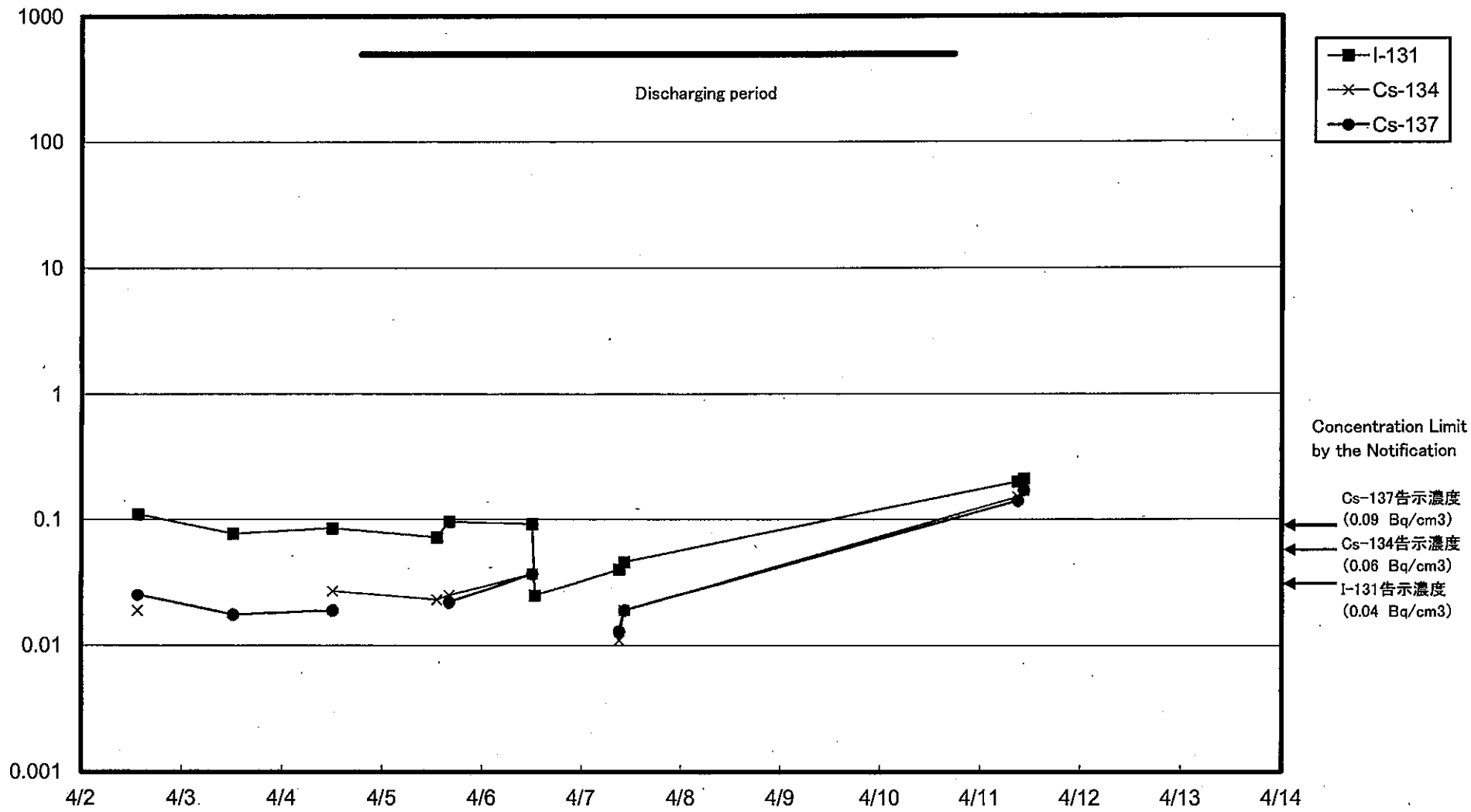
Radioactive Concentration of Seawater at Near Iwasawa Shore (Bq/cm<sup>3</sup>)



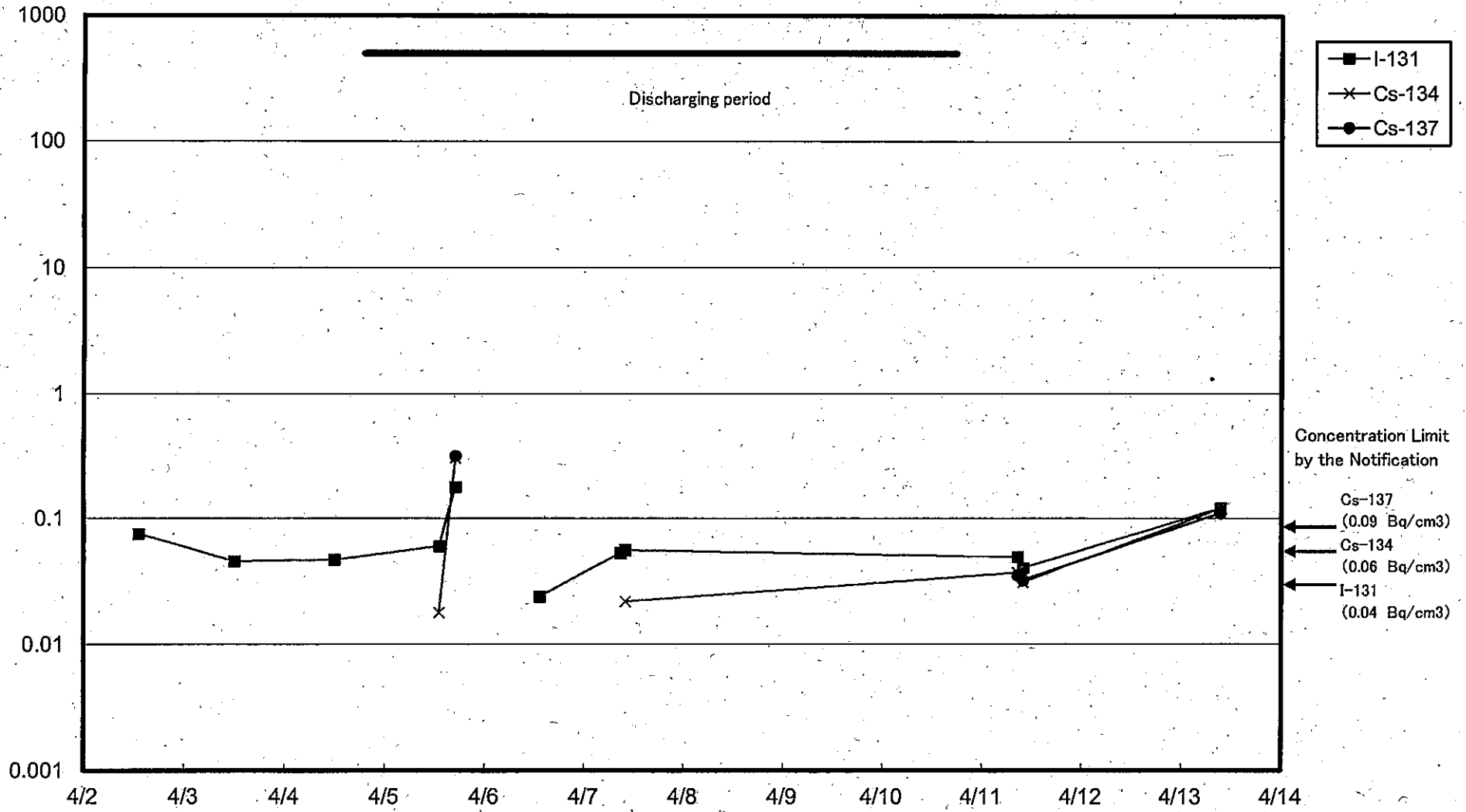
Radioactive Concentration of Seawater at the point of 15km off the coast of Fukushima Dai-ichi NPS (Bq/cm<sup>3</sup>)



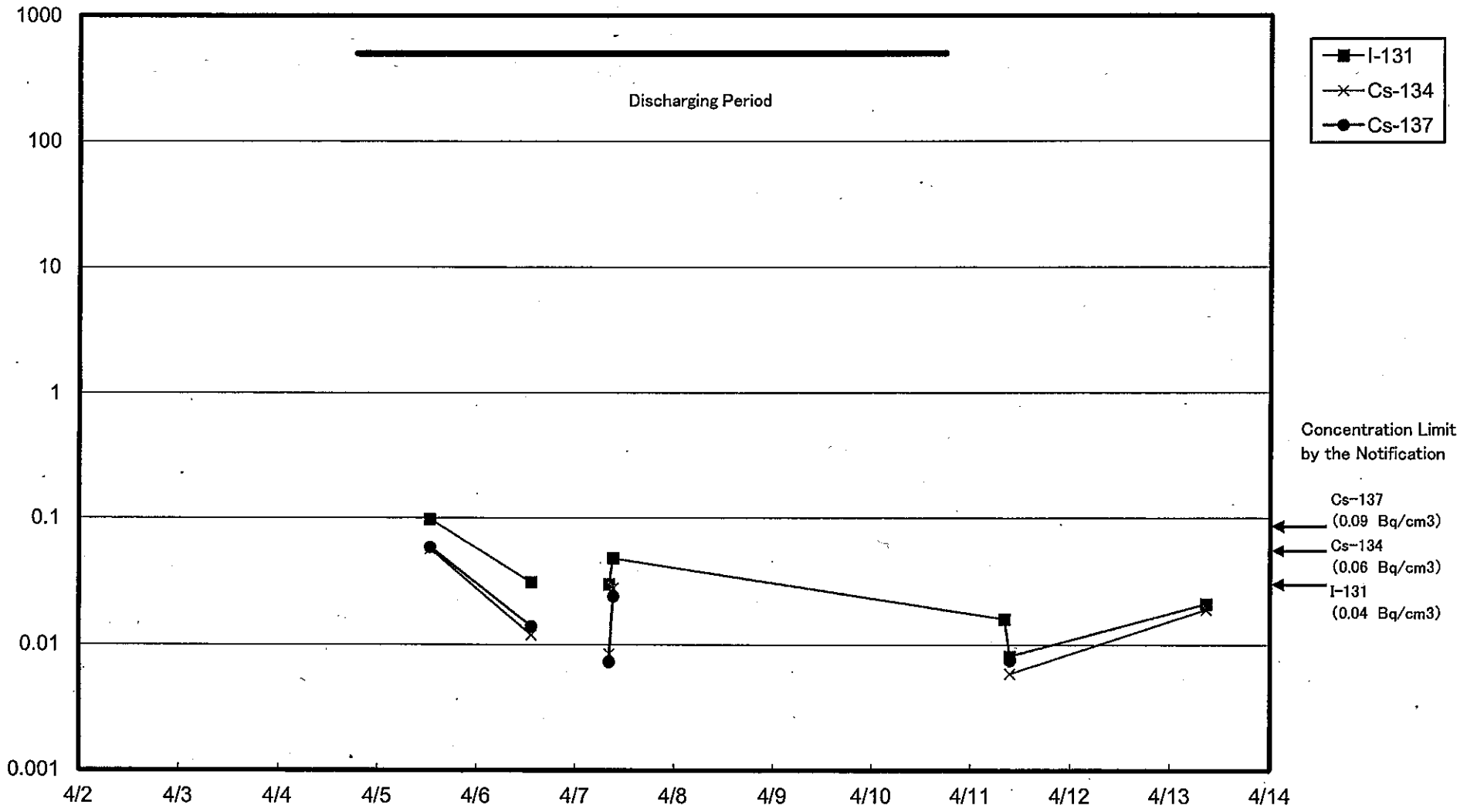
Radioactive concentration of Seawater at the point of 15km off the coast of Fukushima Dai-ni NPS (Bq/cm<sup>3</sup>)



Radioactive Concentration of Seawater at the point of 15km off the coast of Iwasawa shore (Bq/cm<sup>3</sup>)

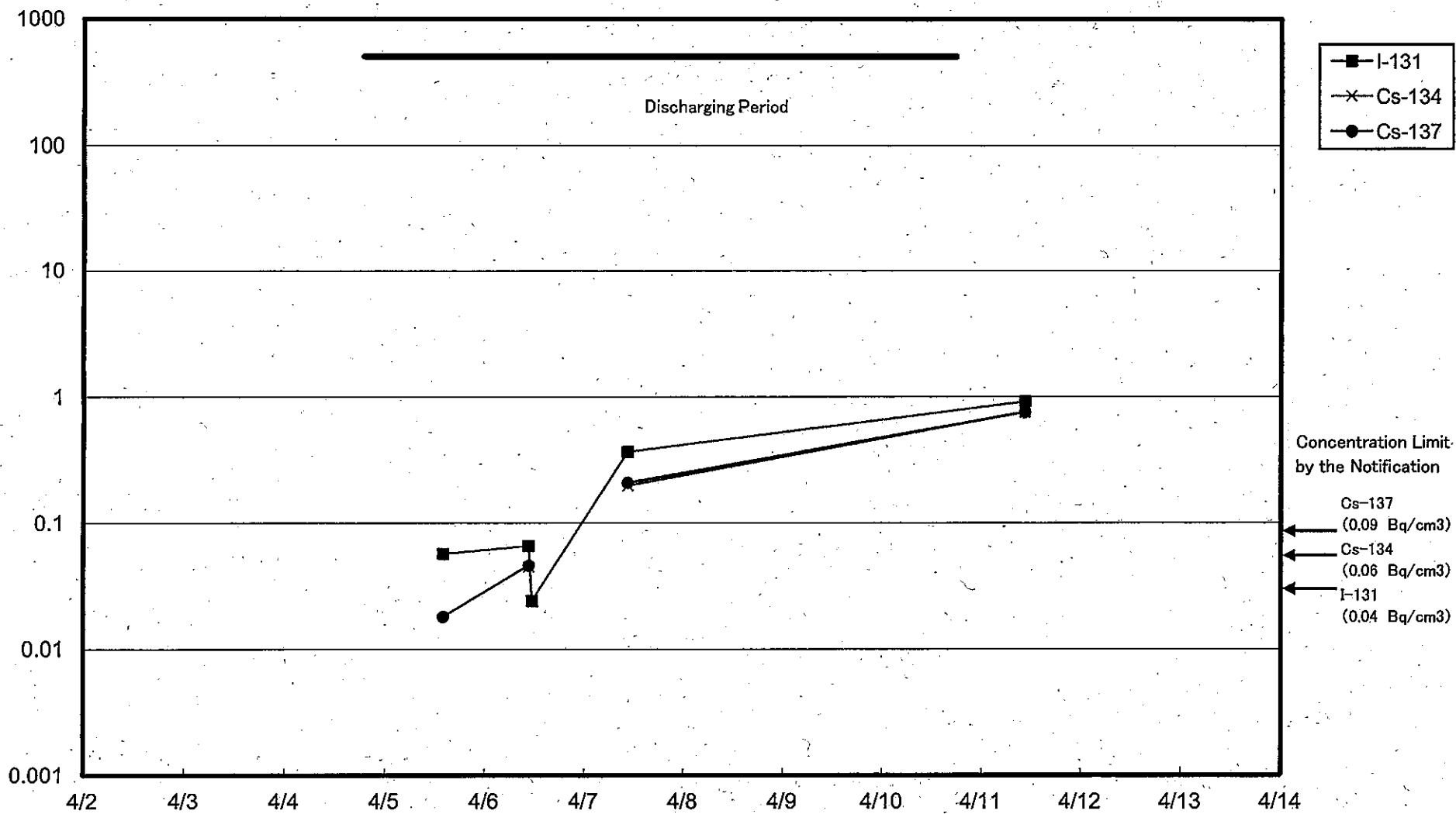


Radioactive Concentration of Seawater at the point of 15km off the coast of Hirono town (Bq/cm<sup>3</sup>)





Radioactive Concentration of Seawater at the point 15km off the coast of Minamisoma City (Bq/cm<sup>3</sup>)



Radioactive Concentration of Seawater at the point of 15km off the coast of Ukedo river (Bq/cm<sup>3</sup>)

