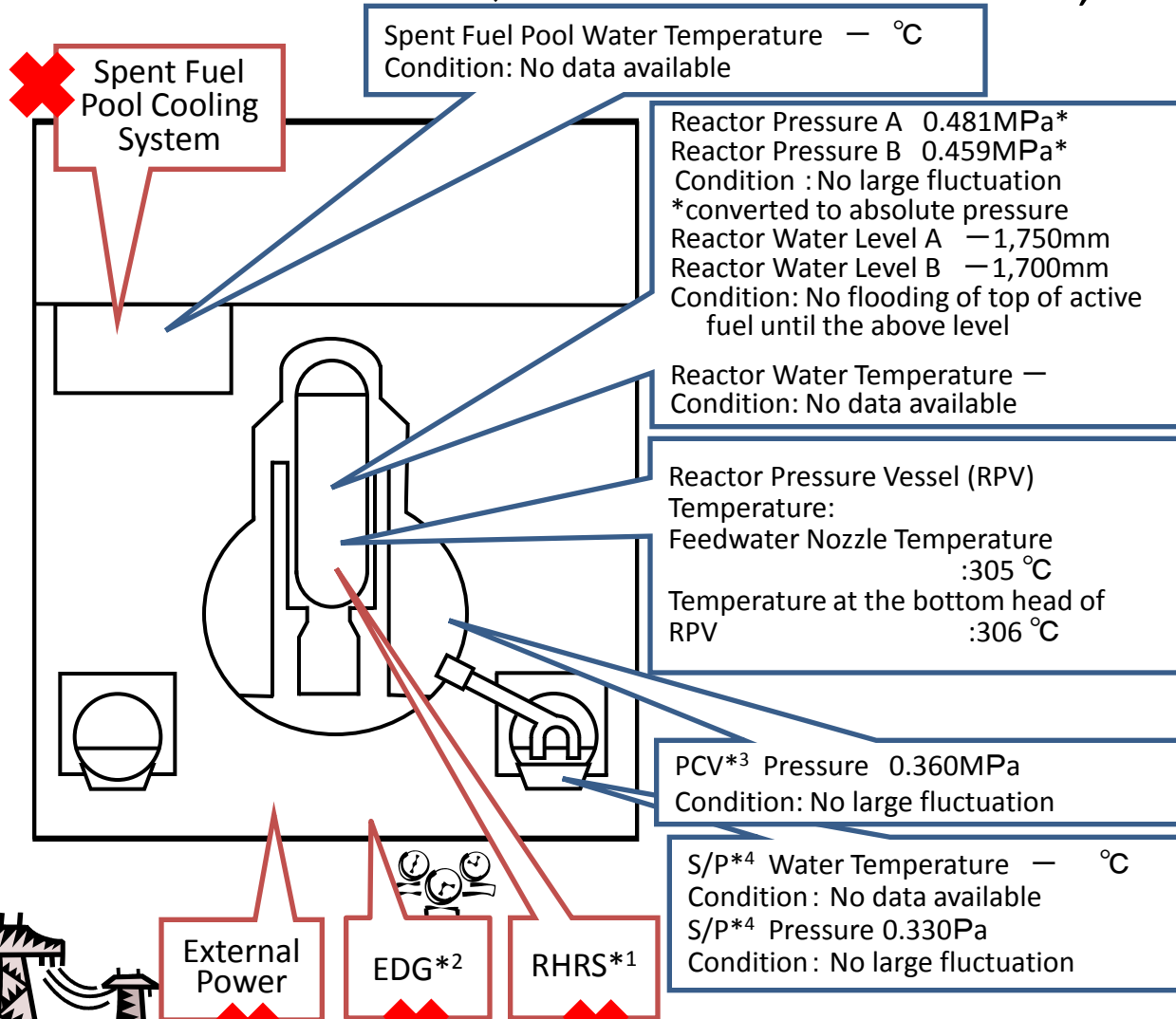


# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 1

(As of 18:00 March 23rd, 2011)



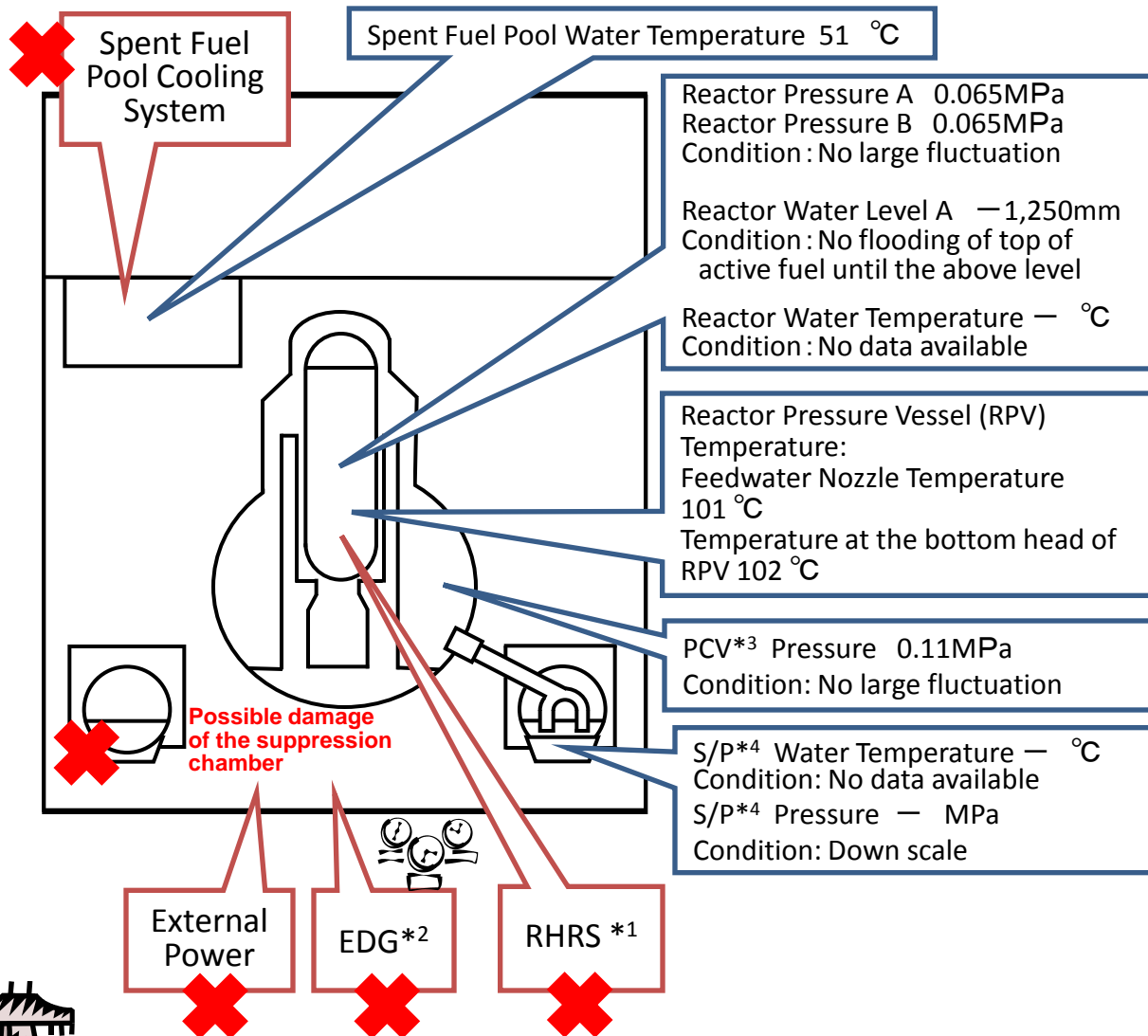
## Major Events after the earthquake

- 11<sup>th</sup> 14:46 : Under operation, Automatic shutdown by the earthquake
- 11<sup>th</sup> 15:42 : Report based on the Article 10 (Total loss of A/C power)
- 11<sup>th</sup> 16:36: Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System )
- 12<sup>th</sup> 1:20 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
- 12<sup>th</sup> 14:30 Started to vent
- 12<sup>th</sup> 15:36 Sound of explosion
- 12<sup>th</sup> 20:20 Started to inject seawater and borated water to core
- 23<sup>rd</sup> 02:33 The amount of injected water to the Rector Core was increased utilizing water supply line in addition to the Fire Extinguish line (2m<sup>3</sup>/h →18m<sup>3</sup>/h)

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

Current Conditions : Seawater is being injected to the core

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 2 (As of 18:00 March 23rd, 2011)



## Major Events after the earthquake

- 11<sup>th</sup> 14:46 Under operation, Automatic shutdown by the earthquake
- 11<sup>th</sup> 15:42 Report based on the Article 10 (Total loss of A/C power)
- 11<sup>th</sup> 16:36 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System )
- 14<sup>th</sup> 13:25 Occurrence of the Article 15 event (Loss of reactor cooling functions)
- 14<sup>th</sup> 22:50 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
- 15<sup>th</sup> 6:10 Sound of explosion
- 15<sup>th</sup> around 6:20 Possible damage of the suppression chamber
- 20<sup>th</sup> 15:05~17:20 Approximately 40 ton seawater injection to the Spent Fuel Pool (SFP) via Fuel Pool Cooling System (FPC)
- 20<sup>th</sup> 15:46 Power Center received electricity.
- 21<sup>st</sup> 18:22 White smoke generated. The smoke died down and almost invisible at 07:11 March 22<sup>nd</sup>.
- 22<sup>nd</sup> 16:07 Injection of around 18 tons of seawater to the Spent Fuel Pool

**Current Conditions: Seawater is being injected to the core**

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

# Conditions of Fukushima Dai-ichi Nuclear Power Station **Unit 3**

(As of 18:00 March 23rd, 2011)

## Major Events after the earthquake

- 11<sup>th</sup> 14:46 Under operation, Automatic shutdown by the earthquake
- 11<sup>th</sup> 5:42 Report based on the Article 10 (Total loss of A/C power)
- 13<sup>th</sup> 5:10 Occurrence of the Article 15 event (Inability of water injection of the Emergency Core Cooling System)
- 13<sup>th</sup> 9:20 Started to vent
- 14<sup>th</sup> 7:44 Occurrence of the Article 15 event (Unusual rise of the pressure in PCV)
- 14<sup>th</sup> 11:01 Sound of explosion
- 16<sup>th</sup> around 8:30 White smoke generated.
- 17<sup>th</sup> 9:48~10:01 Water discharge by the helicopters of Self-Defense Force (4 times)  
19:05~20:07 Water spray from the ground by High pressure water-cannon trucks (Police: once, Self-Defense Force: 5 times)
- 18<sup>th</sup> before 14:00~14:38 Water spray from the ground by 6 fire engines of Self-Defense Force  
~14:45 Water spray from the ground by a fire engine of the US Military
- 19<sup>th</sup> 0:00 ~01:00 Water spray by Tokyo Fire Department
- 19<sup>th</sup> 14:10 ~ 20<sup>th</sup> 3:40 Water spray by Tokyo Fire Department
- 20<sup>th</sup> 11:00 Pressure of PCV rose(320kPa).Afterward fell.
- 20<sup>th</sup> 20:39 ~ 21<sup>st</sup> 3:58 Water spray by Tokyo Fire Department
- 21<sup>st</sup> about 15:55 Grayish smoke generated and was confirmed to be died down at 17:55.
- 22<sup>nd</sup> 15:10 ~15:59 Water spray by Tokyo Fire Department
- 22<sup>nd</sup> 22:43 Lightning in the Central Control Room was recovered.
- 23<sup>rd</sup> 11:03 ~13:20 Injection of 35ton of sea water to the Spent Fuel Pool via the Cooling and Purification Line
- 23<sup>rd</sup> around 16:20 Black smoke generated.

Spent Fuel Pool Water Temperature — °C  
Condition : No data available

Spent Fuel Pool Cooling System

Reactor Pressure C -0.003MPa  
Reactor Pressure A 0.135MPa  
Condition : Tend to decrease

Reactor Water Level A —1,800mm  
Reactor Water Level B —2,300mm  
Condition : No flooding of top of active fuel until the above level

Reactor Water Temperature — °C  
Condition : No data available

Reactor Pressure Vessel (RPV) Temperature  
Feedwater Nozzle Temperature : 304.8°C  
Temperature at the bottom head of RPV : 225.5°C

PCV\*3 Pressure 0.100MPa  
Condition: No large fluctuation

S/P\*4 Water Temperature — °C  
Condition : No data available  
S/P\*4 Pressure — MPa  
Condition: Down scale

External Power

EDG \*2

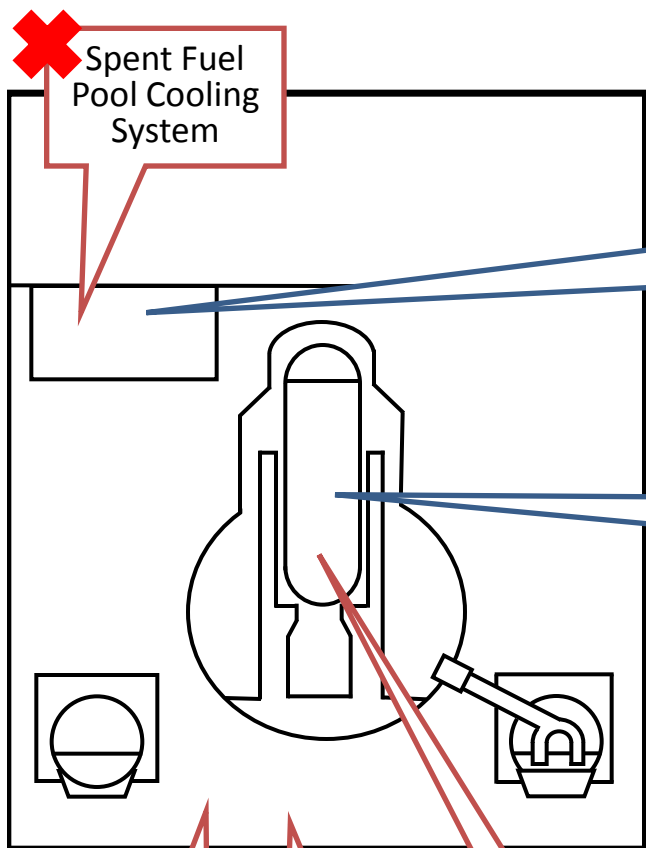
RHRS\*1

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

Current Conditions : Water spray to Spent Fuel Pool and sea water injection to the Reactor Core

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 4

(As of 18:00 March 23rd, 2011)



In periodic inspection outage

Water temperature in the pools is not available

No fuel is inside the reactor core

Major events after the earthquake

In periodic inspection outage when the earthquake occurred.  
11th 15:42 Report based on the Article 10 (Total loss of A/C power)  
14<sup>th</sup> 4:08 Water temperature in the Spent Fuel Pool, 84°C  
15<sup>th</sup> 6:14 Damage of wall in the 4<sup>th</sup> floor confirmed  
15<sup>th</sup> 9:38 Fire occurred in the 3<sup>rd</sup> floor. (12:25 extinguished)  
16<sup>th</sup> 5:45 Fire occurred. TEPCO couldn't confirm any fire on the ground. (6:15)  
20<sup>th</sup> 9:43 Water spray over the Spent Fuel Pool by Self-Defense Force  
20<sup>th</sup> around 18:30~19:46 Water spray over the Spent Fuel Pool by Self-Defense Force  
21<sup>st</sup> 6:37~8:41 Water spray over the Spent Fuel Pool by Self-Defense Force  
21<sup>st</sup> about 15:00 Work for laying cable to Power Center was completed.  
22<sup>nd</sup> 10:35 Power Center received electricity  
22<sup>nd</sup> 17:17~20:32 Water spray by Concrete Pump Track  
23<sup>rd</sup> 10:00~13:02 Water spray by Concrete Pump Track

External Power

EDG\*2

RHRS\*1

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

Current Conditions: No fuel is in RPV\*3. Water was evaluated to remain in the Pool (by TEPCO)

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5 (As of 18:00 March 23rd, 2011)

In periodic inspection outage

Water Temperature in the Pool: 41.1°C  
Condition: Recovery of heat removal function

Spent Fuel Pool Cooling System

Reactor Pressure: 0.108MPa\*  
Reactor Water Level: 1,723mm  
Reactor Water Temperature: 40.9°C  
Condition: Pressure is under control.  
\*converted to absolute pressure

Reactor Pressure Vessel Temperature:  
Monitoring by Reactor Water Temperature

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

External Power

RHRS  
\*1

\*1 Residual Heat Removal System

Current Conditions:  
Cold shutdown at 14:30 March 20<sup>th</sup>.  
Receiving electricity from external power supply from 11:36 March 21<sup>st</sup>.



# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 6 (As of 18:00 March 23rd, 2011)

In periodic inspection outage

Current Conditions:

Cold shutdown at 19:27 March 20<sup>th</sup>

Receiving electricity from external power supply from 19:17 March 22<sup>nd</sup>.

Water Temperature in the Pool: 19.0°C  
Condition: Recovery of heat removal function.

Spent Fuel Pool Cooling System ❖

Reactor Pressure : 0.109MPa\*  
Reactor Water Level : 2,758mm  
Reactor Water Temperature : 75.7°C  
Condition : Pressure is under control.  
\*converted to absolute pressure

Reactor Pressure Vessel Temperature:  
Monitoring by Reactor Water Temperature

External Power ❖

RHRS\*1 ❖

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

\*1 Residual Heat Removal System

