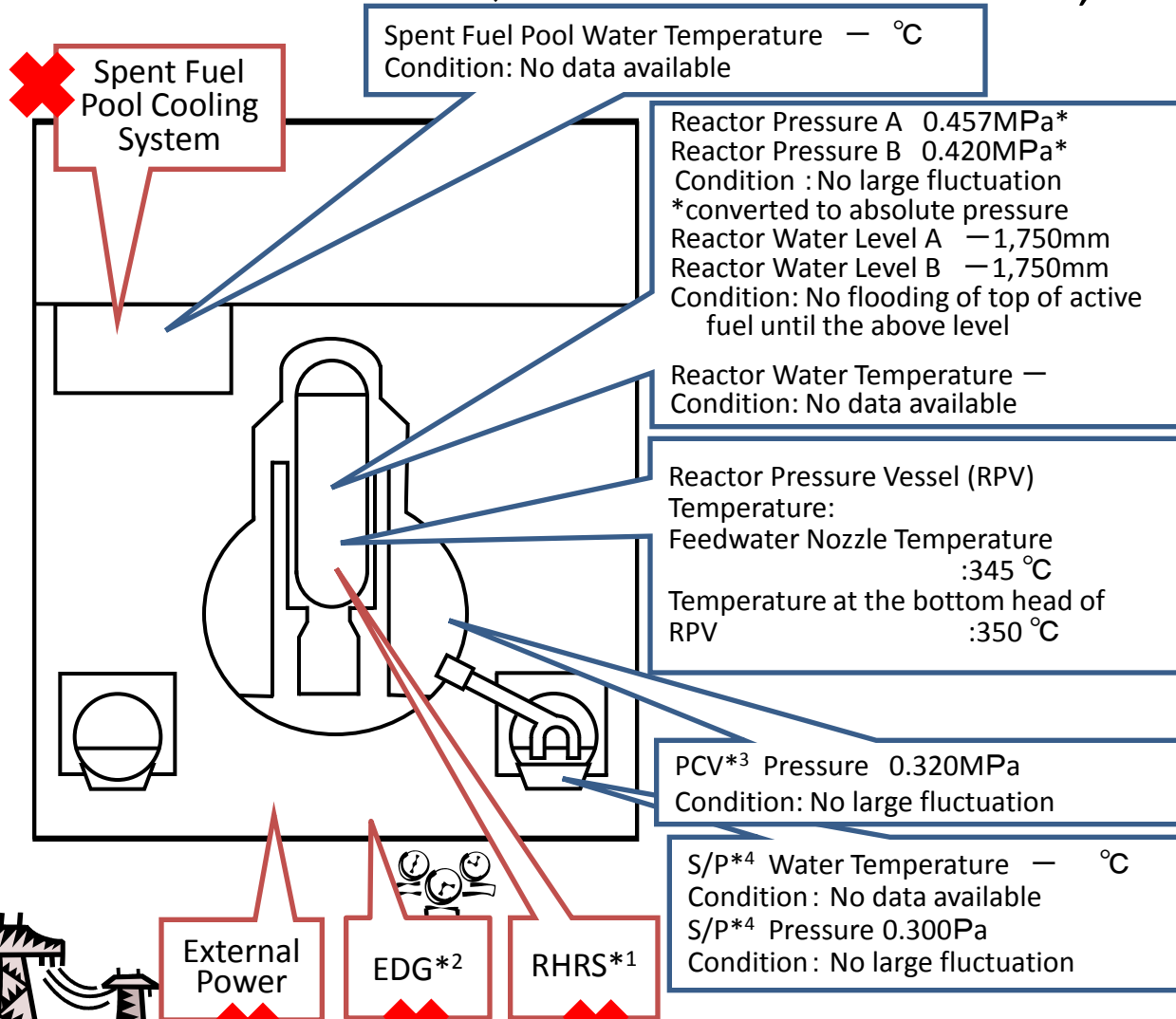


# Conditions of Fukushima Dai-ichi Nuclear Power Station **Unit 1**

(As of 12:00 March 23rd, 2011)



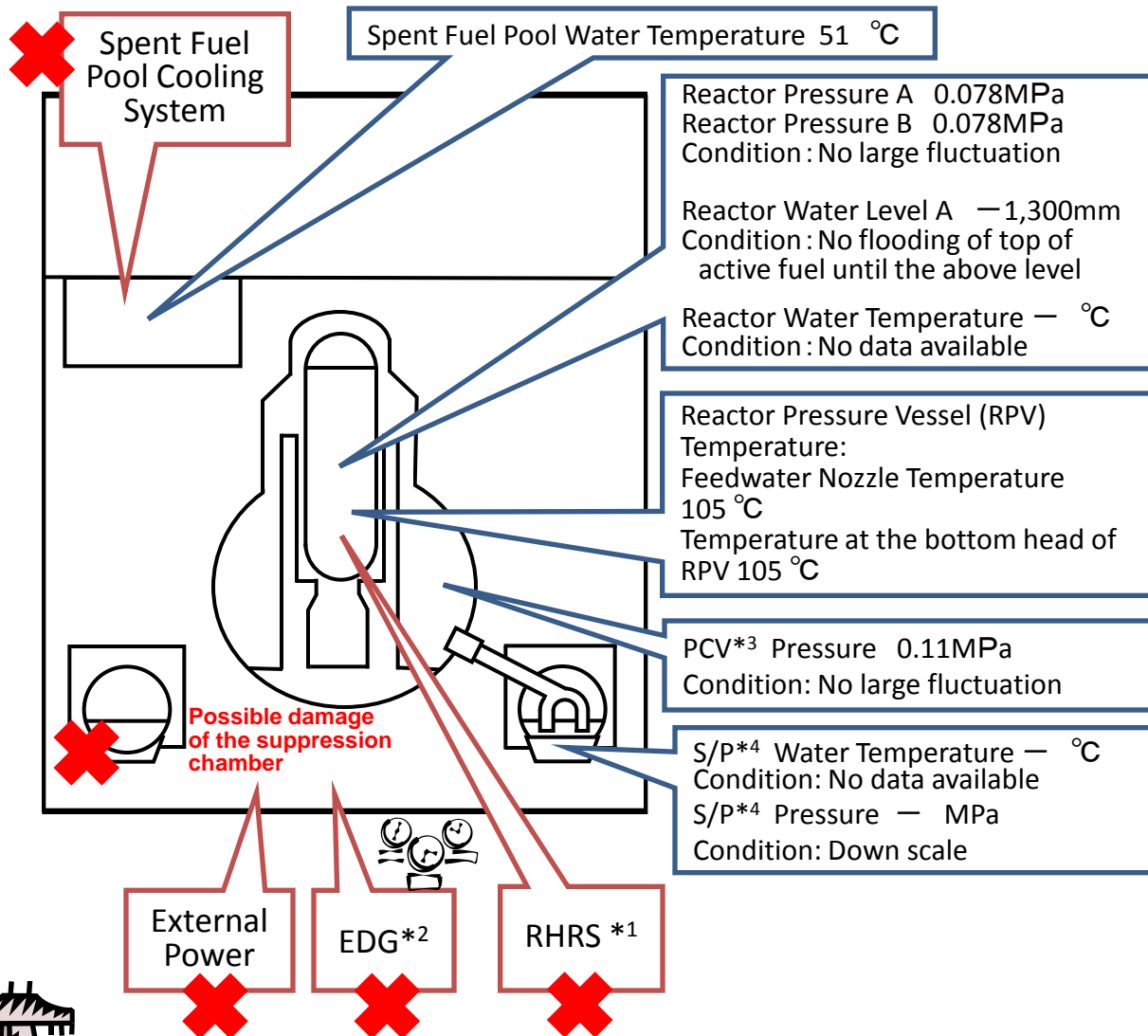
## Major Events after the earthquake

- 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 12:00 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.
- 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**

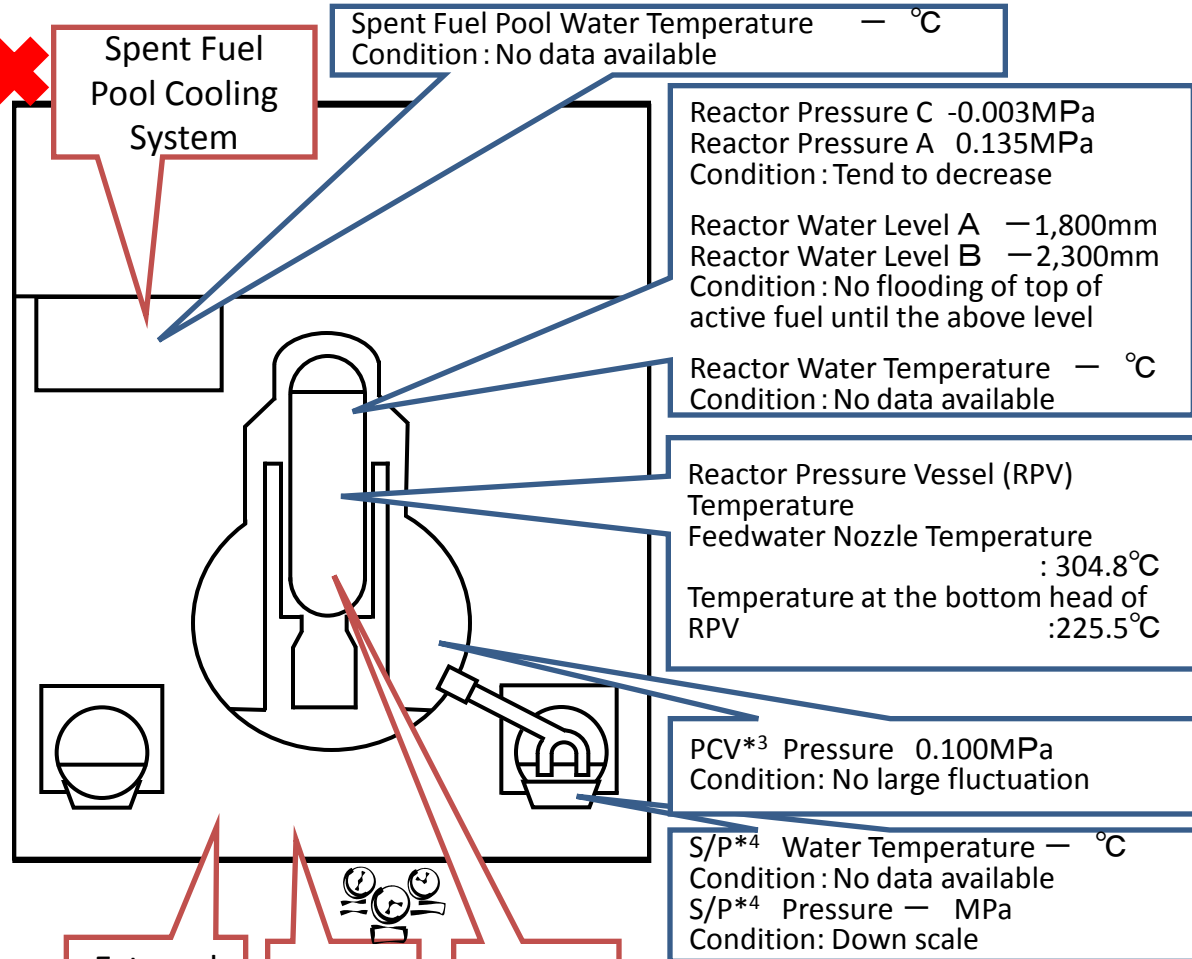
- \*1 Residual Heat Removal System
- \*2 Emergency Diesel Generator
- \*3 Primary Containment Vessel
- \*4 Suppression Pool

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

(As of 12:00 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 Lightening in the Central Control Room was recovered.

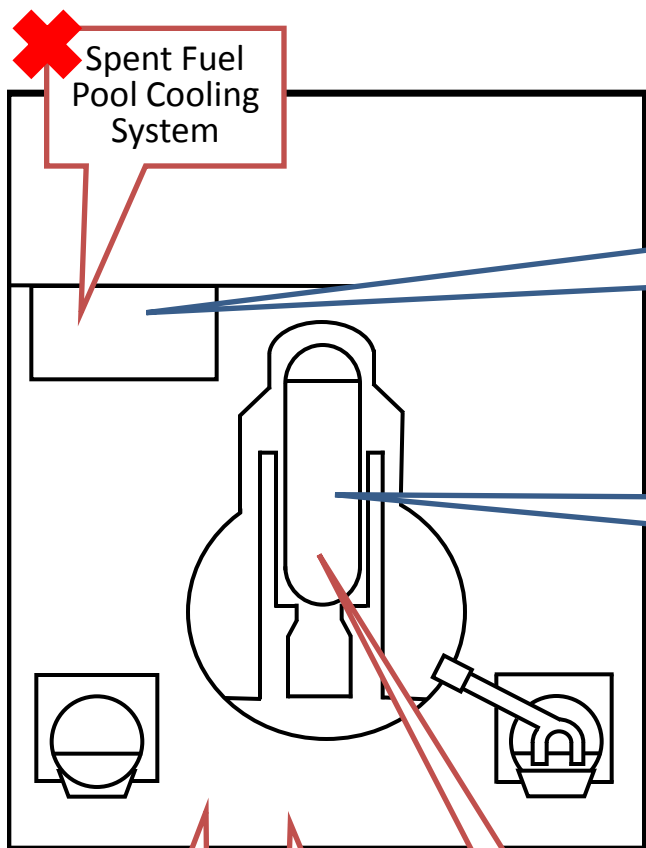


**Current Conditions: Water spray to Spent Fuel Pool and sea water injection to the Reactor Core**

\*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 4

(As of 12:00 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~ Water spray by Concrete Pump Track

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

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

# Conditions of Fukushima Dai-ichi Nuclear Power Station Unit 5 (As of 12:00 March 23rd, 2011)

In periodic inspection outage

Water Temperature in the Pool: 39.0°C  
Condition: Recovery of heat removal function

Spent Fuel Pool Cooling System

Reactor Pressure: 0.108MPa\*  
Reactor Water Level: 1.744mm  
Reactor Water Temperature: 30.7°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 12:00 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: 20.0°C  
Condition: Recovery of heat removal function.

Spent Fuel Pool Cooling System ❖

Reactor Pressure : 0.109MPa\*  
Reactor Water Level : 2,701mm  
Reactor Water Temperature : 64.6°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

