Fukushima Daiichi Nuclear Power Station Plant Parameters

[Note]

Some indicators might not be functioning properly beyond the normal condition for usage affected by the earthquake and subsequent events. We comprehensively evaluate situation in plants using all the available information from indicators and also focusing on trends, taking uncertainty

of indicators into consideration.

$\Delta s$ of $06^{\circ}$	D6:00 on September 15					
Unit	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Status of water injection to the reactor	Fresh water feeding Feed water system 3.6m <sup>3</sup> /h (as of 5:00 , 9/15)	Fresh water feeding Feed water system 4.0m <sup>3</sup> /h, CS line 1.0m <sup>3</sup> /h (as of 5:00 , 9/15)	Fresh water feeding Feed water system 4.0m <sup>3</sup> /h, CS line 3.0m <sup>3</sup> /h (as of 5:00 , 9/15)		%2 (Heat removal of the reactor is functioning, Water injection is unnecessary)	
Water level in the reactor	Fuel range A: Downscale Fuel range B:-1700 mm X3 (as of 5:00 , 9/15)	Fuel range A:-1850 mm %3 Fuel range B:-2200 mm %3 (as of 5:00 , 9/15)	Fuel range A:-2250 mm %3 Fuel range B:-2000 mm %3 (as of 5:00 , 9/15)		Stoppage range 1889mm (as of 6:00 , 9/15)	Stoppage range 1429mm (as of 6:00 , 9/15)
Pressure in the reactor	System A:0.015 MPa g System B:-MPa g (as of 5:00 , 9/15)	System A:0.022 MPa g System B:-MPa g (as of 5:00 , 9/15)	System A:-0.185 MPa g         (A) %3           System B:-0.106 MPa g         (C) %3           (as of 5:00, 9/15)         (C) %3		0.005 MPa g (as of 6:00 , 9/15)	0.010 MPa g (as of 6:00 , 9/15)
Water temperature of the reactor	(Since there is no water inflow in the system it is impossible to collect the data)				27.9 °C (as of 6:00 , 9/15)	29.8 °C (as of 6:00 , 9/15)
Temperature around the reactor vessel	Temperature in feed-water nozzle:89.9 °C Temperature at reactor vessel bottom:84.9 °C (as of 5:00 , 9/15)	Temperature in feed-water nozzle:107.5 °C Temperature at reactor vessel bottom:115.5 °C (as of 5:00 , 9/15)	Temperature in feed-water nozzle:106.3 °C Temperature at reactor vessel bottom:102.5 °C (as of 5:00 , 9/15)	*2 (Monitoring is unnecessary since all fuel are	%2 (monitoring through water temperature of the reactor)	
Pressure in D/W · S/C	D/ <u>W:0.1230 MPa abs*</u> S/C:0.100 MPa abs (as of 5:00 , 9/15)	D/W:0.123 MPa abs S/C: Downscale	D/W:0.1015 MPa abs S/C:0.1817 MPa abs (as of 5:00 , 9/15)	takeoff)	%2 (Monitoring is unnecessary since heat removal of reactor is functioning.)	
D/W Atmosphere temperature	RPV bellow seal:84.5 °C HVH return:86.6 °C (as of 5:00 , 9/15)	RPV bellow seal:190°C %3 HVH return:117°C (as of 5:00 , 9/15)	RPV bellow seal:115.4 °C ———————————————————————————————————			
CAMS radiation monitor	D/W(A):0.00E+00Sv/h	D/W(A):9.89E+00Sv/h (B):4.99E+00Sv/h S/C(A):1.15E-01Sv/h (B):5.80E+00Sv/h (as of 5:00 , 9/15)	D/W(A):3.41E+00Sv/h	_		
Temperature in S/C	System A:45.7 °C System B:45.4 °C (as of 5:00 , 9/15)	System A:47.7 °C System B:47.6 °C (as of 5:00 , 9/15)	System A:44.5 °C System B:44.8 °C (as of 5:00 , 9/15)			
Designed usable D/W pressure	0.384MPa g (0.485MPa abs)	0.384MPa g (0.485MPa abs)	0,384MPa g (0.485MPa abs)			
Designed usable D/W maximum pressure	0.427MPa g (0.528MPa abs)	0.427MPa g (0.528MPa abs)	0.427MPa g (0.528MPa abs)	] –	-	
Temperature in the spent fuel pool	30.5 °C (as of 5:00 , 9/15)	34.0°C (as of 5:00 , 9/15)	32.8 °C (as of 5:00 , 9/15)	41℃ (as of 5:00 , 9/15)	29.6 °C (as of 6:00 , 9/15)	30.0 ℃ (as of 6:00 , 9/15)
FPC skimmer surge tank level	3100mm (as of 5:00 , 9/15)	2200mm (as of 5:00 , 9/15)	4230mm (as of 5:00 , 9/15)	4000mm (as of 5:00 , 9/15)	*2	
Power source	Receiving offsite power (P/C2C)     Receiving offsite power (P/C4D)		-	Receiving offsite power		
Others	<ul> <li>At 11:08 am on September 14, 2011, we stopped the operation of cooling the common pool to prepare for the construction to relocate the power panel of the common spent fuel pool. The cooling operation will be kept interrupted until September 20, 2011.</li> <li>Unit2: water injection to the reactor through CS line initiated in addition to water injection line at 3:25 pm on September 14.</li> <li><u>* Data of Pressure in D/W of Unit 1 on 11/29 was corrected because it was incorrect.</u></li> </ul>			Temperature in the Common Spent Fuel Storage: 37°C (as of 6:30, 9/14)	5u: SHC mode (from 10:43 ,8/8)	6u: Non-thermal Mode (from 5:57 ,9/15)
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Pressure conversion Gauge pressure(MPa g) = Absolute pressure(MPa abs) - atmospheric pressure (normal atmospheric pressure0.1013 MPa) Absolute pressure(MPa abs) = Gauge pressure(MPa g) + atmospheric pressure (normal atmospheric pressure0.1013 MPa) %1 : Instrument failure%2 : Not covered for colleting data

%3 : continuously monitoring the status

## Fukushima Daiichi Nuclear Power Station Supplemental explanation for the plant parameters

■Supplemental explanation for each parameter

ltem	Recording manner	Measurement manner	Ch number or number of systems	
Status of water injection to the reactor	Water inflow (CS line : Core Spray system)	Temporary	System 1 / 1	
Water level in the reactors	Data measured by the water gauge, which monitor the fuel range	Main indicator	System A 1/1Ch System B 1/1Ch	
Pressure in the reactor	Measure voltage value of pressure instrument by the main indicator panel and convert to the pressure. One representing value is noted among multiple data on each System A, B.	Unit 1/2 Temporary Unit 3 Measures voltage value through the main indicator panel and converts them to the pressure	Temporary indicator: 1/1 system Main:System A 1/2Ch System B 1/2Ch	
Temperature in the reactor	Since there is no water inflow at the points, where thermometers are set, no data is collected.	-	-	
Temperature around the reactor vessel	Data measured at feed-water nozzle and at reactor vessel bottom (1U、3U:RPV Bottom Head、2U:RPV Wall Above Bottom Head) are noted among multiple data to view the whole picture.	Main recorder	Point of Feed-water nozzle 1/4Ch reactor vessel bottom 1/2Ch (Unit1) 1/1Ch (Unit2/3)	
Pressure in D/W • S/C	Data from main instrument. Measure voltage value by the main instrument panel converted to the pressure in case main instruments are not in function. As to the D/W pressure of Unit2, the reading of the temporary indicator is described. (D/W : Dry Well, S/C : Suppression Chamber)	(D/W) Unit 1:Main recorder Unit 2:Temporary Unit 3:Main instrument panel (converted from voltage) (S/C) Unit 1/2:Main indicator Unit 3 :Main instrument panel (converted from voltage)	(D/W) Main recorder wide range 1 /1Ch (Unit 1) Temporary indicator: 1 / 1 system (Unit 2) Main instrument panel 1 /4Ch (Unit 3) (S/C) Main indicator 1 /1system (Unit 1/2) Main instrument panel 1 /2Ch (Unit 3)	
D/W Atmosphere temperature	Data at upper point (RPV Bellows Air) and middle point (HVH return) are noted among multiple data to view the whole picture, (RPV : Reactor Pressure Vessel, HVH : Heating Ventilating Handling Unit)	Main recorder	RPV Beilows Air 1 / 5Ch D/W HVH return 1 / 5Ch	
CAMS radiation monitor	Data from the instrument reading of main indicator. (CAMS : Containment Atmospheric Monitoring System)	Main indicator	D/W System A 1 / 1 Ch System B 1 / 1 Ch S/C System A 1 / 1 Ch System B 1 / 1 Ch	
Temperature in S/C	Data from the instrument reading of main recorder. One representing value is noted among multiple data on each System A, B.	Main recorder	System A1/4Ch(Unit 1)、8Ch(Unit 2/3) System B1/4Ch(Unit 1)、8Ch(Unit 2/3)	
Temperature in the spent fuel pool	Data from the instrument reading or from the measurement reading of samples of main indicator and temporary insuturment (Non-thermal mode : Urgent Heat load Mode、SHC mode : Shut down Cooling Mode)	Unit:2Main recorder Unit1/3/4:Temporary indicator	Main:1/1Ch (Unit 2) Temporary indicator: 1/1 system (Unit 1/3/4)	
FPC skimmer surge tank level	<ul> <li>Unit2, 4 are the FPC skimmer surge tank level measured main indicator.</li> <li>Unit1, 3 are the FPC skimmer surge tank level estimated from temporary pressure gages.(reference value) (FPC : Fuel Pool Cooling system)</li> </ul>	Unit2/4:Main indicator Unit1/3:Temporary instrument (Pressure gages)	Main indicator: 1/1system (Unit 2/4) Temporary instrument: 1/1system (Unit 1/3)	

## ■Supplemental explanation for notes

ltem	Contents	Status As of 06:00 on September 15		
Instrument failure		Unit 1 CAMS D/W radiation monitor Unit 2 Pressure in S/C, CAMS D/W(B) radiation monitor, CAMS S/C(B) radiation monitor Unit 3 —		
	Unit4: Monitoring is not implemented since all fuel are takeoff. Unit5/6: Monitoring is not implemented since heat removal of reactor is functioning	-		
Continuously monitoring the status		Unit 1 Reactor water level(B) Unit 2 Reactor water level, RPV bellow air temperature, Unit 3 Reactor water level, reactor pressure, RPV bellow air temperature, CAMS D/W(A) radiation monitor		