## Fukushima Daiichi Nuclear Power Station Plant Parameters

Rev.2

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.

## As of 12:00 on December 31

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 4.4 m³/h, CS line 2.0 m³/h (as of 11:00 , 12/31 )	Fresh water feeding Feed water system 1.9 m²/h, CS line 7.0 m²/h (as of 11:00 , 12/31 )	Fresh water feeding Feed water system 3.0 m²/h, CS line 6.0 m²/h (as of 11:00, 12/31)		2 ( Heat removal of the reactor is functioning. Water injection is unnecessary )	
Water level in the reactor	Fuel range A: Downscale Fuel range B:-1790 mm 3 (as of 11:00 , 12/31)	Fuel range A: Downscale 3 Fuel range B:-2122 mm 3 (as of 11:00 , 12/31)	Fuel range A:-2260 mm 3 Fuel range B:-2235 mm 3 (as of 11:00 , 12/31)		Stoppage range 2045mm (as of 12:00 , 12/31)	Stoppage range 2118mm (as of 12:00 , 12/31)
Pressure in the reactor	System A:-0.004 MPa g System B:-MPa g (as of 11:00 , 12/31)	System A:0.002 MPa g System B:-MPa g (as of 11:00 , 12/31)	System A: Downscale		0.010 MPa g (as of 12:00 , 12/31)	0.016 MPa g (as of 12:00 , 12/31)
Water temperature of the reactor	(Since the	( Since there is no water inflow in the system it is impossible to collect the data )			30.6 (as of 12:00 , 12/31)	28.1 (as of 12:00 , 12/31)
	Temperature in feed-water nozzle:27.2 Temperature at reactor vessel bottom:27.8 (as of 11:00 , 12/31)	Temperature in feed-water nozzle:53.8 Temperature at reactor vessel bottom:56.2 (as of 11:00 , 12/31)	Temperature in feed-water nozzle:48.0 Temperature at reactor vessel bottom:56.2 (as of 11:00 , 12/31)	2 ( Monitoring is	2 (monitoring through water temperature of the reactor)	
	D/W:0.1069 MPa abs S/C:0.115 MPa abs 3 (as of 11:00 , 12/31)	D/W:0.108 MPa abs S/C: Downscale 1 (as of 11:00 , 12/31)	D/W:0.1016 MPa abs S/C:0.1869 MPa abs (as of 11:00 , 12/31)	unnecessary since all fuel are takeoff)	2 ( Monitoring is unnecessary since heat removal of reactor is functioning.)	
	RPV bellow seal:29.0 HVH return:30.1 (as of 11:00 , 12/31)	RPV bellow seal:65.2 3 HVH return:56.2 3 (as of 11:00 , 12/31)	RPV bellow seal:64.6 3 HVH return:48.7 (as of 11:00 , 12/31)			
CAMS radiation monitor	D/W(A):1.00E-02Sv/h 1 (B):7.37E+00Sv/h 1 S/C(A):6.60E-01Sv/h (B):6.80E-01Sv/h (as of 11:00 , 12/31)	D/W(A):6.86E+00Sv/h (B):2.53E+00Sv/h 5/C(A):5.00E-02Sv/h (B):1.77E+00Sv/h (as of 11:00 , 12/31)	D/W(A):3.05E+00Sv/h (B):2.05E+00Sv/h S/C(A):2.46E-01Sv/h (B):2.34E-01Sv/h (as of 11:00 , 12/31)			
Temperature in S/C	System A:40.9 System B:40.9 (as of 11:00 , 12/31)	System A:42.6 System B:42.5 (as of 11:00 , 12/31)	System A:34.3 System B:34.3 (as of 11:00 , 12/31)			
Hydrogen concentration in PCV	0.09vol% (as of 11:00 , 12/31 )	0.55vol% (as of 11:00 , 12/31 )	-			
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	12.5 (as of 11:00 , 12/31 )	13.2 (as of 11:00 , 12/31 )	15.4 <del>13.3</del> 4 (as of 12:00 <del>16:40</del> , 12/31 <del>30</del> )	25 (as of 11:00, 12/31)	14.9 (as of 12:00 , 12/31)	14.5 (as of 12:00 , 12/31)
FPC skimmer surge tank level	3650mm (as of 11:00 , 12/31 )	4450mm (as of 11:00 , 12/31 )	7350mm (as of 11:00 , 12/31 )	3543mm (as of 11:00 , 12/31 )		2
Power source	Receiving offsite power ( P/C2C )		Receiving offsite power (P/C4D)		Receiving offsite power	
Others	• HVH return temperature of Unit 2 D/W is "under continuously monitoring" as the cause is under investigation after the confirmation of possibility of defect. • Alternative cooling equipment of the Fuel Pool of Unit 3 is stopped. Therefore, Temperature in the spent fuel pool of Unit 3 show close data.  4 Data as of 12:00, 12/31 is reflected.			Temperature in the Common Spent Fuel Storage: 15 (as of 9:40 , 12/31)	5u : SHC mode (from 12:54 ,12/21)	6u : SHC mode (from 12:01 ,12/29)

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)

I : Instrument failure
 Not covered for colleting data
 continuously monitoring the status

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

Supplemental explanation for each parameter

ental explanation for each parameter	1		
Recording manner	Measurement manner	Ch number or number of systems	
Water inflow ( CS line : Core Spray system )	Temporary System 1 / 1		
Data measured by the water gauge, which monitor the fuel range	Temporary	System A 1 / 1 Ch System B 1 / 1 Ch	
	Temporary	1 / 1 system (Unit 1/2) System A 1 / 2 Ch, System B 1 / 2 Ch (Unit 3)	
Since there is no water inflow at the points, where thermometers are set, no data is collected.		-	
	Temporary	Point of Feed-water nozzle 1 / 4 Ch reactor vessel bottom 1 / 2 Ch (Unit 1) 1 / 1 Ch (Unit 2 / 3)	
Data from temporary instrument. (D/W: Dry Well、S/C: Suppression Chamber)	Temporary	(D/W) wide range 1 / 1Ch (Unit 1) 1 / 4Ch (Unit 2/3) (S/C) 1 / 1system (Unit 1/2) 1 / 2Ch (Unit 3)	
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)	Temporary	RPV Bellows Air 1 / 5 Ch D/W HVH return 1 / 5 Ch	
Data from temporary instrument. ( CAMS : Containment Atmospheric Monitoring System )	Temporary	D/W System A 1 / 1 Ch	
Data from temporary instrument. One representing value is noted among multiple data on each System A, B.	Temporary	System A 1 / 4 Ch ( Unit 1 ) 、 8 Ch ( Unit 2 / 3 ) System B 1 / 4 Ch ( Unit 1 ) 、 8 Ch ( Unit 2 / 3 )	
	Temporary	System 1 / 1	
Data from temporary instrument. (Non-thermal mode: Urgent Heat load Mode、SHC mode: Shut down Cooling Mode)	Temporary	1 / 1 Ch (Unit 2) 1 / 1 system (Unit 1/3/4)	
Unit2, 4 are the FPC skimmer surge tank level measured temporary instrument.     Unit1, 3 are the FPC skimmer surge tank level estimated from temporary pressure gages.(reference value) (FPC: Fuel Pool Cooling system)	Temporary	1 / 1system	
	Recording manner  Water inflow ( CS line : Core Spray system )  Data measured by the water gauge, which monitor the fuel range  One representing value is noted among multiple data on each System A, B. Readings of temporary instruments are represented in A system for Unit 1 and 2.  Since there is no water inflow at the points, where thermometers are set, no data is collected.  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.  Data from temporary instrument. (D/W: Dry Well, S/C: Suppression Chamber)  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)  Data from temporary instrument. (CAMS: Containment Atmospheric Monitoring System)  Data from temporary instrument. One representing value is noted among multiple data on each System A, B.  Data measured by the PCV gas management system. (PCV: Primary Containment Vessel)  Data from temporary instrument. (Non-thermal mode: Urgent Heat load Mode, SHC mode: Shut down Cooling Mode)  - Unit2, 4 are the FPC skimmer surge tank level measured temporary instrument.	Recording manner  Water inflow (CS line: Core Spray system)  Data measured by the water gauge, which monitor the fuel range  Temporary  One representing value is noted among multiple data on each System A, B, Readings of temporary instruments are represented in A system for Unit 1 and 2.  Since there is no water inflow at the points, where thermometers are set, no data is collected.  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.  Data from temporary instrument. (D/W: Dry Well, S/C: Suppression Chamber)  Temporary  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)  Data from temporary instrument. (CAMS: Containment Atmospheric Monitoring System)  Data from temporary instrument. One representing value is noted among multiple data on each System A, B.  Temporary  Data from temporary instrument. One representing value is noted among multiple data on each System A, B.  Temporary  Data from temporary instrument. (PCV: Primary Containment Vessel)  Data from temporary instrument. (Non-thermal mode: Urgent Heat load Mode, SHC mode: Shut down Cooling Mode)  -Unitl, 3 are the FPC skimmer surge tank level emasured temporary instrument. (Non-thermal mode: Urgent Heat load Mode, SHC mode: Shut down Cooling Mode)  -Unitl, 4 are the FPC skimmer surge tank level emasured temporary instrument. (Non-thermal mode: Urgent Heat load Mode, SHC mode: Shut down tooling Mode)  -Unitl, 5 are the FPC skimmer surge tank level emasured temporary instrument. (Pundit 2, 4 are the FPC skimmer surge tank level emasured temporary instrument.	

Supplemental explanation for notes

ltem	Contents	Status As of 12:00 on December 31
Instrument failure	Instrument failure: down of instrument reading (over) scale / failure of instrument	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 -
Not covered for collecting data	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	Inaccurate Data defined from relation with other Parameters such as negative figure.	Unit 1 Reactor water level(B), Pressure in S/C Unit 2 Reactor water level, RPV bellow air temperature, HVH return temperature Unit 3 Reactor water level, reactor pressure, RPV bellow air temperature, CAMS D/W(A) radiation monitor