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.

As of 12:00 on December 21

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 4.4m3/h, CS line 2.0m3/h (as of 11:00 , 12/21)	Fresh water feeding Feed water system 2.8m^3/h, CS line 6.0m^3/h (as of 11:00 , 12/21)	Fresh water feeding Feed water system 2.9m^3/h, CS line 6.0m^3/h (as of 11:00 , 12/21)	※2 (Monitoring is unnecessary since all fuel are takeoff)	※2 (Heat removal of the reactor is functioning. Water injection is unnecessary)	
Water level in the reactor	Fuel range A: Downscale Fuel range B:-1650 mm ※3 (as of 11:00 , 12/21)	Fuel range A: Downscale ※3 Fuel range B:-2123 mm ※3 (as of 11:00 , 12/21)	Fuel range A:-2146 mm ※3 Fuel range B:-2239 mm ※3 (as of 11:00 , 12/21)		Stoppage range 1783mm (as of 12:00 , 12/21)	Stoppage range 2101mm (as of 12:00 , 12/21)
Pressure in the reactor	System A:-0.003 MPa g System B:-MPa g (as of 11:00 , 12/21)	System A:0.005 MPa g System B:-MPa g (as of 11:00 , 12/21)	System A:Downscale (A)※3 System B:Downscale (C)※3 (as of 11:00 , 12/21)		0.010 MPa g (as of 12:00 , 12/21)	0.016 MPa g (as of 12:00 , 12/21)
Water temperature of the reactor	(Since there is no water inflow in the system it is impossible to collect the data)				29.1 ℃ (as of 12:00 , 12/21)	25.3 ℃ (as of 12:00 , 12/21)
Temperature around the reactor vessel	Temperature in feed-water nozzle:29.9 ℃ Temperature at reactor vessel bottom:30.5 ℃ (as of 11:00 , 12/21)	Temperature in feed-water nozzle:58.9 ℃ Temperature at reactor vessel bottom:61.7 ℃ (as of 11:00 , 12/21)	Temperature in feed-water nozzle:53.8 ℃ Temperature at reactor vessel bottom:60.8 ℃ (as of 11:00 , 12/21)		※2 (monitoring through water temperature of the reactor)	
Pressure in D/W・S/C	D/W:0.1072 MPa abs S/C:0.081 MPa abs ※3 (as of 11:00 , 12/21)	D/W:0.111 MPa abs S/C: Downscale ※1 (as of 11:00 , 12/21)	D/W:0.1016 MPa abs S/C:0.1859 MPa abs (as of 11:00 , 12/21)			
D/W Atmosphere temperature	RPV bellow seal:32.0 ℃ HVH return:33.0 ℃ (as of 11:00 , 12/21)	RPV bellow seal:62.3 ℃ ※3 HVH return:61.8 ℃ ※3 (as of 11:00 , 12/21)	RPV bellow seal:71.3 ℃ ※3 HVH return:55.0 ℃ (as of 11:00 , 12/21)			
CAMS radiation monitor	D/W(A):1.00E-02Sv/h ※1 (B):1.16E+01Sv/h ※1 S/C(A):6.60E-01Sv/h (B):6.80E-01Sv/h (as of 11:00 , 12/21)	D/W(A):6.98E+00Sv/h (B):2.59E+00Sv/h ※1 S/C(A):7.00E-02Sv/h (B):2.09E+00Sv/h ※1 (as of 11:00 , 12/21)	D/W(A):3.09E+00Sv/h ※3 (B):2.08E+00Sv/h S/C(A):2.51E-01Sv/h (B):2.38E-01Sv/h (as of 11:00 , 12/21)		※2 (Monitoring is unnecessary since heat removal of reactor is functioning.)	
Temperature in S/C	System A:43.1 ℃ System B:43.1 ℃ (as of 11:00 , 12/21)	System A:46.2 ℃ System B:46.0 ℃ (as of 11:00 , 12/21)	System A:35.9 ℃ System B:36.0 ℃ (as of 11:00 , 12/21)			
Hydrogen concentration in PCV	0.05vol% (as of 11:00 , 12/21)	0.7vol% (as of 11:00 , 12/21)	–			
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	11.0 ℃ (as of 11:00 , 12/21)	18.2℃ (as of 11:00 , 12/21)	12.9 ℃ (as of 11:00 , 12/21)	20℃ (as of 11:00 , 12/21)	16.5 ℃ (as of 12:00 , 12/21)	16.0 ℃ (as of 12:00 , 12/21)
FPC skimmer surge tank level	4050mm (as of 11:00 , 12/21)	180mm (as of 11:00 , 12/21)	3650mm (as of 11:00 , 12/21)	4315mm (as of 11:00 , 12/21)	※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.			Temperature in the Common Spent Fuel Storage: 15℃ (as of 9:50 , 12/21)	5u : SHC mode (from 11:29 ,12/21)	6u : SHC mode (from 11:18 ,12/9)

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

Item	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	Temporary	System A　1／1Ch System B　1／1Ch
Pressure in the reactor	One representing value is noted among multiple data on each System A, B. Readings of temporary instruments are represented in A system for Unit 1and 2.	Temporary	1／1 system (Unit 1/2) System A　1／2Ch, System B　1／2Ch (Unit 3)
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.	Temporary	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 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)
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）	Temporary	RPV Bellows Air　1／5Ch D/W HVH return　1／5Ch
CAMS radiation monitor	Data from temporary instrument. （CAMS：Containment Atmospheric Monitoring System）	Temporary	D/W　System A　1／1Ch System B　1／1Ch S/C　System A　1／1Ch System B　1／1Ch
Temperature in S/C	Data from temporary instrument. One representing value is noted among multiple data on each System A, B.	Temporary	System A1／4Ch（Unit 1）、8Ch（Unit 2/3） System B1／4Ch（Unit 1）、8Ch（Unit 2/3）
Hydrogen concentration in PCV	Data measured by the PCV gas management system. （PCV：Primary Containment Vessel）	Temporary	System 1／1
Temperature in the spent fuel pool	Data from temporary instrument. （Non-thermal mode：Urgent Heat load Mode、SHC mode：Shut down Cooling Mode）	Temporary	1／1Ch（Unit 2） 1／1 system（Unit 1/3/4）
FPC skimmer surge tank level	・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

■Supplemental explanation for notes

Item	Contents	Status As of 12:00 on December 21
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