

		Unit 1	Unit 2	Unit 3	Unit 4	Notes	
Basic information	Type of plant	BWR-3	BWR-4	BWR-4	BWR-4		
	Electric / Thermal power output	460/1380	784/2381	784/2381	784/2381		
Plant status when hit by the earthquake	Operation status	In service -> Shutdown	In service -> Shutdown	In service -> Shutdown	Outage		
	No. of nuclear fuels loaded in the reactor	400	548	548	0		
	No. of spent fuels stored in the SFP	292	587	514	1331		
	External power supply	Stopped due to the earthquake					
	Emergency power supply	Emergency Diesel Generator once had started in response to loss of external power stopped when the tsunami hit these plants.					
Reactor cooling	Status	Core and fuel integrity	Damaged (core melt*1)	Damaged (core melt*1)	Damaged (core melt*1)	No fuels loaded	
		RPV structural integrity	Partially damaged and leaking	Unknown	Unknown	No damage	
		PCV structural integrity	Damage and leakage suspected	Damage and leakage suspected	Damage and leakage suspected	No damage	
		Core cooling	Cooling with the alternative system created after the tsunami			Not required	
	meas.	Goal of STEP 2 (Jul. through Jan., 2012)	To achieve Cold shutdown condition: 1) Temperature of RPV bottom is, in general, below 100°C, 2) Release of radioactive materials from PCV is under control and public radiation exposure by additional release is being significantly held down			—	“Cold shutdown status” is redefined in the status progress report issued on July 19.
		Circulating injection cooling	System in operation [partial operation: 6/27-, full operation: 7/2-]			—	
		Nitrogen gas injection into PCV	Injection continued [4/6-]	Injection continued [6/28-]	Injection started [7/14-]	—	
	Challenge	Continuation and enforcement of the circulating injection cooling	The volume of water that is theoretically necessary for core heat removal is 1.1m <sup>3</sup> /h for No1 reactor, 1.7m <sup>3</sup> /h for No2 and 1.7m <sup>3</sup> /h for No3. Water being injected to these reactors exceeds these theoretically necessary volumes. TEPCO is going to change water to be injected to No2 and No3 on trial basis and monitor temperature inside pressure vessels to find optimal volume for the purpose of inhibiting contaminated water generation. Water injection via core spray line, in addition to the feed water line currently used, started at Unit 3[9/1-]. The effect of the diversified water injection on the RPV temperature is being confirmed while adjusting its flow rate.			—	
	SFP cooling	Status	Fuel integrity in SFP	Unknown	Most spent fuels not damaged*2	Unknown	Most spent fuels not damaged*2
SFP cooling			Function recovered	Function recovered	Function recovered	Function recovered	
measures		Goal of STEP 2 (Jul. through Jan., 2012)	More stable cooling: Establishment of circulation cooling with Hx (already achieved at Unit 2 and 3)				
		Circulation cooling with Hx	Hx newly installed in operation [8/10-]	Hx newly installed in operation [5/31-]	Hx newly installed in operation [6/30-]	Hx newly installed in operation [7/31-]	
		desalting of water in the pool	operation of the desalting facility will start after the operation of unit 4.			operation of the desalting facility started[8/20-]	
Accumulated water	Status	Increase and accumulation of radioactively contaminated water	High level radioactive wastewater is accumulating in the R/B, T/B and RW/B of each unit. (Approx. 87,770m <sup>3</sup> [9/6])				
		Goal of STEP 2 (Jul. through Jan., 2012)	Reduction of total amount of contaminated water				
	measures	Installation of water process facility	-Highly radioactive wastewater treatment system installed on June 17 is now working on a full-scale basis. (Capacity 1200m <sup>3</sup> /day) -Water processed with this system has been reused for core injection for cooling since June 27.				
		Elimination, continuous processing and system enhancement of accumulated water in the building	-Highly radioactive wastewater in Unit 2 and unit 3 has been transferred to the Centralized Radiation Waste Treatment Facility since April 19. -The cesium adsorption unit No. 2 started operation on August 18. Currently these No.1 and No.2 unit is working in parallel operation mode. -Works for installing additional desalination unit that consists of 8 components is in progress. 5 of them started operation [8/7-, 8/31-]				
		Storage / management of sludge waste etc.	-Sludge waste generated from the high-level radioactive water processing facility has been properly managed. -Facility for storing sludge waste is to be built.				
		Securing storage place	-Storage capacity of 14800m <sup>3</sup> (10,000m <sup>3</sup> + 4,800m <sup>3</sup> ) for highly radioactive wastewater are secured by using the Centralized Radiation Waste Treatment Facility as water storage place. -Work for installing underground tank for high level radioactive wastewater in progress (2,800m <sup>3</sup> to be installed in early Sep., 7,200m <sup>3</sup> to be installed afterwards) -Storage tanks to receive processed, low to middle level radioactive wastewater with the capacity of approx. 33,000m <sup>3</sup> installed (-7/14). Additional capacity to be installed at 20,000m <sup>3</sup> /month				
	Challenge	Preventing contamination of the sea, etc.	-Silt fences installed. -Seawater circulatory purification system goes into full-scale operation. [6/13] -Blocking the concrete tunnels outside the T/Bs completed [6/10], etc.				
		Preventing overflow of high level radioactive waste water	Highly radioactive wastewater treatment system should be operated in stable and effective manner to prevent wastewater overflowing to the environment.				
	measures	Goal of STEP 2 (Jul. through Jan., 2012)	Reduction of total amount of contaminated water				
		Increasing storage capacity Decontaminating radioactive water	-18,400 tons(2,200 + 6,200 + 10,000) of tanks installed. 10,000 tons of Mega-Float prepared. 2,000 tons of receiving capacity to be secured. -Decontamination with zeolite continued				
Ground water	Status	Radioactive materials in the ground water	Radioactive iodine, I-131, cesium, Cs-134, 137, and Sr-89, 90 were detected from the subdrain, underground water collected and controlled in the facility, and the well water in the Fukushima Daiichi site. [4/7-]				
		Goal of STEP 2 (Jul. through Jan., 2012)	Mitigation of contamination in the ocean (continuing from Step 1)				
Radioactive materials in the atmosphere / soil	Status	Scattering of radioactive materials to the outside of the facilities	-Radioactive materials and radioactively contaminated debris scattered due to the hydrogen explosion occurred at Unit 1 and 3 R/Bs and other events. -The release rate of radioactive materials from Unit 1 through 3 as of 7/26-8/12 was estimated to be 200 million Bq/h (Cs-134 and 137) at maximum. [TEPCO announced on 8/17] -Exposure doses at the site boundary caused by radioactive substance currently being released was estimated to be 0.4 mSv/y at maximum on the assumption of the above release rate. (*Approx. one 10-millionth of the maximum emission rate on 3/15, approx. one 12,500th of the rate for 3/25-26, approx. one 1450th of the rate for 4/4-6, approx. one 5th of the rate for June.)				
		R/B integrity	Severely damaged	Partly opened	Severely damaged	Severely damaged	
	measures	Goal of STEP 2 (Jul. through Jan., 2012)	Mitigation of dispersion				
		Dispersion of inhibitor	Splaying dispersion inhibitor outside and inside the R/Bs and T/Bs completed				
		Removing debris	Removal of debris using remote-controlled heavy machine in progress [4/10-]				
Tsunami, reinforcement, etc.	measures	Installing R/B cover	Preparation work in progress [5/13-] Installation work of the cover started [6/28-]	—	Designing Preparation work in progress [6/20-]	Designing Preparation work in progress [6/24-]	
		Goal of STEP 2 (Jul. through Jan., 2012)	Mitigation of further disasters				
Plant parameters	Reactor	Reactor injection flow rate(m <sup>3</sup> /h) [9/8 11:00]	3.8	3.7	5.0 via feed water line. 2.9 via core spray line	—	
		Reactor water level (mm) [9/8 11:00]	A: Below the lower end of gauge, B: -1700**, Mostly steady	A: -1850, B: -2200 Mostly steady**	A: -3050, B: -2250 **	—	
		Reactor pressure (MPa) [9/8 11:00]	A: 0.016, B: -, Mostly steady Measured with temporary pressure indicator [6/4-]	A: 0.016, B: - Mostly steady	A: -0.185, B: -0.102 Mostly steady**	—	
		RPV temperature at feedwater nozzle (°C) [9/8 11:00]	90.6 Mostly steady	107.2 Mostly steady	103.7	—	
		RPV temperature at the bottom of the vessel (°C) [9/8 11:00]	85.6 Mostly steady	116.6 Mostly steady	97.0	—	
	PCV	Pressure of drywell (MPa) [9/8 11:00]	0.1252 Mostly steady	0.117 Mostly steady	0.1015 Mostly steady	—	
		Pressure of suppression pool (MPa) [9/8 11:00]	0.105 Mostly steady	Below the lower end of gauge Instrument failure	0.1843 Mostly steady	—	
	Pool	Water temperature of SFP [9/8 11:00]	30.0°C	32.0°C	30.8°C	40°C	
	High level accumulated water	Stored volume[9/6]	17,070m <sup>3</sup>	24,400m <sup>3</sup>	26,700m <sup>3</sup>	19,600m <sup>3</sup>	
		Water level in T/B[9/8 7:00]	OP+4.920mm	OP+3.138mm	OP+3.155mm	OP+3.191mm	
Total stored volume[9/6] Total volume of processed water [-9/6]		Approx. 87,770m <sup>3</sup> (Approx. 107,590m <sup>3</sup> including the wastewater transferred to the Centralized Radiation Waste Treatment Facility) Approx. 78,430 m <sup>3</sup> decontaminated (Approx. 31,804m <sup>3</sup> desalinated*)					
Environmental effect in the vicinity of the station		-Air dose rate: 5-105 μSv/h at the NPS border (Monitoring Post), 308 μSv/h at the south side of the office building, 31 μSv/h at the main gate, 12 μSv/h at the wet gate [9/9 09:00] -Some radioactive materials (I, Cs, Pu, Am Cm and Sr) has been detected in the soil sampled at the site. Radioactive materials have been detected in samples collected from underground water and seawater at or near the site. -Sr-89, 90 exceeding the regulatory limit have been detected from the seawater sampled on 5/16 near the seawater intake.					
Radiation exposure of the workers		TEPCO has been examining radiation exposure of some 10,700 workers who worked at the plants. Intermediate result of this examination as of 8/10 is as follows. 103 workers received more than 100mSv. (100-150mSv: 81 workers, 150-200mSv: 14 workers, 200-250mSv: 2 workers, 250mSv-: 6 workers) Definite exposure doses of 6 workers who received more than 250mSv are distributed from 309 to 678mSv. *The allowable emergency limit for radiation doses: 250mSv					

Current status of the plant and the progress of countermeasures taken

Survey map on the site: <http://www.tepco.co.jp/en/nu/fukushima-np/f1/index3-e.html>  
\*The dose limit by reactor facilities at an outside of a nuclear power station is 1 mSv/y.

\*\*Continuous monitoring the status

OP: Onahama Bay mean sea level  
Near-term target: OP. +3,000mm\*3  
\*Just for reference as the reading of level monitor of the desalinated water tank was not stable.

\*1 TEPCO's analysis [announced on 5/15,23]




\*2 TEPCO judged that most spent fuels were not damaged in the Unit 2 and 4 SFPs based on the detailed analysis of the radioactive materials in the pool water. [5/31]

\*3 TEPCO set the target so as to reduce the risk of the discharge of the overflowed water into the sea and the leak to the underground water.

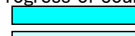
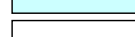
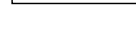
[Source]

Government Nuclear Emergency Response Headquarters: News Release,  
Press conference  
NISA: News Release, Press conference  
TEPCO: Press Release, Press Conference

[Significance judged by JAIF]

 :Low  
 :High  
 :Severe (Need immediate action)

[Progress of countermeasures]

 : Completed  
 : Under construction  
 : To be done (including studying and manufacturing)

[Abbreviations]

SFP: Spent Fuel Storage Pool  
EDG: Emergency Diesel Generator  
RPV: Reactor Pressure Vessel  
PCV: Primary Containment Vessel  
R/B: Reactor Building  
T/B: Turbine Building  
RW/B: Radioactive Waste Disposal Building  
RHR: Residual Heat Removal system  
CST: Condensate water Storage Tank  
Hx: Heat exchanger  
NPS: Nuclear power station