

Work Schedule of the Main Inspection/Restoration of the Kashiwazaki-Kariwa Nuclear Power Station in Response to the Niigata-Chuetsu-Oki Earthquake (during 4 Weeks)(1/2)

【Inspection/Restoration Status】

◆From March 22nd, 2009 (Sun) to April 18th, 2009 (Sat)

System / Equipment	Items	Mar. 22nd (Sun) to Mar. 28th (Sat)	Mar. 29th (Sun) to Apr. 4th (Sat)	Apr. 5th (Sun) to Apr. 11th (Sat)	Apr. 12th (Sun) to Apr. 18th (Sat)	Status of Inspection / Restoration	
Unit No.1	Turbine facilities	Turbine inspection *				Low-pressure turbine (B) internal inspection completed. High-pressure turbine and low pressure turbine (A)(B)(C) detailed inspection commenced on Nov. 17, 2008.	
	Other facilities	Submerged equipment inspection on ground floor 5 of the reactor combination building					Restoration work to be conducted from Mar. 17, 2008 to mid-April 2009.
		Main transformer inspection			▼		Carrying in and installation work to be commenced on Apr. 4.
		House transformer inspection		▼			1A, 1B Carrying in and installation work to be commenced on Mar. 28.
		Excitation transformer inspection		▼			Carrying in and installation work to be commenced on Mar. 28.
		Main generator inspection					Inspection commenced on Feb. 7, 2008. Withdrawal of rotor completed on Mar. 5, 2008.
		500kV power cable inspection					Preparation work for laying cables commenced on Mar. 2.
		Main exhaust duct inspection / restoration					Preparation for restoration work commenced on Aug. 9, 2008. Restoration of substructure commenced on Dec. 1, 2008.
		Circulating water pipe inspection					Foundation improvement, excavating work, and inspection of pipes commenced on Aug. 6, 2008.
	Seismic reinforcement	Seismic reinforcement works such as pipe supports					Preparation for reinforcement work commenced on Mar. 10.
		Seismic reinforcement works for the roof truss of the reactor building					Reinforcement work commenced on Jan. 22.
		Seismic reinforcement works for stack (Unit No.1 and Unit No.2)					Preparation for reinforcement work commenced on Feb. 16.
		Seismic reinforcement works for the fuel handling machine					Reinforcement work commenced on Jan. 30.
		Seismic reinforcement works for emergency intake channel					Foundation improvement work commenced on Feb. 9.
Unit No.2	Reactor facilities	Reactor recirculation piping preventive maintenance				Preparation work commenced on Dec. 16, 2008. Ultrasonic testing commenced on Feb. 18.	
	Turbine facilities	Turbine inspection *				High-pressure turbine and low-pressure turbine (A) internal inspection completed.	
	Other facilities	House transformer inspection					Transportation into the factory is underway.
		Excitation transformer inspection					Transportation into the factory is underway.
		Main generator inspection					Inspection commenced on Mar. 19, 2008. Rotor carrying in conducted on Mar. 18.
		Main exhaust duct inspection / restoration					Preparation for restoration work commenced on Aug. 9, 2008. Restoration of substructure commenced on Dec. 1, 2008.
	Seismic reinforcement	Seismic reinforcement works for the roof truss of the reactor building				Preparation for reinforcement work commenced on Feb. 9.	
Unit No.3	Reactor facilities	Reactor recirculation piping preventive maintenance				Preventive maintenance commenced on Sep. 12, 2008. The date of restoration of the piping cut-out part to be determined.	
	Turbine facilities	Turbine inspection *				Low-pressure turbine (B) (C) detailed inspection commenced on May 7, 2008. High-pressure turbine and low pressure turbine (A) detailed inspection commenced on Jun. 25, 2008. Low-pressure turbine (A) (B) restoration work of blades commenced on Jun. 25, 2008. (Replacement of wear and contacted blades.)	
	Other facilities	Main transformer inspection					Transportation into the factory is underway.
		House transformer inspection					3A, 3B Installation work commenced on Nov. 18, 2008.
		Excitation transformer inspection					Installation work commenced on Nov. 18, 2008.
		Main generator inspection					Inspection commenced on Feb. 20, 2008. Rotor carrying in completed on Aug. 1, 2008.
		Inspection of power supply input transformer of the primary loop recirculation system adjustable speed drive					Transportation into the factory is underway.
		Main exhaust duct inspection / restoration					Preparation for restoration work commenced on Jul. 23, 2008. Restoration of substructure commenced on Jan. 9.
	Circulating water pipe inspection					Foundation improvement, excavating work, and inspection of pipes commenced on Jun. 16, 2008.	
	Seismic reinforcement	Seismic reinforcement works for the roof truss of the reactor building					Reinforcement work commenced on Nov. 27, 2008.
Seismic reinforcement works for stack						Preparation for reinforcement work commenced on Feb. 2.	
Unit No.4	Turbine facilities	Turbine inspection *				High-pressure turbine and low-pressure turbine (A) (B) (C) detailed inspection conducted from Jun. 19 to to Sep. 30, 2008 and to be commenced in April 2009.	
	Other facilities	House transformer inspection					Transportation into the factory is underway.
		Excitation transformer inspection					Transportation into the factory is underway.
		Main generator inspection					Inspection commenced on Jan. 15, 2008. Transportation of rotor into the factory completed on Jun. 11, 2008.
		Inspection of power supply input transformer of the primary loop recirculation system adjustable speed drive					Transportation into the factory is underway.
		Main exhaust duct inspection / restoration			▼		Preparation for restoration work commenced on Jun. 23, 2008. Restoration of substructure to be conducted on Dec. 4 to Mar. 30.
	Seismic reinforcement	Seismic reinforcement works for the roof truss of the reactor building					Preparation for reinforcement work commenced on Mar. 13.
		Seismic reinforcement works for stack					Preparation for reinforcement work commenced on Feb. 2.

Work Schedule of the Main Inspection/Restoration of the Kashiwazaki-Kariwa Nuclear Power Station in Response to the Niigata-Chuetsu-Oki Earthquake (during 4 Weeks)(2/2)

[Inspection/Restoration Status]

◆ From March 22nd, 2009 (Sun) to April 18th, 2009 (Sat)

System / Equipment	Items	Mar. 22nd (Sun) to Mar. 28th (Sat)	Mar. 29th (Sun) to Apr. 4th (Sat)	Apr. 5th (Sun) to Apr. 11th (Sat)	Apr. 12th (Sun) to Apr. 18th (Sat)	Status of Inspection / Restoration	
Unit No.5	Turbine facilities	Turbine inspection *				High-pressure turbine and low-pressure turbine (A) internal inspection completed.	
	Other facilities	Main transformer inspection	▼				Carrying in and installation work commenced on Mar. 25.
		House transformer inspection					Transportation into the factory is underway.
		Excitation transformer inspection					Carrying in and installation work commenced on Mar. 2.
		Main exhaust duct inspection / restoration		▼			Preparation for restoration work commenced on Jun. 2, 2008. Restoration of substructure to be conducted from Nov. 20, 2008 to Mar. 30, 2009.
		Circulating water pipe inspection					Foundation improvement, excavating work, and inspection of pipes commenced on Oct. 25, 2008.
		Shuffling of the spent fuels in the spent fuel pool					The date of shuffling of the spent fuels to be determined.
	Seismic reinforcement	Seismic reinforcement works such as pipe supports					Preparation for the reinforcement work commenced on Mar. 16.
		Seismic reinforcement works for the roof truss of the reactor building					Reinforcement work commenced on Jan. 19.
Seismic reinforcement works for stack						Preparation for reinforcement work commenced on Feb. 2.	
Unit No.6	Reactor facilities	Primary containment vessel closure				The date of closure work to be determined.	
	Turbine facilities	Turbine inspection *				High-pressure turbine and low-pressure turbine (A) (B) (C) detailed inspection commenced on May 12, 2008. Low-pressure turbine restoration work of blades commenced on Jan. 8.	
		Verification of system integrity	System functional test				System functional test commenced on Dec. 4, 2008. The date of primary containment vessel leak-rate inspection to be determined.
Unit No.7							
Transformer (common) / Switch Yard	High-voltage start-up transformer #2 inspection	▼▼				Inspection completed on Feb. 28. Transportation into the factory to be conducted on Mar. 26.	
	On-site check / inspection / restoration of the oil protection bank for the transformer		▼			Unit No.1 Restoration work commenced on Oct. 4, 2008. Unit No.2 Preparation for restoration work commenced on May 20, 2008. Recovery of oil-contaminated soil completed on Feb. 27, 2009. Unit No.3 Restoration work commenced on Aug. 2, 2008. Unit No.4 Restoration work commenced on Dec. 13, 2008. Unit No.5 Restoration work to be conducted from Aug. 27, 2008 to Mar. 31, 2009. Scrubbing of soil contaminated by oil leakage commenced on Sep. 16, 2008.	
Environmental Facilities	House boilers inspection					(Arahama-side) 1A Inspection to be conducted from Apr. 8, 2008 to September 2009. 3A Preparation for transportation of electric boiler transformer commenced on Mar. 2.	
	Restoration work of filtrate tank / demineralized tank on Arahama-side					Preparation for restoration work of No.1 filtrate tank/demineralized tank commenced on Dec. 2, 2008.	
Others	Restoration work for solid waste storage facility					Prevention countermeasure for drum falling commenced on Jan. 16.	
	Restoration work for administration building / information building, etc.					Restoration work for administration building and information building is underway.	
	Construction of seismic-isolated essential buildings					Construction commenced on Oct. 14, 2008.	
	Restoration of laundry facility building on Arahama-side					Restoration work to be conducted from Jan. 30 to late September.	
	Restoration and reinforcement work for the on-site / outside roads & slope, etc.				▼	Restoration work for roads inside and outside of the site currently in progress. Maintenance work of the slope in front of sub protection headquarter office to be commenced on Apr. 15. Restoration work of Daini Takamachi Bridge to be commenced on May 7.	
	Restoration work for port facility					Restoration work for bank protection commenced on Apr. 3, 2008.	

* Inspection results for each facilities will be announced as soon as they compiled.

* Inspection and restoration work and execution date for each item may alter according to the situation.

* Handling of fires and hazardous materials has been banned since March 5th, 2009.

* Turbine inspection work will be conducted as follows:

- All units will be inspected in detail by opening all turbine casings after conducting internal inspection.

- Internal inspection will be conducted by opening the high-pressure turbine and low-pressure turbine (A) and visually checking for damages or significant deformation in major components such as the casings and blades.

(For the unit No. 1, since the high-pressure turbine and low-pressure turbines (A) and (C) had been opened for regular outage at the time of the earthquake, inspections will be conducted for the low-pressure turbine (B) that had not been opened.)

- Detailed inspection includes, in addition to regular full-scope inspection, special inspection in consideration of the impact of the earthquake and necessary repairs in case damages are found.