

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) (1/3)

[Inspection/Restoration Status]

From October 5th, 2008 (Sun) to November 1st, 2008 (Sat)

System / Equipment	Items	Oct. 5th (Sun) to Oct. 11th (Sat)	Oct. 12th (Sun) to Oct. 18th (Sat)	Oct. 19th (Sun) to Oct. 25th (Sat)	Oct. 26th (Sun) to Nov. 1st (Sat)	Status of Inspection / Restoration	
Unit No.1	Turbine facilities	Turbine inspection *				Low-pressure turbine (B) internal inspection completed.	
	Other facilities	Submerged equipment inspection on ground floor 5 of the reactor combination building					Restoration work commenced on Mar. 17.
		House transformer inspection					1A, 1B On-site transportation completed on Jul. 9.
		Excitation transformer inspection					Transportation into the factory is underway.
		Main generator inspection					Inspection commenced on Feb. 7. Withdrawal of rotor completed on Mar. 5.
		Stack inspection		▼			Inspection of pile foundation (additional inspection) to be commenced on Oct. 14.
		Main exhaust duct inspection / restoration					Preparation for restoration work commenced on Aug. 9.
Circulating water pipe inspection					Foundation improvement, excavating work, and inspection of pipes commenced on Aug. 6.		
Unit No.2	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				On-site transportation completed on May 16.	
		Main generator inspection				Inspection commenced on Mar. 19. Transportation of rotor into the factory completed on Aug. 22.	
		Main exhaust duct inspection / restoration				Preparation for restoration work commenced on Aug. 9.	
Unit No.3	Reactor facilities	Reactor recirculation piping preventive maintenance		▼		Preparation work commenced on Jul. 14. Preventive maintenance commenced on Sep. 12. Ultrasonic testing to be commenced on Oct. 16.	
		Inspection of new fuel storage warehouse and new fuels in the warehouse				Inspection of new fuels completed on Sep. 26. Inspection of new fuel storage warehouse completed on Sep. 8.	
	Turbine facilities	Turbine inspection *				Low-pressure turbine (B) (C) detailed inspection commenced on May 7. High-pressure turbine and low pressure turbine (A) detailed inspection commenced on Jun. 25. Low-pressure turbine (A) (B) restoration work of blades commenced on Jun. 25. (Replacement of wear and contacted blades.)	
	Other facilities	Main transformer inspection				Transportation into the factory is underway.	
		House transformer inspection				Transportation into the factory is underway.	
		Excitation transformer inspection				Transportation into the factory is underway.	
		Main generator inspection				Inspection commenced on Feb. 20. Rotor carrying in completed on Aug. 1.	
		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.	
	Circulating water pipe inspection				Foundation improvement, excavating work, and inspection of pipes commenced on Jun. 16.		
Unit No.4	Turbine facilities	Turbine inspection *				High-pressure turbine and low-pressure turbine (A) (B) (C) detailed inspection conducted from Jun. 19 to Sep. 30 and to be commenced on January 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. Transportation of rotor into the factory completed on Jun. 11.	
		Inspection of power supply input transformer of the primary loop recirculation system adjustable speed drive				Preparation for transportation into the factory commenced on Aug. 25.	
		Stack inspection		▼		Inspection for substructure of piles to be conducted from Jul. 1 to Oct. 10.	
		Main exhaust duct inspection / restoration				Preparation for restoration work commenced on Jun. 23.	

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) (2/3)

[Inspection/Restoration Status] From October 5th, 2008 (Sun) to November 1st, 2008 (Sat)		Oct. 5th (Sun) to Oct. 11th (Sat)	Oct. 12th (Sun) to Oct. 18th (Sat)	Oct. 19th (Sun) to Oct. 25th (Sat)	Oct. 26th (Sun) to Nov. 1st (Sat)	Status of Inspection / Restoration	
System / Equipment	Items						
Unit No.5	Reactor facilities	Jet pump inspection	▼			Root-cause analysis is under consideration. Confirmation of the status of positioner bdlto be conducted on Oct. 9 and 10.	
	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					Restoration work commenced on Sep. 11.
		500kV power cable inspection					Removal of cables commenced on Jun. 30.
	Main exhaust duct inspection / restoration					Preparation for restoration work commenced on Jun. 2.	
Unit No.6	Turbine facilities	Turbine inspection *				High-pressure turbine and low-pressure turbine (A) (B) (C) detailed inspection commenced on May 12.	
	Other facilities	Main transformer inspection					Installation work commenced on Apr. 30.
		House transformer inspection					6A, 6B Installation work commenced on Apr. 14.
		Reactor internal pump input transformer inspection		▼		▼	Installation work commenced on Mar. 26. Electrical testing to be conducted from Oct. 15 to Oct. 24.
		Main generator inspection					Inspection commenced on Mar. 10. Withdrawal of rotor completed on Apr. 3.
		500kV power cable inspection				▼	Inspection to be conducted from Feb. 9 to Oct. 24. Energization for testing without load completed on Apr. 12.
		Discharge canal inspection / restoration		▼			Internal inspection of discharge canal and restoration work completed on Jun. 26. Removal of bypass pipe etc. to be conducted from Jul.10 to Oct. 10.
	Seismic reinforcement	Seismic reinforcement works such as pipe supports					Reinforcement work commenced on Jul. 4.
		Seismic reinforcement works for the roof truss of the reactor building					Reinforcement work commenced on Sep. 3.
		Seismic reinforcement works for exhaust stack					Reinforcement work commenced on Sep. 5.
		Seismic reinforcement works for reactor building ceiling crane			▼		Preparation for reinforcement work to be commenced on Sep. 26. Reinforcement work to be commenced on Oct. 20.
		Seismic reinforcement works for fuel handling machine					Reinforcement work commenced on Aug. 22.
Unit No.7	Turbine facilities	Turbine inspection *				High-pressure turbine and low-pressure turbine (A) (B) (C) detailed inspection is underway. Low-pressure turbine (A) (B) restoration work of blades commenced on Apr. 14. (Replacement of wear and contacted blade.) Low-pressure turbine (A) (B) (C) restoration work of blades on the 15th stage commenced on Aug. 1, and restoration work of blades on the 14th and the 16th stages commenced on Sep. 25.	
	Other facilities	Main transformer inspection					Installation work completed on Sep. 27.
		Reactor internal pump input transformer inspection					Electrical testing completed on Jun. 7. Coordinating for the start date of energization for testing without load.
		Main generator inspection					Restration work commenced on Jul. 14.
		500kV power cable inspection				▼	Inspection to be conducted from Jan. 22 to Oct. 24. Energization for testing without load completed on Mar. 22.
	Seismic reinforcement	Seismic reinforcement works such as pipe supports					Reinforcement work commenced on Jun. 16.
		Seismic reinforcement works for the roof truss of the reactor building					Reinforcement work completed on Sep. 30.
		Seismic reinforcement works for exhaust stack		▼			Reinforcement work to be conducted from Sep. 5 to Oct. 15.
		Seismic reinforcement works for reactor building ceiling crane				▼	Reinforcement work to be conducted from Sep. 16 to Oct. 27.
		Seismic reinforcement works for fuel handling machine					Reinforcement work to be conducted from Aug. 8 to Nov. 2.
	Verification of system integrity	System functional test		▼	▼		System functional test commenced on Sep. 18. Functional test of the flammability control system (B) conducted on Oct. 2. Rated capacity verification test for the emergency diesel generator (A) conducted on Oct. 3. Functional test of the flammability control system (A) to be conducted on Oct. 10. Functional test of stand-by liquid control system to be conducted on Oct. 16.

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) (3/3)

[Inspection/Restoration Status] From October 5th, 2008 (Sun) to November 1st, 2008 (Sat)						
System / Equipment	Items	Oct. 5th (Sun) to Oct. 11th (Sat)	Oct. 12th (Sun) to Oct. 18th (Sat)	Oct. 19th (Sun) to Oct. 25th (Sat)	Oct. 26th (Sun) to Nov. 1st (Sat)	Status of Inspection / Restoration
Transformer (common) / Switch Yard	High-voltage start-up transformer #3 inspection					Installation work to be conducted from Sep. 6 to mid-November.
	On-site check / inspection / restoration of the oil protection bank for the transformer					Unit No.1 Preparation for restoration completed on Oct. 2. Restoration work commenced on Oct. 4. Unit No.2 Preparation for restoration work commenced on May 20. Recovery of oil-contaminated soil commenced on Jul. 12. Unit No.3 Restoration work commenced on Aug. 2. Unit No.4 Preparation for restoration work to be conducted from Sep. 2 to Oct. 20. Recovery of oil-contaminated soil commenced on Oct. 2. Unit No.5 Preparation for restoration work completed on Oct. 3. Restoration work commenced on Aug. 27. Recovery of oil-contaminated soil completed on Sep. 19. Unit No.6 Restoration work completed on Sep. 30. Scrubbing of soil contaminated by oil leakage commenced on Sep. 16.
Environmental Facilities	House boilers inspection					(Arahama-side) 1A Inspection to be conducted from Apr. 8 to late December. 2B Inspection commenced on Apr. 8. 3A Inspection commenced on Sep. 9. (Ohminato-side) 4C Inspection commenced on May 26.
Others	Restoration work for solid waste storage facility					Drum soundness verification work completed on Mar. 17. Transportation of drums to temporary warehouse commenced on Feb. 6.
	Inspection of spent fuel transportation cask storage facility					Inspection for substructure of piles completed on Sep. 26.
	Restoration work for administration building / information building, etc.		▼			Repair work of the second floor of administration building is underway. Repair work of the second floor and third floor of information building to be commenced on Oct. 14.
	Construction of seismic-isolated essential buildings					Site preparation work commenced on Jun. 23.
	Outdoor fire protection system piping to be placed above ground, etc.					(Ohminato-side) Work on installing fire protection system piping above ground completed on Jun. 27. (Arahama-side) Work on installing fire protection system piping above ground commenced on Apr. 28. Replacement work on the fire protection system piping around the Arahama-side building from underground to above ground completed on Jun. 28.
	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. Reinforcement work completed on Sep. 30.
	Restoration work for port facility		▼		▼	Restoration work for bank protection commenced on Apr. 3. Transportation and restoration of the south-side discharge canal sea water monitor to be conducted from Oct. 14 to Oct. 25.

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.

* 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.