

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 January 25th, 2009 (Sun) to February 21st, 2009 (Sat)

System / Equipment	Items	Jan. 25th (Sun) to Jan. 31st (Sat)	Feb. 1st (Sun) to Feb. 7th (Sat)	Feb. 8th (Sun) to Feb. 14th (Sat)	Feb. 15th (Sun) to Feb. 21st (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 commenced on Mar. 17, 2008.
		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. 7, 2008. Withdrawal of rotor completed on Mar. 5, 2008.
		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 for the roof truss of the reactor building					Preparation for reinforcement work completed on Jan. 21. Reinforcement work commenced on Jan. 22.
		Seismic reinforcement works for stack (Unit No.1 and Unit No.2)				▼	Preparation for reinforcement work to be commenced on Feb. 16.
		Seismic reinforcement works for the fuel handling machine		▼			Preparation for reinforcement work to be conducted from Jan. 23 to Jan. 29. Reinforcement work to be commenced on Jan. 30.
Seismic reinforcement works for emergency intake channel				▼		Preparation for reinforcement work to be conducted from Dec. 8, 2008 to Feb. 8, 2009. Foundation improvement work to be commenced on Feb. 9.	
Unit No.2	Reactor facilities	Reactor recirculation piping preventive maintenance				Preparation work commenced on Dec. 16, 2008.	
	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. Transportation of rotor into the factory completed on Aug. 22, 2008.
Main exhaust duct inspection / restoration					Preparation for restoration work commenced on Aug. 9, 2008. Restoration of substructure commenced on Dec. 1, 2008.		
Unit No.3	Reactor facilities	Reactor recirculation piping preventive maintenance				Preventive maintenance commenced on Sep. 12, 2008. Ultrasonic testing completed on Jan. 22. Preparation for radio frequency induction heating commenced on Jan. 23.	
	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, 2009.	
	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 to be 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 commenced on Nov. 4, 2008.	
Seismic reinforcement	Seismic reinforcement works for stack		▼			Preparation for reinforcement work to be 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 January 25th, 2009 (Sun) to February 21st, 2009 (Sat)

System / Equipment	Items	Jan. 25th (Sun) to Jan. 31st (Sat)	Feb. 1st (Sun) to Feb. 7th (Sat)	Feb. 8th (Sun) to Feb. 14th (Sat)	Feb. 15th (Sun) to Feb. 21st (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	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, 2008.
		500kV power cable inspection				Removal of cables commenced on Jan. 30, 2008.
		Main exhaust duct inspection / restoration				Preparation for restoration work commenced on Jun. 2, 2008. Restoration of substructure commenced on Nov. 20, 2008.
		Circulating water pipe inspection				Foundation improvement, excavating work, and inspection of pipes commenced on Oct. 25, 2008.
	Seismic reinforcement	Seismic reinforcement works for the roof truss of the reactor building				Preparation for reinforcement work completed on Jan. 18. Reinforcement work commenced on Jan. 19.
Seismic reinforcement works for stack					Preparation for reinforcement work to be commenced on Feb. 2.	
Unit No.6	Reactor facilities	Reactor head opening	▼			Reactor head opening completed on Jan. 25
		Control rod drive inspection	▼	▼		Disassembly and inspection test of the control rod drive to be conducted from Jan. 26 to Feb. 3.
		Fuel-load work		▼	▼	Fuel-load work to be conducted from Feb. 4 to Feb. 15. Core status confirmation to be conducted on Feb. 16 and Feb. 17.
	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.
		Main generator inspection				Inspection commenced on Mar. 10, 2008. Withdrawal of rotor completed on Apr. 3, 2008. Restoration work commenced on Dec. 13, 2008.
	Seismic reinforcement	Seismic reinforcement works for fuel handling machine	▼			Reinforcement work completed on Jan. 25.
Verification of system integrity	System functional test				System functional test commenced on Dec. 4, 2008. Interlock functional tests of reactor protection system partially conducted on Jan. 23.	
Unit No.7	Turbine facilities	Turbine inspection *	▼	▼		High-pressure turbine and low-pressure turbine (A) (B) (C) detailed inspection to be completed on Feb. 3. Low-pressure turbine restoration of casing completed on Jan. 28.
		Main generator inspection		▼	▼	Restoration work commenced to be conducted from Jul. 14, 2008 to Feb. 7, 2009. Leakage confirmation tests to be conducted from Feb. 5 to Feb. 7.
	Verification of system integrity	System functional test		▼	▼	System functional test commenced on Sep. 18, 2008. Functional test of feedwater pump to be conducted on Feb. 2. Interlock functional tests of reactor protection system to be partially conducted. Functional test of turbine bypass valve to be conducted on Feb. 4.
Transformer (common) / Switch Yard	High-voltage start-up transformer #2 inspection					Preparation for inspection completed on Jan. 18. Inspection commenced on Jan. 19.
	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 commenced on Jul. 12, 2008. 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 commenced on Aug. 27, 2008. 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 July 2009. 2B Inspection to be conducted from Apr. 8, 2008 to mid-February 2009.
	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					Preparation work for prevention countermeasure for drum falling completed on Jan. 15. 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.
	Outdoor fire protection system piping to be placed above ground, etc.					(Arahama-side) Work on installing fire protection system piping above ground commenced on Apr. 28, 2008. Replacement work on the fire protection system piping around the Arahama-side building from underground to above ground completed on Jun. 28, 2008.
	Relocation work of ground motion observation points	▼				Boring work conducted on Jan. 25. Seismometer installation commenced on Jan. 26.
	Restoration of laundry facility building on Arahama-side		▼			Preparation for restoration work to be conducted from Jan. 13 to Jan. 29. Restoration work to be commenced on Jan. 30.
	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.
	Restoration work for port facility					Restoration work for bank protection commenced on Apr. 3, 2008. The works to be suspended from Dec. 13, 2008 to March 2009 for the winter season.

※ 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.