

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 26th, 2008 (Sun) to November 22nd, 2008 (Sat)

System / Equipment	Items	Oct. 26th (Sun) to Nov. 1st (Sat)	Nov. 2nd (Sun) to Nov. 8th (Sat)	Nov. 9th (Sun) to Nov. 15th (Sat)	Nov. 16th (Sun) to Nov. 22nd (Sat)	Status of Inspection / Restoration
Unit No.1	Reactor facilities	Repair work of steam separator				Preparation for repair work completed on Oct. 29. Repair work to be conducted from Oct. 30 to Nov. 18.
	Turbine facilities	Turbine inspection *				Low-pressure turbine (B) internal inspection completed. High-pressure turbine and low pressure turbine (A) (B) (C) detailed inspection to be commenced on Nov. 17.
	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. Transportation into the factory to be conducted on Nov. 15.
		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 (Unit No.1 and 2)				Inspection of pile foundation (additional inspection) commenced on Oct. 14. Inspection of stack radiation monitor sampling pipe to be conducted from Oct. 27 to Oct. 31.
		Main exhaust duct inspection / restoration				Preparation for restoration work commenced on Aug. 9. Restoration of substructure to be commenced on Nov. 10.
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. Transportation into the factory to be conducted on Nov. 15.
		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. Restoration of substructure to be commenced on Nov. 10.
Unit No.3	Reactor facilities	Reactor recirculation piping preventive maintenance				Preparation work commenced on Jul. 14. Preventive maintenance commenced on Sep. 12. Ultrasonic testing commenced on Oct. 16.
	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. Carrying in to be conducted on Nov. 14. Installation work to be commenced on Nov. 15.
		Excitation transformer inspection				Transportation into the factory is underway. Carrying in to be conducted on Nov. 14. Installation work to be commenced on Nov. 15.
		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.
		Stack inspection				Inspection of stack radiation monitor sampling pipe to be conducted from Oct. 14 to late November. (incl. restoration work of stack radiation monitor building.)
		Main exhaust duct inspection / restoration				Preparation for restoration work commenced on Jul. 23. Restoration of substructure to be commenced on Nov. 10.
		Circulating water pipe inspection				Foundation improvement, excavating work, and inspection of pipes commenced on Jun. 16.
	Seismic reinforcement	Seismic reinforcement works for the roof truss of the reactor building				Preparation for reinforcement work to be commenced on Oct.20.
	Unit No.4	Turbine facilities	Turbine inspection *			
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 to be conducted from Aug. 25 to Nov. 4. Transportation into the factory to be conducted on Nov. 5.
		Stack inspection				Inspection of stack radiation monitor sampling pipe to be conducted from Oct. 25 to Nov. 12. (incl. restoration work of stack radiation monitor building.)
		Main exhaust duct inspection / restoration				Preparation for restoration work commenced on Jun. 23. Restoration of substructure to be commenced on Nov. 4.

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 26th, 2008 (Sun) to November 22nd, 2008 (Sat)

System / Equipment	Items	Oct. 26th (Sun) to Nov. 1st (Sat)	Nov. 2nd (Sun) to Nov. 8th (Sat)	Nov. 9th (Sun) to Nov. 15th (Sat)	Nov. 16th (Sun) to Nov. 22nd (Sat)	Status of Inspection / Restoration		
Unit No.5	Reactor facilities	Jet pump inspection				Root-cause analysis is under consideration. Confirmation of the status of positioner bld completed on Oct. 15.		
	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. Restoration of substructure to be commenced on Nov. 10.	
		Stack inspection					Inspection of stack radiation monitor sampling pipe to be conducted from Nov. 6 to Nov. 10.	
	Circulating water pipe inspection					Foundation improvement, excavating work, and inspection of pipes commenced on Oct. 25.		
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 to be conducted from Apr. 30 to Nov. 6.	
		House transformer inspection					6A, 6B Installation work to be conducted from Apr. 14 to Oct 31.	
		Reactor internal pump input transformer inspection					Installation work commenced on Mar. 26. Electrical testing to be conducted from Oct. 15 to Nov. 8.	
		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. 31.	
		Stack inspection					Inspection of stack radiation monitor sampling pipe to be conducted from Nov. 6 to Nov. 11.	
		Discharge canal inspection / restoration					Internal inspection of discharge canal and restoration work completed on Jun. 26. Removal of bypass pipe etc. completed on Oct. 18.	
	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 completed on Oct. 24.	
		Seismic reinforcement works for exhaust stack					Reinforcement work completed on Oct. 29. Clearance of equipment and materials to be conducted from Oct. 30 to Nov. 14.	
		Seismic reinforcement works for reactor building overhead crane					Preparation for reinforcement work to be conducted from Sep. 26 to Oct. 30. Reinforcement work to be commenced on Oct. 31.	
		Seismic reinforcement works for fuel handling machine					Reinforcement work commenced on Aug. 22.	
	Unit No.7	Reactor facilities	Reactor head reopening				Reactor head reopening to be conducted from Nov. 2 to Nov. 6.	
Confirmation of the control rod drive coupling						Confirmation by underwater camera to be conducted on Nov. 6 and 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. Low-pressure turbine (A) restoration work of blades to be completed on Nov. 8. Low-pressure turbine (A) restoration work of casing to be commenced on Nov. 9.	
			Other facilities	Reactor internal pump input transformer inspection				Electrical testing completed on Jun. 7. Energization for testing without load to be conducted from Nov. 18 to Nov. 21.
				Main generator inspection				Restoration work commenced on Jul. 14.
500kV power cable inspection						Inspection completed on Oct. 24.		
Stack inspection						Inspection of stack radiation monitor sampling pipe to be conducted from Oct. 31 to Nov. 3.		
Seismic reinforcement		Seismic reinforcement works such as pipe supports				Reinforcement work to be conducted from Jun. 16 to Nov. 3.		
		Seismic reinforcement works for exhaust stack				Reinforcement work completed on Oct. 16. Clearance of equipment and materials completed on Oct. 26.		
		Seismic reinforcement works for reactor building overhead crane				Reinforcement work completed on 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 stand-by gas treatment system conducted on Oct. 24. Rated capacity verification test for the emergency diesel generator (B) conducted on Oct. 27. Verification test for reactor building overhead crane conducted on Oct. 27. Rated capacity verification test for the emergency diesel generator (C) conducted on Oct. 28. Functional test of main steam isolation valve conducted on Oct. 28. Functional test of instrument compression air system conducted on Oct. 28. Functional test of the emergency diesel generator, high pressure core flood system, low pressure flood system and reactor component cooling water system to be conducted on Oct. 30 and 31. Interlock functional test for reactor protection system to be conducted on Nov. 1. Functional test for main control room emergency circulation system to be conducted on Nov. 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) (3/3)

[Inspection/Restoration Status]
From October 26th, 2008 (Sun) to November 22nd, 2008 (Sat)

System / Equipment	Items	Oct. 26th (Sun) to Nov. 1st (Sat)	Nov. 2nd (Sun) to Nov. 8th (Sat)	Nov. 9th (Sun) to Nov. 15th (Sat)	Nov. 16th (Sun) to Nov. 22nd (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 Nov. 13. Energization for testing to be conducted on Nov. 14.
	On-site check / inspection / restoration of the oil protection bank for the transformer					Unit No.1 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 Nov. 20. Restoration work to be commenced on Nov. 21. Unit No.5 Restoration work commenced on Aug. 27. 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.
	Restoration work for administration building / information building, etc.					Repair work of the second floor and third floor of information building commenced on Oct. 14.
	Construction of seismic-isolated essential buildings					Construction commenced on Oct. 14.
	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.
	Relocation work of ground motion observation points					Boring work to be commenced on Oct. 20.
	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. Transportation and restoration of the south-side discharge canal sea water monitor completed on Oct. 17.

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.