

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 July 13th, 2008 (Sun) to August 9th, 2008 (Sat)

System/Equipment	Items	Jul. 13th (Sun) to Jul. 19th (Sat)	Jul. 20th (Sun) to Jul. 26th (Sat)	Jul. 27th (Sun) to Aug. 2nd (Sat)	Aug. 3rd (Sun) to Aug. 9th (Sat)	Status of Inspection / Restoration
Unit No.1	Reactor facilities	Inspection of reactor recirculation piping applicable to the Fitness-for-Service rule				Inspection to be conducted from Jun. 16 to Jul. 24.
	Turbine facilities	Turbine inspection #2				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.
		Main transformer inspection				Preparation for on-site transportation completed on Jul. 8. On-site transportation completed on Jul. 10.
		House transformer inspection				Preparation for on-site transportation completed on Jul. 8. 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.
		500kV power cable inspection				Removal of cables to be conducted from Jul. 7 to mid-September.
		Stack inspection (Unit No. 1 / Unit No. 2)				Detailed inspection for top of stack completed on Jun.28. Inspection of substructure of piles completed on Jul. 7. Internal inspection of stack to be conducted from Jul. 28 to Aug. 8.
Main exhaust duct inspection / restoration				Survey completed on Jun. 6 prior to restoration work.		
Unit No.2	Reactor facilities	Core shroud inspection				Inspection commenced on Jun. 24.
		Inspection of new fuel storage warehouse and new fuels in the warehouse				Inspection of new fuel storage warehouse completed on Jul. 1. Inspection of new fuels completed on Jul. 10.
	Turbine facilities	Turbine inspection #2				High-pressure turbine and low-pressure turbine (A) internal inspection completed.
	Other facilities	Main transformer inspection				On-site transportation completed on Jun. 3.
		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. Withdrawal of rotor completed on Apr. 9.
		500kV power cable inspection				Removal of cables to be conducted from Jun. 2 to Jul. 18.
		Main exhaust duct inspection / restoration				Survey completed on Jun. 6 prior to restoration work.
Unit No.3		Reactor facilities	Core shroud inspection / preventive maintenance			
	Reactor recirculation piping preventive maintenance				Preparation work to be commenced on Jul. 14.	
	Turbine facilities	Turbine inspection #2				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. Transportation of rotor completed on May 15. Rotor carrying in to be conducted on Aug. 1.
		500kV power cable inspection				Removal of cables to be conducted from Jun. 23 to Jul. 17.
		Stack inspection				Detailed inspection for top of stack to be conducted from Jun. 16 to Jul. 24. Internal inspection of stack completed on Jul. 15.
Main exhaust duct inspection / restoration				Survey completed on May 30 prior to restoration work.		
Circulating water pipe inspection				Foundation improvement, excavating work, and inspection of pipes commenced on Jun. 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) (2/3)

[Inspection/Restoration Status]

From July 13th, 2008 (Sun) to August 9th, 2008 (Sat)

System/Equipment	Items	Jul. 13th (Sun) to Jul. 19th (Sat)	Jul. 20th (Sun) to Jul. 26th (Sat)	Jul. 27th (Sun) to Aug. 2nd (Sat)	Aug. 3rd (Sun) to Aug. 9th (Sat)	Status of Inspection / Restoration	
Unit No.4	Reactor facilities	Fuel / control rod inspection *1				Visual inspection of fuels completed on Jul. 3. Visual inspection of channel boxes completed on Apr. 21. Visual inspection of control rod completed on Apr. 21	
		Inspection of new fuel storage warehouse and new fuels in the warehouse	▼		▼	Inspection of new fuel storage warehouse completed on Jul. 14. New fuels to be inspected from Jul. 15 to Jul. 28.	
	Turbine facilities	Turbine inspection *2				High-pressure turbine and low-pressure turbine (A) (B) (C) detailed inspection commenced on Jun. 19.	
	Other facilities	Main transformer inspection					Preparation for transportation into the factory commenced on Jun. 2. Coordinating for the start date of transportation into the factory.
		House transformer inspection					4A Preparation for inspection completed on Jul. 5. Internal inspection conducted from Jul. 7 to Jul. 9. Preparation for transportation into the factory commenced on Jul. 10. 4B Preparation for inspection completed on Jul. 12. Internal inspection conducted from Jul. 14 to Jul. 16. Preparation for transportation into the factory to be commenced on Jul. 17. Coordinating for the start date of transportation into the factory.
		Excitation transformer inspection					Preparation for inspection to be conducted from Jun. 16 to Aug. 3. Internal inspection to be conducted from Aug. 4 to Aug. 7. Preparation for transportation into the factory to be commenced on Aug. 8. Coordinating for the start date of transportation into the factory.
		Main generator inspection					Inspection commenced on Jan. 15. Transportation of rotor into the factory completed on Jun. 11.
		500kV power cable inspection					Removal of cables to be conducted from Jul. 10 to Aug. 14.
		Stack inspection					Inspection for substructure of piles commenced on Jul. 1.
Main exhaust duct inspection / restoration					Survey completed on Jun. 20 prior to restoration work. Preparation work for restoration commenced on Jun. 23.		
Unit No.5	Reactor facilities	Jet pump inspection				Root-cause analysis is under consideration.	
		Inspection of new fuel storage warehouse and new fuels in the warehouse	▼			Inspection of new fuel storage warehouse completed on Jul. 7. Inspection of new fuels completed on Jul. 15.	
	Turbine facilities	Turbine inspection *2				High-pressure turbine and low-pressure turbine (A) internal inspection completed.	
	Other facilities	Main transformer inspection					Preparation for on-site transportation commenced on May 14.
		House transformer inspection					Transportation into the factory is underway.
		Excitation transformer inspection					Transportation into the factory is underway.
		Main generator inspection					Rotor carrying in completed on Apr. 24.
		500kV power cable inspection					Removal of cables commenced on Jun. 30.
		Stack inspection					Inspection for substructure of piles commenced on Jun. 23.
		Main exhaust duct inspection / restoration					Visual inspection completed on Sep. 14. Survey completed on May 30 prior to restoration work. Preparation work for restoration commenced on Jun. 2.
Unit No.6	Turbine facilities	Turbine inspection *2				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.	
		Main generator inspection				Inspection commenced on Mar. 10. Withdrawal of rotor completed on Apr. 3.	
		500kV power cable inspection				Inspection commenced on Feb. 9. Energization for testing without load completed on Apr. 12.	
		Discharge canal inspection / restoration				Internal inspection of discharge canal and restoration work completed on Jul. 26. Removal of bypass pipe commenced on Jul.10.	
	Seismic reinforcement	Seismic reinforcement works such as pipe supports				Preparation works such as carrying in materials and installing scaffoldings carried out from Jun. 2. Reinforcement works for pipe supports commenced on Jul. 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) (3/3)

[Inspection/Restoration Status]

From July 13th, 2008 (Sun) to August 9th, 2008 (Sat)

System/Equipment	Items	Jul. 13th (Sun) to Jul. 19th (Sat)	Jul. 20th (Sun) to Jul. 26th (Sat)	Jul. 27th (Sun) to Aug. 2nd (Sat)	Aug. 3rd (Sun) to Aug. 9th (Sat)	Status of Inspection / Restoration	
Unit No.7	Reactor facilities	Reactor-well inspection				Repair of lining completed on Feb. 26. (Vacuum work is still underway.)	
	Turbine facilities	Turbine inspection #2				High-pressure turbine and low-pressure turbine (A) (B) (C) detailed inspection is underway. Low-pressure turbine (A) (B) restoration work of blade commenced on Apr. 14. (Replacement of wear and contacted blade.)	
	Other facilities	Main transformer inspection					Installation work commenced on Apr. 10.
		House transformer inspection					7B Installation work commenced on Mar. 24. 7A Installation work commenced on Apr. 11.
		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					Restoration work commenced on Jul. 14.
		500kV power cable inspection					Inspection commenced on Jan. 22. Energization for testing without load completed on Mar. 22.
	Discharge canal inspection / restoration					Internal inspection of discharge canal and restoration work completed on Jun. 7. Removal of bypass pipe commenced on Jun. 18.	
	Seismic reinforcement	Seismic reinforcement works such as pipe supports					Preparation works such as carrying in materials and installing scaffoldings carried out from Jun. 2. Reinforcement works for pipe supports commenced on Jun. 16. Reinforcement works for the roof truss of the reactor building commenced on Jul. 14.
						Transportation into the factory is underway.	
Transformer (common) / Switch Yard	High-voltage start-up transformer #3 inspection					Unit No.3 Preparation for restoration work to be conducted from Feb. 12 to Jul. 20. Unit No.3 Restoration work to be commenced on Jul. 21. Unit No.7 Restoration work commenced on Feb. 20. Unit No.2 Preparation for restoration work commenced on May 20. Unit No.2 Recovery of oil-contaminated soil commenced on Jul. 12. Unit No.5 Preparation for restoration work commenced on Jun. 3. Unit No.6 Restoration work commenced on Jun. 24. Unit No.1 Preparation for restoration work commenced on Jul. 7. Unit No.1 Recovery of oil-contaminated soil to be commenced on Jul. 22.	
	On-site check / inspection / restoration of the oil protection bank for the transformer						
Environmental Facilities	House boilers inspection					(Arahama-side) 1A, 2A, 2B: Restoration work commenced on Apr. 8. (Ohminato-side) 4A: Inspection completed on Jun. 20. 4C: Inspection commenced on May 26.	
	Restoration work for filtrate tank #3 and #4					No.3 Restoration work commenced on Jun. 2. No.3 Water leakage test to be conducted on Jul. 16 and 17.	
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 to be commenced on Jul. 25.	
	Restoration work for administration building / information building, etc.					Repair work of the second floor of the administrative building and the first and second floors of information building is underway.	
	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 commenced on May 16.	
Restoration work for port facility					Restoration work on the wharf to be conducted from Mar. 17 to Aug. 8. Restoration work for bank protection commenced on Apr. 3.		

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.

*1 Fuels and control rods were inspected visually by either underwater cameras or fiberscopes.

"Fuel visual inspection": Representative fuels that had been withdrawn will be inspected. The number of fuel bundles and fuel rods to be inspected differ among units based on the type of fuels and the size of the reactor core of each unit.

"Channel box visual inspection": Channel boxes adjacent to those control rods subject to inspection will be inspected.

For unit 1, since all fuels and channel boxes were placed in the spent fuel pool at the time of the earthquake, channel boxes that housed fuels that were subject to inspection will be inspected.

"Control rod visual inspection": Representative control rods that had been withdrawn will be inspected. The number of control rods to be inspected differ among units based on the type of fuels and the size of the reactor core of each unit.

*2 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.