

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 June 1st, 2008 (Sun) to June 28th, 2008 (Sat)

System/Equipment	Items	June 1st (Sun) to June 7th (Sat)	June 8th (Sun) to June 14th (Sat)	June 15th (Sun) to June 21st (Sat)	June 22nd (Sun) to June 28th (Sat)	Status of Inspection / Restoration	
Unit No.1	Reactor facilities	Fuel / control rod inspection * 1				Visual inspection of control rod completed on Feb. 22. Inspection of spent fuel pool rack etc. completed on Feb. 28 and Feb. 29. Visual inspection of fuels completed on May 30. Visual inspection of channel boxes completed on May 30.	
		Inspection of reactor recirculation piping applicable to the Fitness-for-Service rule			▼	Inspection to be commenced on Jun. 16.	
		Inspection of new fuel storage warehouse and new fuels in the warehouse		▼			Inspection of new fuel storage warehouse completed on May 26. New fuels to be inspected from May 27 to Jun 9.
	Turbine facilities	Turbine inspection * 2				Low pressure turbine (B) internal inspection completed on Nov. 30.	
	Other facilities	Submerged equipment inspection on ground floor 5 of the reactor combination building					Restoration work commenced on Mar. 17.
		Main transformer inspection					Inspection completed on Nov. 23. Preparation for on-site transportation to be conducted from May 12 to Jul. 9. On-site transportation to be conducted on Jul. 10.
		House transformers inspection			▼		1A Inspection completed on Sept. 4. 1B Inspection completed on Oct. 12. Preparation for on-site transportation to be commenced on Jun. 14.
		Excitation transformers inspection	▼		▼		Inspection completed on Oct. 18. Preparation for transportation to be conducted from Jun. 3 to Jun 16. Transportation into the factory to be conducted on Jun. 17.
		Main generator inspection					Inspection commenced on Feb. 7. Withdrawal of rotor completed on Mar. 5.
		Stack inspection (Unit No. 1 / Unit No. 2)					Inspection for substructure of piles commenced on Apr. 4. Detailed inspection for top of stack to be commenced on Jun. 9. Unit No. 1 Stack internal inspection to be conducted from Jun 16 to Jun. 20. Unit No. 2 Stack internal inspection to be conducted from Jun 23 to Jun. 27.
Main exhaust duct inspection / restoration			▼			Visual inspection completed on Sep. 14. Survey to be conducted from Apr. 9 to Jun. 7 prior to restoration work.	
Unit No.2	Turbine facilities	Turbine inspection * 2				High pressure turbine and low pressure turbine (A) internal inspection completed on Dec. 21.	
	Other facilities	Main transformer inspection	▼			On-site transportation completed on Jun. 3.	
		House transformers inspection				2A, 2B Transportation into the factory completed on May 17.	
		Excitation transformers inspection				On-site transportation completed on May 16.	
		Main generator inspection				Inspection commenced on Mar. 19. Withdrawal of the rotor completed on Apr. 9.	
		Main exhaust duct inspection / restoration		▼		Visual inspection completed on Oct. 5. Survey to be conducted from Apr. 9 to Jun. 7 prior to restoration work.	
500kV power cable (OF cable) inspection	▼			▼	Removal of cables to be conducted from Jun. 2 to Jun. 28.		
Unit No.3	Reactor facilities	Pressure suppression chamber inspection				Inspection completed on May 22.	
		Inspection of reactor recirculation piping applicable to the Fitness-for-Service rule				Detailed inspection completed on May 29.	
		Core shroud inspection / preventive maintenance				Inspection commenced on May 19. Preventive maintenance to be conducted from June 11.	
	Turbine facilities	Turbine inspection * 2				Low pressure turbine (B) (C) detailed inspection commenced on May 7. .	
	Other facilities	Main transformer inspection		▼		Inspection completed on Oct. 26. Preparation for transportation into the factory completed on Jun. 4. On-site transportation to be conducted on Jun. 5. Transportation into the factory to be conducted on Jun. 6.	
		House transformers inspection				3B Transportation completed on Sept. 20. 3A Transportation into the factory completed on May 17.	
		Excitation transformers inspection				Transportation into the factory completed on Apr. 2.	
		Main generator inspection				Inspection commenced on Feb. 20. Transportation of rotor completed on May 15.	
		Stack inspection				Inspection for substructure of piles commenced on Mar. 28. Detailed inspection for top of stack to be commenced on late June.	
		Main exhaust duct inspection / restoration				Visual inspection completed on Sep. 14. Survey completed on May 30 prior to restoration work.	
500kV power cable (OF cable) inspection					▼	Removal of cables to be conducted from Jun. 23 to Jul. 17.	
Circulating water pipe inspection			▼		Foundation improvement, excavating work, and inspection of pipes to be commenced on Jun. 16.		
Unit No.4	Reactor facilities	Fuel / control rod inspection * 1			▼	Visual inspection of fuels to be conducted from Mar. 21 to Mar. 27, and from Jun. 16 to early July. Visual inspection of channel boxes completed on Apr. 21. Visual inspection of control rod completed on Apr. 21.	
	Turbine facilities	Turbine inspection * 2			▼	Low pressure turbine (B) (C) detailed inspection commenced on Jun. 19.	
	Other facilities	Main transformer inspection	▼				Inspection completed on Dec. 13. Preparation for transportation into the factory conducted from Dec. 14 to Dec. 27 and from Jun. 2. Coordinating for the start date of transportation into the factory.
		House transformers inspection					4A, 4B Coordinating for the start date of inspection.
		Excitation transformers inspection					Coordinating for the start date of inspection.
		Main generator inspection					Inspection commenced on Jan. 15. Withdrawal of rotor completed on Feb. 14. Transportation of rotor into the factory to be conducted on Jun. 11.
		Stack inspection					Detailed inspection for top of stack completed on May 28. Inspection for substructure of piles to be commenced in early July.
		Main exhaust duct inspection / restoration	▼				Visual inspection completed on Oct. 5. Survey to be commenced on Jun. 2 prior to restoration work.

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 June 1st, 2008 (Sun) to June 28th, 2008 (Sat)

System/Equipment	Items	June 1st (Sun) to June 7th (Sat)	June 8th (Sun) to June 14th (Sat)	June 15th (Sun) to June 21st (Sat)	June 22nd (Sun) to June 28th (Sat)	Status of Inspection / Restoration	
Unit No.5	Reactor facilities	Jet pump inspection				No.1 Disassembly completed on Feb. 28. Root-cause analysis and restoration policy under consideration. Verification work for installation completed on May 21.	
	Turbine facilities	Turbine inspection * 2				High pressure turbine and low pressure turbine (A) internal inspection completed on Dec. 14.	
	Other facilities	Main transformer inspection					Inspection completed on Nov. 29. Preparation for on-site transportation commenced on May 14.
		House transformers inspection					5A, 5B Transportation into the factory completed on May 16.
		Excitation transformers inspection					Transportation into the factory completed on May 16.
		Main generator inspection					Inspection commenced on Nov. 3. Rotor carrying in completed on Apr. 24.
		Stack inspection					Inspection for substructure of piles to be commenced in early July.
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	Reactor facilities	Inspection of new fuel storage warehouse and new fuels in the warehouse	▼			New fuels to be inspected from May 30 to Jun 9.	
	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 transformers 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 the rotor completed on Apr. 3.
		500kV power cable (OF cable) inspection					Inspection commenced on Feb. 9. Energization for testing without load completed on Apr. 12.
		Discharge canal inspection / restoration					Discharge canal underwater inspection completed on Oct. 10. Internal inspection of discharge canal commenced on Feb. 26. Maintenance work commenced on Mar. 10.
	Stack inspection					Detailed inspection for top of stack to be conducted from Mar. 19 to Mar. 28, and from late June. Internal inspection of stack completed on Apr. 7.	
Seismic reinforcement	Seismic reinforcement works such as pipe supports	▼				Preparation works such as carrying in materials and installing scaffoldings carried out from Jun. 2.	
Unit No.7	Reactor facilities	Reactor-well inspection				Inspection and provisional restoration completed on Nov. 15. (Vacuum work is still underway.) Repair of lining completed on Feb. 26. Repair of leakage confirmed on Mar. 14 and Mar. 15 when the reactor well was filled up with water.	
	Turbine facilities	Turbine inspection * 2				High pressure turbine and low pressure turbine (A)(B)(C) detailed inspection commenced on Dec. 1. 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 transformers inspection					7B Installation work commenced on Mar. 24. 7A Installation work commenced on Apr. 11.
		Reactor internal pump input transformer inspection	▼	▼			Electrical testing to be conducted from Jun. 5 to Jun. 7.
		Main generator inspection					Inspection commenced on Nov. 2. Withdrawal of the rotor completed on Nov. 20.
		500kV power cable (OF cable) inspection					Inspection commenced on Jan. 22. Energization for testing without load completed on Mar. 22.
	Discharge canal inspection / restoration		▼	▼		Discharge canal underwater inspection completed on Oct. 10. Internal inspection of discharge canal to be conducted from Feb. 26 to Jun. 9. Restoration work to be conducted from Mar. 10 to Jun. 9. Removal of bypass pipe to be 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.	

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 June 1st, 2008 (Sun) to June 28th, 2008 (Sat)

System/Equipment	Items	June 1st (Sun) to June 7th (Sat)	June 8th (Sun) to June 14th (Sat)	June 15th (Sun) to June 21st (Sat)	June 22nd (Sun) to June 28th (Sat)	Status of Inspection / Restoration
Transformer (common) / Switch Yard	High-voltage start-up transformer #3 inspection					Transportation into the factory completed on May 16.
	On-site check / inspection / restoration of the oil protection bank for the transformer					Unit No.7 Foundation repair work commenced on Feb. 20. Unit No.3 Preparation for restoration work commenced on Feb. 12. Unit No.3 Recovery of oil-contaminated soil commenced on May. 9. Unit No.2 Preparation for restoration work commenced on May 20. Unit No.5 Preparation for restoration work to be commenced on Jun. 3.
Environmental Facilities	Inspection of house boilers					(Arahama-side) 1A, 2A, 2B: Restoration work commenced on Apr. 8. (Ohminato-side) 4A: Inspection underway. 4C: Inspection commenced on May 26.
	Restoration work for filtrate tank #3 and #4					No.4 Restoration work completed on Jun. 2. No.3 Restoration work to be commenced on Jun. 2.
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		▼			Inspection conducted from Feb. 5 to Jun. 13.
	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.
	Seismic-isolated essential buildings				▼	Site preparation work to be commenced on Jun. 23.
	Outdoor fire protection system piping to be placed above ground, installation of fire protection tank, etc.					(Ohminato-side) Work on installing fire protection system piping above ground commenced on Mar. 21 (Arahama-side) Work on installing fire protection system piping above ground commenced on Apr. 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 commenced on Mar. 17. 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 fiberoscopes.

"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.