

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 March 9th, 2008 (Sun) to April 5th, 2008 (Sat)

System/Equipment	Items	Mar. 9th (Sun) to Mar. 15th (Sat)	Mar. 16th (Sun) to Mar. 22nd (Sat)	Mar. 23rd (Sun) to Mar. 29th (Sat)	Mar. 30th (Sun) to Apr. 5th (Sat)	Status of Inspection / Restoration	
Unit No.1	Reactor facilities	Reactor pressure vessel inspection				Inspection of nozzle parts etc. completed on Mar. 7.	
		Pressure suppression chamber inspection				Inspection completed on Mar. 1.	
		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 to be commenced in mid-April. Visual inspection of channel boxes to be commenced in mid-April.	
	Turbine facilities	Turbine internal 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					Provisional restoration of low conductivity waste system (A) completed on Oct. 15, and (B) completed on Dec. 17. Provisional restoration of high conductivity waste system (A) completed on Nov. 9, and (B) completed on Dec. 26. Provisional restoration of storm drain system (B) completed on Dec. 18, and (A) completed on Dec. 25. Restoration work to be commenced on Mar. 17.
		Main transformer inspection (preparation for transportation into the factory)					Inspection completed on Nov. 23. Preparation for transportation into the factory conducted from Oct. 29 to Dec. 28. Coordinating for the start date of transportation.
		House transformers inspection (preparation for transportation into the factory)					1A Inspection completed on Sept. 4. 1B Inspection completed on Oct. 12. Coordinating for the start date of transportation into the factory.
		Excitation transformers inspection (preparation for transportation into the factory)					Inspection completed on Oct. 18. Coordinating for the start date of transportation into the factory.
		Main generator inspection					Inspection commenced on Feb. 7. Withdrawal of rotor completed on Mar. 5.
	Stack inspection					Inspection for substructure of piles to be commenced in mid-April.	
Unit No.2	Reactor facilities	Pressure suppression chamber inspection preparation inspection				Preparation for inspection to be conducted from Mar. 12 to Mar. 22. Inspection to be conducted from Mar. 24 to early May.	
		Fuel / control rod inspection *1				Visual inspection of control rod to be conducted from Nov. 27 to Mar. 24. Visual inspection of fuels completed on Feb. 1. Visual inspection of channel boxes completed on Feb. 12. Inspection of spent fuel pool rack etc. to be conducted on Mar. 18.	
	Turbine facilities	Turbine internal inspection *2				High pressure turbine and low pressure turbine (A) internal inspection completed on Dec. 21.	
	Other facilities	Main transformer inspection (preparation for transportation into the factory)					Inspection completed on Nov. 28. Preparation for transportation into the factory to be conducted from Nov. 1 to Dec. 28, and Feb. 12 to Mar. 7. Coordinating for the start date of transportation.
		House transformers inspection (preparation for transportation into the factory)					2A Inspection completed on Nov. 13. 2B Inspection completed on Nov. 19. Coordinating for the start date of transportation into the factory.
		Excitation transformers inspection (preparation for transportation into the factory)					Inspection completed on Dec. 6. Coordinating for the start date of transportation into the factory.
		Main generator inspection					Inspection to be commenced on Mar. 14.
	Unit No.3	Reactor facilities	Pressure suppression chamber inspection preparation inspection				Preparation for inspection to be conducted from Mar. 20 to Mar. 27. Inspection to be conducted from Mar. 28 to mid-May.
Fuel / control rod inspection *1						Visual inspection of control rod to be conducted from Feb. 25 to mid-April. Inspection of spent fuel pool rack etc. completed on Mar. 10. Visual inspection of fuels to be commenced on Mar. 14. Visual inspection of channel boxes to be commenced on Mar. 20.	
Inspection of reactor recirculation piping applicable to the Fitness-for-Service rule preparation							Ultrasonic testing completed on Feb. 13. Preparation for detailed inspection to be conducted from Mar. 14 to early May.
Turbine facilities		Turbine internal inspection *2				Coordinating for the start date of low pressure turbine (B) (C) detailed inspection.	
Other facilities		Main transformer inspection (preparation for transportation into the factory)					Inspection completed on Oct. 26. Preparation for transportation into the factory to be conducted from Oct. 18 to Nov. 26, and from Mar. 17 to Mar. 29. Coordinating for the start date of transportation into the factory.
		House transformers inspection (preparation for transportation into the factory)					3B Transportation completed on Sept. 20. 3A Inspection completed on Oct. 22. Preparation for transportation into the factory completed on Mar. 12. Transportation into the factory to be conducted on late May.
		Excitation transformers inspection (preparation for transportation into the factory)					Inspection completed on Nov. 3. Preparation for transportation into the factory to be conducted from Mar. 12 to early April.
		Main generator inspection					Inspection commenced on Feb. 20. Withdrawal of rotor to be conducted on Mar. 19.
	Stack inspection					Inspection for substructure of piles to be commenced in late March.	
Unit No.4	Reactor facilities	Pressure suppression chamber inspection				Inspection to be conducted from Feb. 26 to Apr. 5.	
		Fuel / control rod inspection *1				Visual inspection of fuels to be commenced on Mar. 21. Visual inspection of channel boxes to be commenced on Mar. 29. Visual inspection of control rod to be commenced in early April.	
	Turbine facilities	Turbine internal inspection *2				High pressure turbine and low pressure turbine (A) internal inspection completed on Dec. 14.	
	Other facilities	Main transformer inspection (preparation for transportation into the factory)					Inspection completed on Dec. 13. Preparation for transportation into the factory conducted from Dec. 14 to Dec. 27. Coordinating for 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.		

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 March 9th, 2008 (Sun) to April 5th, 2008 (Sat)

System/Equipment	Items	Mar. 9th (Sun) to Mar. 15th (Sat)	Mar. 16th (Sun) to Mar. 22nd (Sat)	Mar. 23rd (Sun) to Mar. 29th (Sat)	Mar. 30th (Sun) to Apr. 5th (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.	
		Fuel / control rod inspection ^{#1}				Visual inspection of fuels to be conducted from Feb. 14 to 14Mar. 24. Visual inspection of channel boxes to be conducted from Feb. 15 to early April. Visual inspection of control rod to be commenced on Mar. 24. Inspection of spent fuel pool rack etc. to be conducted on Mar. 31.	
		Inspection of reactor recirculation piping applicable to the Fitness-for-Service rule				Ultrasonic testing completed on Mar. 12.	
	Turbine facilities	Turbine internal inspections ^{#2}				High pressure turbine and low pressure turbine (A) internal inspection completed on Dec. 14.	
	Other facilities	Main transformer inspection (preparation for transportation into the factory)					Inspection completed on Nov. 29. Preparation for transportation into the factory conducted from Nov. 30 to Dec. 25. Coordinating for the start date of transportation into the factory.
		House transformers inspection (oil extraction / internal inspection) preparation					5A Preparation for inspection completed on Feb. 24. 5B Preparation for inspection completed on Feb. 29.
		(preparation for transportation into the factory) inspection					5A Internal inspection completed on Feb. 26. 5B Internal inspection completed on Mar. 3.
		Excitation transformers inspection (oil extraction / internal inspection) preparation					5A, 5B Preparation for transportation into the factory completed on Mar. 8. Coordinating for the start date of transportation into the factory.
		(preparation for transportation into the factory) inspection					Preparation for inspection to be conducted from Mar. 10 to Mar. 14. Internal inspection to be conducted on Mar. 17.
	Main generator inspection					Preparation for transportation into the factory to be conducted from Mar. 18 to Mar. 22. Coordinating for the start date of transportation into the factory.	
Unit No.6	Reactor facilities	Pressure suppression chamber inspection				Inspection completed on Mar. 6.	
		Fuel / control rod inspection ^{#1}				Visual inspection of control rod to be conducted from Feb. 1 to Mar. 24. Visual inspection of fuels to be conducted from Feb. 13 to Mar. 17. Visual inspection of channel boxes to be conducted from Feb. 16 to Mar. 24.	
	Turbine facilities	Turbine internal inspections ^{#2}				High pressure turbine and low pressure turbine (A) internal inspection completed on Oct. 25.	
	Other facilities	Main transformer inspection preparation					Transportation into the factory completed on Oct. 31. Preparation for carrying in to be commenced on early April.
		House transformers inspection					6A, 6B Preparation for carrying in to be conducted from Feb. 25 to Feb. 27, and from Mar. 31 to Apr. 5.
		Reactor internal pump input transformer inspection					Preparation for carrying in to be conducted from Feb. 26 to Mar. 15 and on Mar. 25. (Total 4 units.) All of 4 units to be installed on Mar. 26 and Mar. 27.
		Main generator inspection					Inspection to be commenced on Mar. 10.
		500kV power cable (OF cable) inspection					Inspection commenced on Feb. 9. Energization for testing without load to be conducted from Mar. 29 to 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 to be commenced on Mar. 10.
		Stack inspection					Detailed inspection for top of stack to be commenced on Mar. 17.
Unit No.7	Reactor facilities	Fuel / control rod inspection ^{#1}				Visual inspection of fuels completed on Feb. 15. Visual inspection of channel boxes completed on Feb. 22. Visual inspection of control rod completed on Feb. 22.	
		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 to be confirmed on Mar. 14 and Mar. 15 when the reactor well would be filled up with water.	
		Reactor core isolation cooling system inspection				Inspection of pumps to be conducted from Jan. 14 to Mar. 20. Turbine inspection to be conducted from Feb. 14 to Mar. 26.	
	Turbine facilities	Turbine internal inspections ^{#2}				High pressure turbine and low pressure turbine (A) (B) (C) detailed inspection commenced on Dec. 1.	
	Other facilities	Main transformer inspection preparation					Preparation for carrying in commenced on Mar. 10.
		carrying in					Carrying in to be conducted from Mar. 31 to Apr. 5.
		House transformers inspection preparation					7A, 7B Preparation for carrying in to be conducted from Mar. 21 to Mar. 23.
		carrying in					7A Installation work to be commenced on Mar. 24.
		Reactor internal pump input transformer inspection					Two units carrying in (from unloading to temporary installation) to be conducted on Mar. 21. (Total of 4 units.) Two units carrying in to be conducted on Mar. 25. Installation work to be commenced on Mar. 25.
		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 to be conducted from Mar. 8 to Mar. 22.	
Discharge canal inspection / restoration					Discharge canal underwater inspection completed on Oct. 10. Internal inspection of discharge canal commenced on Feb. 26. Restoration work commenced on Mar. 10.		
Stack inspection					Internal inspection of stack to be conducted from Mar. 24 to Mar. 28.		

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 March 9th, 2008 (Sun) to April 5th, 2008 (Sat)

System/Equipment	Items	Mar. 9th (Sun) to Mar. 15th (Sat)	Mar. 16th (Sun) to Mar. 22nd (Sat)	Mar. 23rd (Sun) to Mar. 29th (Sat)	Mar. 30th (Sun) to Apr. 5th (Sat)	Status of Inspection / Restoration
Transformer (common) / Switch Yard	High-voltage start-up transformer #3 inspection	▶				Preparation for inspection to be conducted from Mar. 14 to Apr. 1.
	preparation inspection	▶				Internal inspection to be conducted from Apr. 2 to Apr. 7.
	On-site check / inspection / restoration of the oil protection bank for the transformer	▶				Unit No.7 Restoration work commenced on Dec. 25. Unit No. 7 Foundation repair work commenced on Feb. 20. Unit No.3 Preparation for restoration work commenced on Feb. 12.
Environmental Facilities	Inspection of house boilers	▶				House boiler (Arahama-side) 1A, 2A, 2B: Inspection underway. (Ohminato-side) 4A: Inspection underway. 4B: Inspection completed on Oct. 23.
	Restoration work for filtrate tank #3 and #4	▶				Preparation for restoration work to be commenced on Mar. 3. No.4 Restoration work to be commenced on Mar. 16.
Others	Restoration work for solid waste storage facility	▶				Drum soundness verification work commenced on Oct. 9. Drums to be transferred to temporary warehouse from Feb. 6.
	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.
	Restoration work for the on-site / outside roads & slope, etc.	▶				Restoration of the slope completed on Oct. 22. Restoration work for roads inside and outside of the site currently in progress.
	Outdoor fire protection system piping to be placed above ground, installation of fire protection tank, etc.	▶				Installation of fire protection tank commenced on Feb. 19 (17 tanks) Replacement of onsite panel of foam fire extinguisher commenced on Mar. 12. (Arahama-side) Work on installing fire protection system piping above ground to be commenced on Mar. 17. (Ohminato-side) Work on installing fire protection system piping above ground to be commenced on Mar. 27.
	Inspection of spent fuel transportation cask	▶				Inspection to be commenced on Feb. 5.
	Restoration work for port facility	▶				Preparation for restoration work commenced on Mar. 3. Restoration works on the wharf to be commenced on Mar. 17. South-side discharge canal sea water monitor to be transferred from Mar. 17 to Mar. 31.

※ 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 three 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 three 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.