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 May 18th, 2008 (Sun) to June 14th, 2008 (Sat)

| | / 18th, 2008 (Sun) to June 1 | | | |
|-----------|------------------------------|---|--|--|
| | stem/Equipment | Items | May 18th (Sun) to May 24th (Sat) May 25th (Sun) to May 31st (Sat) June 1st (Sun) to June 7th (Sat) June 8th (Sun) to June 14th (Sat) | * |
| 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 flesh to be conducted from Apr. 16 to May 30. Visual inspection of channel boxes to be conducted from Apr. 23 to May 30. |
| | | Inspection of new fuel storage warehouse and new fuels in the warehouse | | Inspection to be conducted 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 early July. |
| | | 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. Preparatiom for transportatin to be conducted from Jun. 3 to Jun 14. |
| | | Main generator inspection | | Inspection commenced on Feb. 7. Withdrawal of rotor completed on Mar. 5. |
| | | Stack inspection | | Inspection for substructure of piles commenced on Apr. 4. Detailed inspection for top of stack to be commenced on May 26. |
| | | 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 to be conducted on May 6, and from May 29 to Jun. 5. |
| | | House transformers inspection | | 2A, 2BTransportation 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. |
| Unit No.3 | Reactor facilities | Pressure suppression chamber inspection | | Inspection to be conducted from Mar. 31 to May 23. |
| | | Inspection of reactor recirculation piping applicable to the Fitness-for-Service rule | | Detailed inspection to be conducted from May 7 to the end of May. |
| | | Core shroud inspection | | Inapection commenced on May 19. |
| | 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 conducted from Oct. 18 to Nov. 26, and from May 12. Coordinating for the state of transportation into the factory. |
| | | 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 (unloading) 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 to be conducted from Apr. 1 to May 30 prior to restoration work. |
| 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 Jul. Visual inspection of fauntane 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 comenced on Jun. 12. |
| | Other facilities | Main transformer inspection | | Inspection completed on Dec. 13. Preparation for transportation into the factory conducted from Dec. 14 to Dec. 27. 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. |
| | | Stack inspection | | Detailed inspection for top of stack commenced on May 8. Inspection for substructure of piles to be commenced in early July. |
| | | Main exhaust duct inspection / restoration | V | Visual inspection completed on Oct. 5. Survey to be commenced on May 26 prior to restoration work. |
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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 May 18th 2008 (Sun) to June 14th 2008 (Sat)

| 18th, 2008 (Sun) to June | 14th, 2008 (Sat) | | | | | |
|--------------------------|--|--|----------------------------------|--|--|--|
| stem/Equipment | Items | May 18th (Sun) to May 24th (Sat) | May 25th (Sun) to May 31st (Sat) | June 1st (Sun) to June 7th (Sat) | June 8th (Sun) to June 14th (Sat) | Status of Inspection / Restoration |
| Reactor facilities | Jet pump inspection | V | | | | No.1 Disassembly completed on Feb. 28. Root-cause analysis and restoration policy under consideration. Verification work for installation completed on May 21. |
| | Pressure suppression chamber inspection | | | | | Inspection completed on May 20. |
| 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 tcompleted on May 16. |
| | Excitation transformers inspection | | | | | Transportation into the factory completed on May 16. |
| | Main generator inspection | | | | | Inspection commenced on Nov. 3. Carrying in (unloading) completed on Apr. 24. |
| | Stack inspection | | | | | Detailed inspection for top of stack completed on May 13. Inspection for substructure of piles to be commenced in early Jul. |
| | Main exhaust duct inspection / restoration | | | | | Visual inspection completed on Sep. 14. Survey commenced on Apr. 21 prior to restoration work. |
| 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 | | | | | Carrying in and installation work commenced on Apr. 30. |
| | House transformers inspection | | | | | 6A, 6B Carrying in completed on Apr. 12. Installation work commenced on Apr. 14. |
| | Reactor internal pump input transformer inspection | | | | | Carrying in completed and installation work commenced on Mar. 26. (All of 4 units.) |
| | 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 inspetion / 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 early Jun. Internal inspection of stack completed on Apr. 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 | | | V | | Installation work completed on May 21. Electrical testing to be conducted from Jun. 2 to Jun. 6. |
| | 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 inspetion / restoration | | | | | Discharge canal underwater inspection completed on Oct. 10. Internal inspection of discharge canal commenced on Feb. 26. Restoration work commenced on Mar. 10. |
| | tem Equipment Reactor facilities Turbine facilities Other facilities Turbine facilities Other facilities Turbine facilities Turbine facilities Turbine facilities | Reactor facilities Jet pump inspection Pressure suppression chamber inspection Turbine facilities Main transformer inspection House transformers inspection Excitation transformers inspection Excitation transformers inspection Main generator inspection Stack inspection Main exhaust duct inspection / restoration Turbine facilities Main transformers inspection Main exhaust duct inspection / restoration Turbine facilities Main transformer inspection House transformers inspection Reactor internal pump input transformer inspection Main generator inspection Stock V power cable (OF cable) inspection Turbine facilities Main transformer inspection Turbine facilities Turbine inspection Turbine facilities Main transformer inspection Turbine facilities Main transformer inspection Turbine facilities Main transformer inspection Main generator inspection Main generator inspection House transformer inspection Main generator inspection Main generator inspection Reactor internal pump input transformer inspection Main generator inspection Reactor internal pump input transformer inspection Main generator inspection Main generator inspection | tem/Equipment ltems | Reactor facilities Reactor facil | Resetor facilities Resetor facil | Recent facilities Republication Recent facilities Recent |

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]

| System/Equipment | Items | May 18th (Sun) to May 24th (Sat) | May 25th (Sun) to May 31st (Sat) | June 1st (Sun) to June 7th (Sat) | June 8th (Sun) to June 14th (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 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. Unit No.3 Recovery of oil-contaminated soil commenced on May. 9. Unit No.2 Preparation for restoration work commenced on May 20. |
| Environmental Facilities | Inspection of house boilers | | | | | (Arahama-side) 1A, 2A, 2B; Restoration work commenced on Apr. 8. (Ohminato-side) 4A: Inspection underway. 4B: Inspection completed on Oct. 23. |
| | Restoration work for filtrate tank #3 and #4 | | | | | No.4 Restoration work to be conducted from Mar. 14 to Jun. 2. No.4 Water leakage test completed on Apr. 25. No.5 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 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. Preparation for reinforcement commenced on Apr. 30. |
| | 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 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 thre reactor core of each unit.

"Channel box svatual 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 rods 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 thre 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.