

Press Release Information	Nuclear and Industrial Safety Agency (NISA), Ministry of Economy, Trade and Industry (METI)
Consequences of "the Niigataken Chuetsu-oki Earthquake in 2007" at Kashiwazaki-Kariwa Nuclear Power Station, Tokyo Electric Power Company (the 7 th report)	

July 25, 2007

NISA/METI

On July 25, 2007, Nuclear and Industrial Safety Agency (NISA) received information from Tokyo Electric Power Company on the situation of Kashiwazaki-Kariwa Nuclear Power Station, as shown below.
--

(Excerpts from the report submitted by Tokyo Electric Power Company)

I. The report submitted by TEPCO

On July 25, NISA received a reports from TEPCO pursuant to the provision of Article 62-3 of the Law on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Nuclear Reactors and the provision of Article 3 of the Rule for Incident Report on the Electric Facilities etc. set forth based in the Electricity Utilities Industry Law. The report includes information on 1) leakage of water containing radioactive materials in the uncontrolled area of Unit 6 (as confirmed on July 16), 2) damage of the drive axis universal joint of overhead crane in the Unit 6 reactor building (as confirmed on July 24), 3) water puddles on the operating floors at Units 1 to 7(as confirmed on July 25), and 4) fire of the house transformer at Unit 3 (as confirmed on July 25).

II. The information submitted by TEPCO

TEPCO submitted the below information on the status of Kashiwazaki-Kariwa Nuclear Power Station:

- 1) As for the puddles of water on the operating floors (as announced on July 17), wipeout work of the water completed for Units 2 to 7 and is now being conducted for Unit 1.
- 2) On July 25, the regular manual start-up test of the emergency diesel generators was conducted (one for each unit). The regular manual start-up tests of remaining 13 emergency diesel generators will be conducted as planned over the next two days. (As of 18:00, July 25, it was confirmed that no malfunction on the diesel generators has been identified)

(Actions of NISA)

1. NISA will rigorously assess the incidents reported by the present report and confirm the measure against the recurrence of similar incidents, which TEPCO will later implement.
2. On July 25, Mr. Kato, Deputy Director General for Nuclear Power, visited the site again and is conducting the spot inspection together with the nuclear safety inspectors. As the results of the inspection of the regular manual start-up test of emergency diesel generators, they confirmed no malfunction on the diesel generators inspected on that day.
3. The inspection of the spots have been conducted for the flooding of the 5th basement floor of the reactor combination building (as announced on July 17) and the damage of the drive axis universal joint of overhead crane in the Unit 6 reactor building (as announced on July 24). NISA will conduct hearings from the personnel of TEPCO on the status of detail inspection progress at adequate times.
4. At present, no significant reading of fluctuation is identified by either the radiation monitoring systems of the main stacks nor the monitoring posts.

Contacts:

Mr. Nei

Nuclear Power Inspection Division, NISA/METI

Phone: +81-3-3501-9547

Mr. Morita

Nuclear Incident Response Office,

Nuclear Emergency Preparedness Division, NISA/METI

Phone: +81-3-3501-1637

Mr. Sakurada

Electric Power Safety Division, NISA/METI

Phone: +81-3-3501-1742

Attachment:

Plant Status of Kashiwazaki-Kariwa Nuclear Power Station after the Niigataken Chuetsu-oki Earthquake in 2007 (as of July 25, 2007)

Plant Status : All unit were shutdown after the occurrence of the earthquake.

1. Visual Inspection Results After the Earthquake: A total of 63 incidents have been confirmed to date (excluding 4 incidents of reactor automatic scram due to the earthquake).

(1) Incidents related to radioactive materials (15 events)

Unit	Status Prior to Earthquake	Status at the Time of Earthquake	Current Status
Unit 1	Shutdown (in an outage)	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Investigation on the size of the displacement and whether there had been a leakage of radioactivity is being conducted. (Already announced on July 17.)
		Damage to fire protection system pipings leading to a 40cm-deep puddle of water on the B5 floor (the lowest floor, controlled area) of the Reactor Combination Building.	Amount of leakage: about 1,670m ³ . Confirmed re-leakage with radioactivity. (Already announced on July 19.) After repairing the fire protection system piping, depth of water is 48 cm. Maximum amount of leakage: about 2,000m ³ . (Already announced on July 23.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17. Commenced soaking up water from the floor on July 23. (Already announced on July 23.)
Unit 2	Starting up	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Investigation on the size of the displacement and whether there had been a leakage of radioactivity is being conducted. (Already announced on July 17.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17. <u>Completed soaking up water from the floor on July 24.</u>
Unit 3	Operating	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Investigation on the size of the displacement and whether there had been a leakage of radioactivity is being conducted. (Already announced on July 17.)

Bold type characters: newly registered incident. Underlined part: incident already announced or corrected part.

Unit	Status Prior to Earthquake	Status at the Time of Earthquake	Current Status
		Water puddle on the reactor building refueling floor.	Already announced on July 17. Completed soaking up water from the floor on July 20.
Unit 4	Operating	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Investigation on the size of the displacement and whether there had been a leakage of radioactivity is being conducted. (Already announced on July 17.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17. Completed soaking up water from the floor on July 23.
Unit 5	Shutdown (in an outage)	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Size of the displacement: about 4cm. Investigation whether there had been a leakage of radioactivity. (Already announced on July 17.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17. <u>Completed soaking up water from the floor on July 24.</u>
Unit 6	Shutdown (in an outage)	Minuscule amount of radioactivity found on the 3rd floor of the reactor building (0.6 liter; 2.8×10^2 Bq) and mezzanine 3rd floor of the reactor building which is an uncontrolled area (0.9 liter; 1.6×10^4 Bq). Leaked water discharged to the sea via water discharge outlet (Total amount of discharged water: 1.2m^3 ; radioactivity: 9.0×10^4 Bq; no change observed on the seawater radioactivity monitor.) No water is discharged at this moment.	Radionuclides discharged to the sea is as follows: Co-58 (7.7×10^3 Bq) Co-60 (4.3×10^4 Bq) Sb-124 (3.5×10^4 Bq). (Already announced on July 20.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17. Completed soaking up water from the floor on July 23.
Unit 7	Operating	Detected Iodine and particulate materials (Cr-51 and Co-60) during a weekly periodic measurement of the main exhaust stack. Detected radioactivity: 3×10^8 Bq.	Already announced on July 17. <u>The measurements made on July 18 detected the release of I-131 and I-133. However, for the period of July 19 to July 23, no radioactive material has been detected. (Already announced on July 24.)</u>

Bold type characters: newly registered incident. Underlined part: incident already announced or corrected part.

Unit	Status Prior to Earthquake	Status at the Time of Earthquake	Current Status
		Water puddle on the reactor building refueling floor.	Detected radioactivity on July 20. Completed soaking up water from the floor on July 21.

Bold type characters: newly registered incident. Underlined part: incident already announced or corrected part.

(2) Incidents not related to radioactive materials (52 events)

Unit	Status Prior to Earthquake	Status at the Time of Earthquake	Current Status
Unit 1	Shutdown (in an outage)	Departure from Limiting Condition of Operation (LCO) due to low water level of spent fuel pool and subsequent return to normal level.	Already announced on July 16.
		Small amount oil leakage (still continuing) from the exciter power transformer; displacement from foundation base.	Unknown amount of oil leakage. Small amount of leakage continues. (Already announced on July 17.)
		Double door of the reactor building kept open due to power loss.	No departure from LCO since the unit is in cold shutdown condition. (Already announced on July 17.) Closed the double door after the power had been restored on July 24. (returned to normal condition) <u>(Already announced on July 24.)</u>
		A puddle of water extending from the electrical instrument room of the emergency diesel generator (A) controlled room boundary door to non-controlled area.	Amount of leakage: about 4 liters. Leakage ceased. No radioactivity. (Already announced on July 17.)
		Power loss of liquid waste treatment system control room control panel.	No impact on plant monitoring. (Already announced on July 17.)
		Displacement at the connection between house transformers 1A and 1B and isolated phase bus. Breakage of foundation bolt.	Investigating the size of the displacement. (Already announced on July 17.)
		Subsidence, slant, crack and abruption of concrete, opening of the joint on the oil protection bank of transformer.	Opening of the joint: 10 locations, maximum width 7cm. (Already announced on July 19.)
Unit 2	Starting up	Reactor automatic scram due to earthquake.	Already announced on July 16.
		Departure from LCO due to low water level of spent fuel pool and subsequent return to normal level.	Already announced on July 16.
		Oil leakage from between the main transformer and its cooler main piping (still continuing). Breakage of foundation bolt.	Unknown amount of leakage. Considering oil removal. (Already announced on July 17.) <u>Leakage stopped by covering with filler.</u>
		Lateral displacement of exciter power transformer foundation and duct for power bus.	Investigating the size of the displacement. (Already announced on July 17.)
		Water intake screen washing pump unable to start.	Already announced on July 17.

Bold type characters: newly registered incident. Underlined part: incident already announced or corrected part.

Unit	Status Prior to Earthquake	Status at the Time of Earthquake	Current Status
		Displacement of the turbine building blowout panel.	No leakage radioactivity. (Already announced on July 17.) Temporarily restored on July 20. (Already announced on July 21.)
		Oil leakage in the oil tank room of the turbine driven reactor feedwater pump (B).	Amount of oil leakage: about 800 liters. Leakage ceased. (Already announced on July 17.) Completed oil recovery on July 19.
		Subsidence, lateral displacement of the oil protection bank of transformer.	Lateral displacement : one location, 2cm wide. (Already announced on July 19.)
Unit 3	Operating	Reactor automatic scram due to earthquake.	Already announced on July 16.
		LCO due to low water level of spent fuel pool and subsequent return to normal level.	Already announced on July 16.
		Departure from LCO due to displacement of the reactor building blowout panel and subsequent return to within the LCO due to cold shutdown of the unit.	Already announced on July 16. (Returned within the LCO since the unit came to a cold shutdown condition.) Temporarily replaced the blowout panel on July 21. (Already announced on July 21.)
		Displacement of the turbine building blowout panel.	Already announced on July 18. Temporarily replaced on July 20. (Already announced on July 21.)
		House transformer 3B caught on fire.	On July 16 at 10:15AM, house transformer 3B was found on fire. Fire extinguished at 12:10PM on the same day. (Already announced on July 16.)
		Oil leakage from oil exhaust piping of K-3/4 low voltage start-up transformer (3SB).	Unknown amount of oil leakage. Leakage continuing. Low voltage start-up transformer shutdown due to continuing oil leakage. (Already announced on July 17.) Confirmed that oil leakage ceased on July 23. (Already announced on July 23.)
		Displacement in exciter power transformer foundation and power bus duct.	Investigating the size of the displacement. (Already announced on July 19.)
Unit 4	Operating	Reactor automatic scram due to earthquake.	Already announced on July 16.

Bold type characters: newly registered incident. Underlined part: incident already announced or corrected part.

Unit	Status Prior to Earthquake	Status at the Time of Earthquake	Current Status
		Leakage of seawater from crack occurred in rubber flexible joint between condenser B seawater box and connecting valve.	Size of the crack: 3.5m. Amount of leakage: 24m ³ . (Already announced on July 17.) Leakage ceased on July 19.
		Service platform in the spent fuel pool fell on the spent fuel storage rack with spent fuels. No damage to the fuels.	Spent fuel pool water analyses confirmed there is no damage to fuels.
		Subsidence and tilt of the oil protection bank of transformer.	Opening of the joint: one location, maximum width 20cm. (Already announced on July 19.)
Unit 5	Shutdown (in an outage)	Leakage from No.4 filtered water tank.	Amount of oil leakage: about 900m ³ . Leakage ceased. No radioactivity. (Already announced on July 17.)
		Water intake screen washing pump unable to start.	Already announced on July 17.
Unit 6	Shutdown (in an outage)	Oil leakage from low voltage start-up transformer (6SB).	Low voltage start-up transformer shutdown due to small amount of continuing oil leakage. (Already announced on July 17.) Confirmed that oil leakage ceased on July 23. (Already announced on July 23.)
		Dislocation of the service platform in the spent fuel pool.	Spent fuel rack is underneath the dislocated service platform; however the platform is fixed on a wire. Considering how to handle the situation. (Already announced on July 19.)
Unit 7	Operating	Reactor automatic scram due to earthquake.	Already announced on July 16.
		Degradation of water tightness of the water-tight doors of the Reactor Core Isolation Cooling System and Residual Heat Removal System (A) and (C).	Already announced on July 17.
		Subsidence, slant, opening of the joint on the oil protection bank of transformer.	Opening of the joint: 2 locations, maximum width 4cm. (Already announced on July 19.)
		Service platform in the spent fuel pool fell on the spent fuel storage rack with spent fuels. No damage to the fuels.	Spent fuel pool water analyses confirmed there is no damage to fuels. (Already announced on July 19.)
Switch yard	—	500kV New Niigata 2L shut down.	Already announced on July 16.
		Slight gas leakage from breaker of 500kV New Niigata 2L.	Temporarily repaired with rubber bands. (Already announced on July 17.)

Bold type characters: newly registered incident. Underlined part: incident already announced or corrected part.

Unit	Status Prior to Earthquake	Status at the Time of Earthquake	Current Status
		Oil leakage from 500kV South Niigata 2L black phase bushing. (South Niigata 2L shut down.)	Unknown amount of oil leakage. Considering oil removal. (Already announced on July 17.)
		Slippage of soil from the east-side slope.	Cracks with width of about 10cm. (Already announced on July 19.)
Solid Waste Storage Warehouse	—	Several hundred of drums in the solid waste storage warehouse tipped over and several tens of drums were found with their lids open.	No radioactive material detected from measurement of airborne radioactive material concentration in 4 locations of the solid waste storage warehouse. Confirmed water leakage from tipped over drums. Amount of leakage: 16 liters. No radioactivity. Soaked up leakage from floor. (Already announced on July 18.) Although no impact on external environment has occurred, all intake and exhaust opening of the warehouse were sealed on July 20. (Already announced on July 21.)
Administration Office Building	—	Normal power supply to the main office building were shut down. Power is supplied from emergency power source for the emergency response room, etc.	Power supply to the emergency response room has been restored to normal power. (Already announced on July 17.)
		No damage occurred to the building structure (columns and beams) of the office and information buildings. An expansion joint was damaged; many cracks occurred; many glass panes broke; the rooftop air conditioning unit was damaged; the waterproof tank was damaged; ducts fell; cooking equipment fell.	Already announced on July 17.
Site and others	—	Partial damage to the diagonal steel frame of the lightning arrester tower.	No damages found on main frame. (Already announced on July 18.)
		Penetration of the joint in the bank of heavy oil tank.	Already announced on July 18. Restored on July 20. (Already announced on July 21.)
		Part (north slope) of the soil disposal area collapsed.	Already announced on July 17.
		Water leaked from the drinking water tank.	Already announced on July 17.

Bold type characters: newly registered incident. Underlined part: incident already announced or corrected part.

Unit	Status Prior to Earthquake	Status at the Time of Earthquake	Current Status
		<p>Fire protection system: the pipe was damaged at five locations, resulting in water leaks.</p> <p>KK-1: Northeast side of the reactor building</p> <p>KK-1: West side of the turbine building</p> <p>KK-1: Near the fire hydrant adjacent to the diesel oil tank</p> <p>KK-2: Feed line to the service building</p> <p>KK-2: Feed line to the heat exchanger building</p>	<p>KK-1: Northeast side of the reactor building: Restored on July 18. (Already announced on July 19.)</p> <p>KK-1: West side of the turbine building: Restored on July 20. (Already announced on July 21.)</p> <p>KK-1: Near the fire hydrant adjacent to the diesel oil tank: Restored on July 19. (Already announced on July 19.)</p> <p>KK-2: Feed line to the service building: Restored on July 17. (Already announced on July 19.)</p> <p>KK-2: Feed line to the heat exchanger building: Restored on July 20. (Already announced on July 21.)</p>
		<p>The environmental minicomputer (Unit 1 service building) and telemeter transmission to the prefecture became disabled.</p>	<p>Restored telemeter transmission to the prefecture on July 17 at 15:40. (Already announced on July 17.)</p> <p>Restored all system on July 18 at 18:00. (Already announced on July 19.)</p>
		<p>The station road was cut off. Soil liquefaction occurred in a wide area of the site.</p>	<p>Currently travelable. (Already announced on July 17.)</p>
		<p>A 50 cm difference in road level occurred in the approach road, making it impassable. Repair work begun.</p>	<p>Currently travelable. (Already announced on July 17.)</p>
		<p>Bank protection of the north-south discharge outlet sunk.</p>	<p>Already announced on July 17.</p>
		<p>Water intake bank protection joint crack.</p>	<p>Size of crack: maximum about 8cm. (Already announced on July 17.)</p>
		<p>Onsite control panel of heavy oil tank fire protection system damaged.</p>	<p>Restored on July 19. (Already announced on July 17.)</p>

Bold type characters: newly registered incident. Underlined part: incident already announced or corrected part.

2. Results of detailed inspection.

Unit	Status Prior to Earthquake	Status at the Detailed Inspection after the Earthquake	Current Status
Unit 6	Shutdown (in an outage)	<u>Breakage found on the coupling of the drive axis of the Unit 6 reactor building ceiling crane.</u>	<u>Already announced on July 24.</u>

Other information:

- Total number of injured person at the Kashiwazaki-Kariwa site since the occurrence of earthquake: **9** (no radiation exposure).
- Reactor water analyses for Units 2 through 7, which have fuels in the reactor core, confirmed there is no damage to fuels in the reactor core.
- Periodic measurements for radioactivity from the main exhaust stacks for Units 1, 2, 3, 4, 5, and 6 confirmed there is no radioactivity.
- Periodic manual start-up surveillance testing for 1 out of 3 emergency diesel generators for Units 1, 2, 5, and 7 were conducted and all were confirmed to be functional on July 25 before noon. (The other units will be conducted on the July 25 afternoon.) A total of 13 tests will be conducted in 2 days (excluding one for Unit 1 that has been under inspection since before the earthquake).

Please note that black smoke will come out of the exhaust pipe installed on top of the reactor building at the time of start-up of the diesel generators.