

PRI-07-32

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 3rd Report)	

July 19, 2007

NISA/METI

On July 19, 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)

Tokyo Electric Power Company released information on the situation of Kashiwazaki-Kariwa Nuclear Power Station, as specified in the attached document.

As to the causes of the water leakage in the uncontrolled area of the unit 6 (announced on July 16) , it is estimated that the water from the spent fuel pool is transmitted over electric cables and its conduit of the fuel handling machine and the water dropped in the area. Visual inspections of components available to conduct visual inspection were completed today. Its inspection results are summarized in the attached document. Afterwards, minor malfunctions will be restored adequately and a detailed inspection plan for safety significant components such as reactor internals will be drawn up and then detail investigation will be conducted based on this plan.

(Actions of NISA)

1. Mr. Kato, Deputy Director-General for Nuclear Power, and nuclear safety inspectors of Kashiwazaki regional office still in the site. It was confirmed that no damages on the reactor pressure vessel and other components in the reactor containment as the results of visual inspection.
2. At the present time, no significant indication of radioactivity by main stack radiation monitors and monitoring posts.

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Attachment:

Plant Status of Kashiwazaki-Kariwa Nuclear Power Station after Niigataken Chuetsu-oki Earthquake in 2007 (as of July 19, 2007)

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

1. Incidents related to radioactive materials (14 events)

Unit	Status prior to Earthquake	Events	Remarks
Unit 1	Shutdown (in an outage)	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Amount of displacement is unknown. Leakage of radioactivity is under investigation. (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, <u>controlled area</u>) of <u>the Reactor Combination Building</u> .	The amount of leaked water is about 1670m ³ . <u>Leakage was restarted. Radioactivity was detected.</u> (Already announced on July 17 and corrected on July 19)
		Water puddle on the reactor building refueling floor.	Already announced on July 17.
Unit 2	Starting up	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Amount of displacement is unknown. Leakage of radioactivity is under investigation. (Already announced on July 17.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17.
Unit 3	Operating	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Amount of displacement is unknown. Leakage of radioactivity is under investigation. (Already announced on July 17.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17.
Unit 4	Operating	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Amount of displacement is unknown. Leakage of radioactivity is under investigation. (Already announced on July 17.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17.
Unit 5	Shutdown (in an outage)	Displacement of the duct connected to the main exhaust stack. Detailed investigation underway.	Amount of displacement is about 4cm. Leakage of radioactivity is under investigation. (Already announced on July 17.)
		Water puddle on the reactor building refueling floor.	Already announced on July 17.

Unit	Status prior to Earthquake	Events	Remarks
Unit 6	Shutdown (in an outage)	<p>Minuscule amount of radioactivity found on the 3rd floor of the reactor building (0.6 liter; 2.8×10^2Bq) and mezzanine 3rd floor of the reactor building which is an uncontrolled area (0.9 liter; 1.6×10^4Bq). Leaked water discharged to the sea via water discharge outlet (Total amount of discharged water: 1.2m^3; radioactivity: 9.0×10^4Bq; no change observed on the seawater radioactivity monitor.) No water is discharged at this moment.</p>	<p>Already announced on July 16. Correction was announced on July 18 (before correction: radioactivity is about 6.0×10^4Bq)</p>
		<p>Water puddle on the reactor building refueling floor.</p>	<p>Already announced on July 17.</p>
Unit 7	Operating	<p>Detected Iodine and particulate materials (Cr-51 and Co-60) during a weekly periodic measurement of the main exhaust stack. Detected radioactivity: 3×10^8Bq.</p>	<p>Already announced on July 17. <u>To strengthen the monitoring, measurement frequency was increased.</u></p>

2. Incidents not related to radioactive materials (53 events)

Unit	Status prior to Earthquake	Events	Remarks
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.	Amount of leaked oil is unknown. Oil is slightly still leaking. (Already announced on July 17.)
		Double door of the reactor building kept open due to power loss.	There is no deviation from LCO owing to a cold standby shut down state. (Already announced on July 17.)
		A puddle of water extending from the electrical instrument room of the emergency diesel generator (A) controlled room boundary door to non-controlled area.	The amount of leaked water is about 4 liters. The leakage was terminated. No radioactivity was detected. (Already announced on July 17.)
		Power loss of liquid waste treatment system control room control panel.	No adverse effects on the 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.	The amount of displacement is under investigation. (Already announced on July 17.)
		Subsidence, slant, crack and abruption of concrete, opening of the joint on the oil protection bank of transformer.	
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.	Amount of leaked oil is unknown. Oil extraction is under consideration. (Already announced on July 17.)
		Lateral displacement of exciter power transformer foundation and duct for power bus.	Amount of displacement is under investigation. (Already announced on July 17.)
		Water intake screen washing pump unable to start.	Already announced on July 17.
		Displacement of the turbine building blowout panel.	No radioactive material release. (Already announced on July 17.)

Unit	Status prior to Earthquake	Events	Remarks
		Oil leakage in the oil tank room of the turbine driven reactor feedwater pump (B).	The amount of leakage is about 800 liters. The leakage was terminated. (Already announced on July 17.) <u>Recovery of the leaked oil was completed on July 19.</u>
		Subsidence, lateral displacement of the oil protection bank of transformer.	Up to 20mm
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. (Afterward, restoration of deviation from the operational limiting condition owing to a cold standby shut down state)
		Displacement of the turbine building blowout panel.	Already announced on July 18.
		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).	Amount of leaked oil is unknown. Oil is still leaking. A low voltage start-up transformer is inoperable. (Already announced on July 17.)
		Displacement in exciter power transformer foundation and power bus duct.	The amount of displacement is under investigation.
Unit 4	Operating	Reactor automatic scram due to earthquake.	Already announced on July 16.
		Leakage of seawater from crack occurred in flexible joint between condenser B seawater box and connecting valve.	Crack length is about 3.5m. Amount of leaked water is 24m ³ . (Already announced on July 17.) <u>The leakage was terminated.</u>
		Service platform in the spent fuel pool fell on the spent fuel storage rack with spent fuels. No damage to the fuels.	As the results of radioactivity analysis of the pool water, no adverse effect on the fuels was found.
		Subsidence and tilt of the oil protection bank of transformer.	
Unit 5	Shutdown (in an outage)	Leakage from No.4 filtered water tank.	The amount of leaked water is about 900m ³ . The leakage was terminated. No radioactivity was detected. (Already announced on July 17.)
		Water intake screen washing pump unable to start.	Already announced on July 17.

Unit	Status prior to Earthquake	Events	Remarks
Unit 6	Shutdown (in an outage)	Oil leakage from low voltage start-up transformer (6SB).	Oil is still leaking. A low voltage start-up transformer is inoperable. (Already announced on July 17.)
		Dislocation of the service platform in the spent fuel pool.	There are spent fuel storage racks beneath the work platform, it is fixed by a wire. Necessary measures are under consideration.
Unit 7	Operating	Water puddle on the reactor building refueling floor.	Already announced on July 17.
		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.	
		Service platform in the spent fuel pool fell on the spent fuel storage rack with spent fuels. No damage to the fuels.	As the results of radioactivity analysis of the pool water, no adverse effect on the fuels was found.
Switch yard	—	500kV New Niigata 2L shut down.	Already announced on July 16.
		Slight gas leakage from breaker of 500kV New Niigata 2L.	A rubber band is being used as an emergency measure. (Already announced on July 17.)
		Oil leakage from 500kV South Niigata 2L black phase bushing. (South Niigata 2L shut down.)	The amount of leakage is unknown. Oil is still leaking. (Already announced on July 17.)
		Slippage of soil from the east side slope.	Cracks with 10cm width were found.
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.	Radioactive material concentration in the air in the solid radwaste storage was measured at 4 locations, no radioactive material was detected. It was confirmed that water leaks from the fallen drums and the amount of leaked water is 16 liters. No radioactivity was detected. It is still under inspection. (Already announced on July 18.)
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 for the emergency response room was only restored from an emergency power supply to a normal power supply. (Already announced on July 17.)

Unit	Status prior to Earthquake	Events	Remarks
		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 on the main component was found. (Already announced on July 18.)
		Penetration of the joint in the bank of heavy oil tank.	Already announced on July 18. <u>Repair work is being conducted.</u>
		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.
		Fire protection system: the pipe was damaged at five locations, resulting in water leaks. KK-1: Northeast side of the reactor building KK-1: West side of the turbine building KK-1: Near the fire hydrant adjacent to the diesel oil tank KK-2: Feed line to the service building KK-2: Feed line to the heat exchanger building	KK-2: Already announced on July 18. Other unit: Already announced on July 17. <u>KK-1: Northeast side of the reactor building: Restored on July 18</u> <u>KK-1: West side of the turbine building: To be restored on July 19</u> <u>KK-1: Near the fire hydrant adjacent to the diesel oil tank: Restored on July 19</u> <u>KK-2: Feed line to the service building: Restored on July 17</u> <u>KK-2: Feed line to the heat exchanger building: To be restored on July 20</u>
		The environmental minicomputer (Unit 1 service building) and telemeter transmission to the prefecture became disabled.	Only the prefecture's telemeter equipment had restored by 3:40 pm on July 17. (Already announced on July 17.) <u>All functions were restored at 18:00 on July 18.</u>
		The station road was cut off. Soil liquefaction occurred in a wide area of the site.	Roads are now available for traffic. (Already announced on July 17.)
		A 50 cm difference in road level occurred in the approach road, making it impassable. Repair work begun.	Roads are now available for traffic. (Already announced on July 17.)
Bank protection of the north-south discharge outlet sunk.	Already announced on July 17.		

Unit	Status prior to Earthquake	Events	Remarks
		Water intake bank protection joint crack.	Maximum crack length is about 8cm (Already announced on July 17.)
		Onsite control panel of heavy oil tank fire protection system damaged.	To be tentative restored on July 19.

Note: Total number of injured person at the Kashiwazaki-Kariwa site since the occurrence of earthquake: 7.