

Oil Leakage at Unit 6 Emergency Diesel Generator (B) in Fukushima Daiichi Nuclear Power Station

- Overview of the incident

During a patrol on Unit 6 emergency diesel generator (B) (hereafter D/G6B) in the morning on July 23, a TEPCO operator found that a valve gear oil injection tank was in irregularly high level, and oil was leaking on the floor.

- Timeline

6:25 AM - 6:40 AM Oil level of valve gear oil injection tank was found to be irregularly high, and an oil supply valve was found to be slightly opened. The oil supply valve was closed immediately. Oil leakage of approx. 3m x approx. 2m x approx. 1mm (approx. 6 liters) was found on the bottom of D/G6B. Oil was leaking continuously in a string-shape (a pencil lead sized). A drain receiving pan was dislocated.

6:44 AM The incident was reported to an employee on night-duty.

7:05 AM The incident was reported to the fire department.

7:12 AM Self defense fire-brigade was arrived at the site.

10:19 AM The firemen arrived at the site.

10:24 AM Site investigation by the firemen was completed.

10:30 AM - 11:13 AM Wiping of the oil was conducted.

- Leakage amount

Approx. 3m x approx. 2m x approx. 1mm (approx. 6 liters) on the floor
(Information as of July 23: Approx. 5m x approx. 5m x approx. 1mm (approx. 25 liters) on the floor)

- Estimated cause

The oil supply valve was opened from the morning on July 22 to 10:30 AM on July 23. It is estimated that the oil was overflowed from the valve gear oil injection tank, since lubricant oil was supplied gradually while a priming pump automatically operates for 10 minutes every hour.

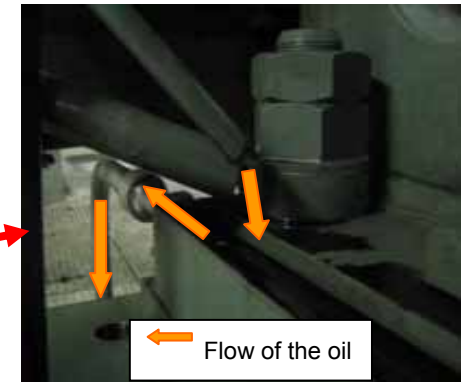
(Information as of July 11: The oil supply valve was not completely closed when oil supply of the valve gear oil injection tank was performed on July 11. In addition, the oil was supplied gradually due to the temperature setting of supply line (35°C - 40°C) and the pressure of lubricant oil priming pump, which automatically operates for 10 minutes every 50 minutes. The cause of the oil leakage is estimated that the lubricant oil priming pump was in continuous operation status in the night before due to the decrease of air temperature in the past week, and the leakage occurred from a overflow line since oil surface of the valve gear oil injection tank was surged.

-Countermeasures

1. Chain lock will be used to ensure the closing of the supply valve of the valve gear oil injection tank.
2. Fixing tool, which is fixed at the similar valve, will be installed.
3. Chain lock will be used to ensure the closing of the similar valve.
4. A guide will be installed in order to prevent the drain receiving pan from dislocation.
5. Locking management of the door at the D/G Building, etc. will be enhanced.



Valve gear oil injection tank of D/G6B



Flow of the oil



Drain receiving pan of D/G crankcase



Wiping of the oil was conducted



Chain lock used to ensure the closing of the supply valve of the valve gear oil injection tank

* This report has revised on August 7, 2013, since the leakage amount and the estimated cause was finalized due to the subsequent investigation.