

Power Supply Facilities Failure at Fukushima Daiichi Nuclear Power Station

< Reference >
March 19, 2013
Tokyo Electric Power Company

At around 6:57 PM on March 18, 2013, there was an incident where the power supply facilities in the Main Anti-earthquake Building at Fukushima Daiichi Nuclear Power Station momentarily stopped. Upon investigation, the regular M/C (Metal-clad switch gear) in the Process Building, common M/C4A and Units 3-4 temporary M/C (A) were found to be stopped due to the incident.

Affected (suspended) facilities

- Cesium adsorption apparatus (Kurion) of the water treatment facility
- Unit 3 spent fuel pool alternative cooling system (Primary and secondary systems)
- Unit 4 spent fuel pool alternative cooling system (Primary and secondary systems)
- Unit 3 PCV gas control system (A system)
- Common pool cooling purification system

The following two facilities were found to be suspended though not due to the M/C main line being suspended.

- Unit 1 spent fuel pool alternative cooling system (Secondary system)*¹
- Nitrogen separator (B)*² (Has been recovered)

*¹ The primary system of Unit 1 spent fuel pool alternative cooling system was manually stopped at 9:10 PM for the purpose of protecting the pumps of the system.

*² No impact on nitrogen injection at Units 1-3 as the nitrogen separator (A) has been in operation.

Facilities not affected

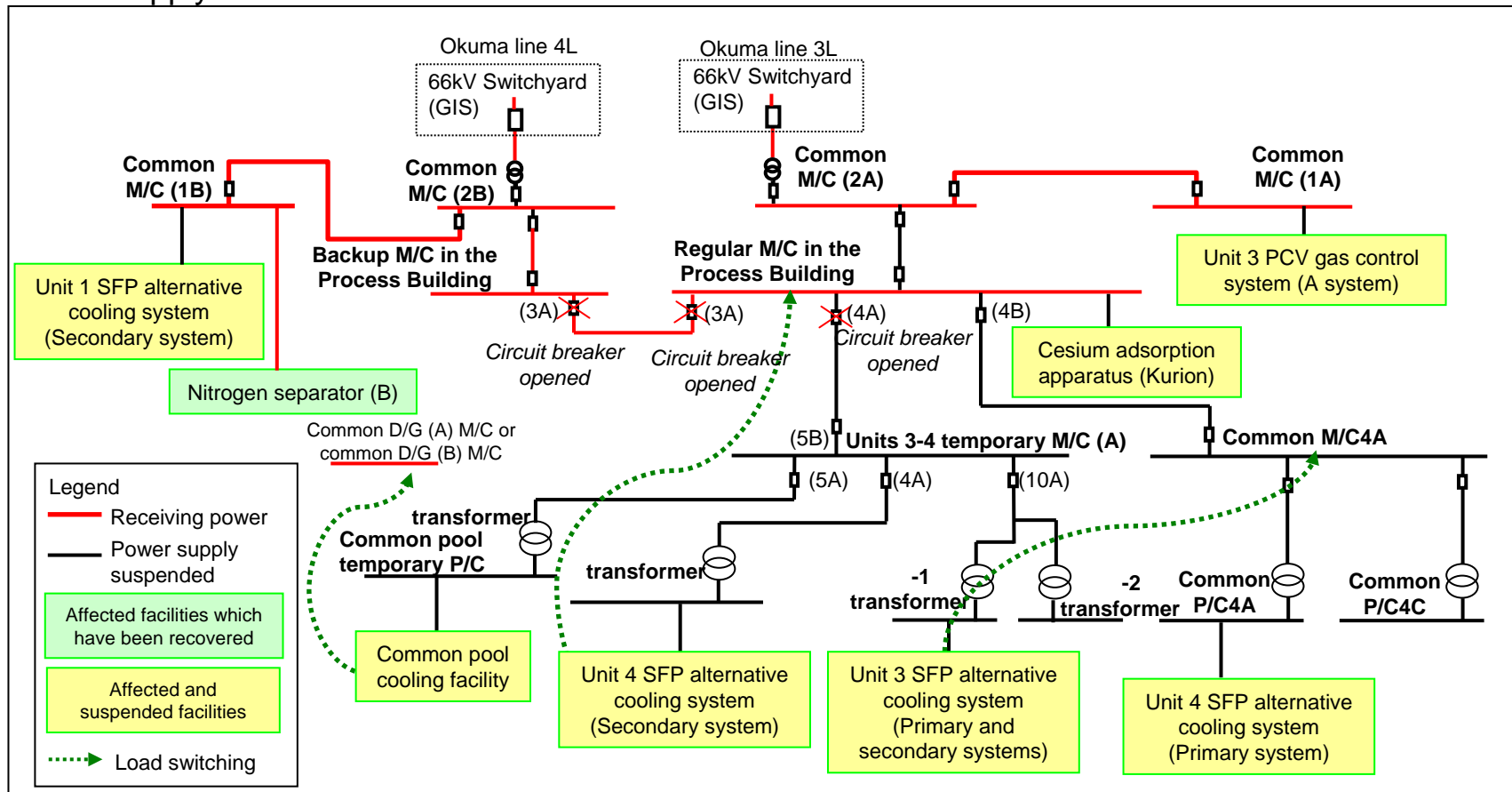
- Units 1-3 reactor water injection systems
- Unit 2 spent fuel pool alternative cooling system
- Units 1-3 PCV gas control systems (being monitored)
- Monitoring post data

Status of investigation/recovery

- Units 3-4 temporary M/C (A) is being investigated in detail (an alternative method to switch to another line is also under consideration).
- The regular M/C in the Process Building and the common M/C4A have received power.

Affected facilities	Power supply
Cesium adsorption apparatus (Kurion)	Regular M/C in the Process Building
Unit 1 spent fuel pool alternative cooling system (Secondary system)	Common M/C 1B
Unit 3 spent fuel pool alternative cooling system (Primary system)	Units 3-4 temporary M/C (A)
Unit 3 spent fuel pool alternative cooling system (Secondary system)	Units 3-4 temporary M/C (A)
Unit 4 spent fuel pool alternative cooling system (Primary system)	Common M/C 4A
Unit 4 spent fuel pool alternative cooling system (Secondary system)	Units 3-4 temporary M/C (A)
Common pool cooling facility	Units 3-4 temporary M/C (A)
Unit 3 PCV gas control system (A system)	Common M/C 4A
Nitrogen separator (B)	Common M/C 1B

Power supply structure of the affected facilities



Data Related to the Spent Fuel Pool and Common Pool Temperatures

	Temperature increase rate (As of March 18)	Spent fuel pool water temperature (As of 4:00 PM on March 18)	Amount of time to reach 65
Unit 1	0.076 /h	16	645 hours (26.86 days)
Unit 3	0.146 /h	13.7	351 hours (14.6 days)
Unit 4	0.368 /h	25	108.7 hours (4.52 days)
Common pool	0.226 /h	25.2	176 hours (7.34 days)