

List of Accidents and Breakdowns at Nuclear Power Plants or Nuclear-Related Facilities (April 1, 2022.4.1 to March 31, 2023)

Year	Month	Day	Facility Name	Overview of Accident or Breakdown	Subject to law
2022	Apr	21	Fukushima Daiichi Unit 3	Insulating oil including PCB leaked from a start-up transformer flowed into and comixed with water in a subdrain.	
2022	Apr	22	Tomari	The Nuclear Regulation Authority (NRA) pointed out an inspection deficiency in an alternative emergency response center emergency circulation filter unit. The inspection plan for the external inspection and differential pressure confirmation had been prepared for the emergency circulation filter unit, ventilation equipment in the alternative emergency response center, but it was pointed out by the NRA that the frequency of replacement of the boron filter installed in the filter unit had not been determined.	
2022	May	18	Ohi	NRA pointed out a deficiency in the response to a fault in the radioactive materials protection power supply uninterruptible power supply system.	
2022	May	30	Kashiwazaki-Kariwa Unit 7	A pulley misalignment was discovered in the instrument compressed air system dehumidifier blower (standby system B)	
2022	Jun	7	Takahama Unit 3	Lack of operating function of one monitoring camera out of two in spent fuel pit area.	
2022	Jun	24	Ohi Unit 4	Water leak from the main water feed pump minimum flow pipe. A worker discovered a water leak during water quality adjustment of the secondary coolant system in a routine inspection. On June 27, Kansai Electric Power Co. decided to replace the pipe. As a result of an inspection of the inner surface of the removed pipe, reduction in the pipe wall thickness had occurred due to erosion and it was supposed that a hole had opened up in the pipe.	
2022	Jun	25	Ikata Unit 3	Breakdown in the charger of one air-cooled emergency generating device out of two.	

2022	Jul	2	Rokkasho Reprocessing Plant	<p>Cooling for a feed tank for high-level radioactive liquid waste was dysfunctional for 8 hours.</p> <p>In the feed liquid tank B, located in the third basement level of the building where high-level radioactive liquid waste is vitrified, an accident occurred in which water could not flow to the safety cooling system and the high-level radioactive liquid waste stored inside could not be cooled for eight hours.</p> <p>The feed tanks, two systems A and B, are installed in different rooms and are cylindrical stainless steel tanks with an inner diameter of 180 cm, a height of 350 cm and a capacity of 5 cubic meters. About 2.6 cubic meters of high-level radioactive liquid waste, which was generated during the pre-use test (active test) using actual spent fuel, was stored in the feed liquid tank B.</p> <p>Inside the feed liquid tank, two spiral cooling coils, A and B, are installed along the inner wall to keep the high-level radioactive waste liquid constantly cooled by running water through the cooling coils (safe cooling system).</p> <p>At around 6:50 PM on July 2, the shift crew looked at the records and noticed that the flow rate of the safety cooling system B had decreased since around 3:31 PM. Japan Nuclear Fuel explains that after confirming the temperature rise of the waste fluid after 10:00 PM, they noticed that the system B gate valve was closed (the system A gate valve, which had stopped pumping for construction was open), and at 11:44 PM they opened the system B gate valve to restore its function.</p> <p>During this time, the temperature of the waste liquid increased from 25 to 32°C. At the Rokkasho Reprocessing Plant, some equipment handles waste liquid with a calorific value (heat generation density) 3 to 8 times that of the waste liquid involved in this accident, and if such equipment loses its cooling function for as long as 8 hours, depending on the initial temperature, the liquid may boil and radioactive materials may be released to the outside of the vessel.</p> <p>On July 19, Japan Nuclear Fuel announced that the cause of the accident was closure of the system B valve because it was mistakenly identified as the system A valve that was under construction.</p>	○
2022	Jul	6	Takahama Unit 3	<p>It was discovered that parts had not been installed in instrument equipment in the specified severe accident response facility.</p>	
2022	Jul	6	Sendai Units 1 and 2	<p>It was discovered that parts had not been installed in instrument equipment in the specified severe accident response facility.</p>	

2022	Jul	7	Ikata Unit 3	<p>It was discovered that parts had not been installed in instrument equipment in the specified severe accident response facility.</p> <p>A manufacturer reported to Shikoku Electric Power Co. that sealing material had not been installed in a connector on the instrument equipment in the specified severe accident response facility.</p>	
2022	Jul	8	Takahama Unit 4	<p>Damage to steam generator tubes found during routine inspection</p> <p>Eddy current inspection of steam generator tubes during a periodic inspection revealed that five tubes in the A steam generator, two in the B steam generator, and five in the C steam generator showed signals indicating decreased thickness on the outside of the tube (on the secondary system side). Kansai Electric estimates that thin plate-like fragments (scales), produced by iron and other fine particles brought into the steam generator by the water supply system, stuck to the surface of the tubes, exfoliated and moved around, causing the outer surface of the tubes to wear. At the Takahama No. 4 reactor, chemical cleaning was carried out during the last periodic inspection for the purpose of weakening the scale, but the large pieces of scale exceed 20 mm in diameter.</p>	○
2022	Jul	13	Takahama Unit 3	<p>Traces of a leakage were discovered on the transmitter flange of the reactor water level gauge.</p>	
2022	Jul	16	Onagawa Unit 2	<p>Rainwater flowed into the reactor recirculation pump power supply room on the second basement level of the reactor building annex</p> <p>Rainwater flowed into the reactor recirculation pump power supply room on the second basement level and the elevator hall on the third basement level of the reactor building annex (uncontrolled area). Rainwater flowed from an outdoor cable-laying pit, which had been constructed for safety measures, through a cable conduit and into the reactor recirculation pump power supply room on the second basement level and the elevator hall on the third basement level. The inflow was about 90 cubic meters.</p>	
2022	Jul	21	Ikata Unit 3	<p>Reduction in flow rate of bearing circulation water system in a seawater pump.</p>	
2022	Jul	21	Takahama Unit 3	<p>A turbine dynamic auxiliary water feed pump was unable to operate due to an oil leak from the filter lid.</p>	
2022	Jul	22	Tomari	<p>Inappropriate installation of a fire detector was pointed out by NRA.</p>	

2022	Aug	1	Mihama Unit 3	<p>Water leakage from the lid flange of the water seal injection filter</p> <p>When the "water seal low injection flow rate" alarm sounded, an on-site inspection was conducted and water was found to be leaking from the lid flange of the water seal injection filter (system A) that purifies the sealed water sent to the primary coolant pump. The amount of water leakage recovered in the reactor auxiliary building sump was about 7 cubic meters, and the amount of radioactivity was estimated to be about 2.2 million becquerels.</p>
2022	Aug	4	Shika Unit 1	<p>Air leakage from a shutdown solenoid valve on a high-pressure reactor core spray system diesel generator.</p>
2022	Aug	8	Onagawa Unit 1	<p>Cracks discovered in support base of the reactor building overhead travelling crane.</p> <p>Cracks were discovered in the support base of the overhead travelling crane in the reactor building during a routine inspection in May 2022. A detailed inspection conducted between July and August confirmed a total of eight cracks. Since no cracks were found during routine inspections conducted in December 2021, Tohoku Electric Power has estimated that the cracks were caused by the tremors of the earthquake off the coast of Fukushima Prefecture (M7.4) on March 16, 2022.</p>
2022	Aug	16	Kashiwazaki-Kariwa Unit 5	<p>Air was found to be leaking from the controlled area through the reactor building basement level 1 cable tray penetration.</p>
2022	Aug	17	Takahama Unit 3	<p>NRA pointed out that an in-service inspection plan had not been prepared for severe accident, etc. class 1 equipment.</p>
2022	Aug	21	Mihama Unit 3	<p>Occurrence of a drop in accumulator pressure.</p> <p>A pressure drop was confirmed in accumulator system A, which injects boric acid solution into the reactor by nitrogen gas pressure when a loss-of-coolant accident occurs. Kansai Electric Power Co. presumes that the cause was scaffolding material colliding with the accumulator safety valve, as work to set up scaffolding was ongoing in the vicinity of the accumulator.</p>
2022	Sep	13	Tokai Daini	<p>A fire occurred in a small portable transformer at the side of the transport center.</p>

2022	Sep	26	Kashiwazaki-Kariwa	It was found that 5 checksheets (records required under safety regulations) to be affixed to the operating manual at the time of revisions had not been kept and had been disposed of.	
2022	Sep	30	Kashiwazaki-Kariwa Unit 3	Smoke was emitted from a lifting equipment motor box during paint work on an exhaust stack.	
2022	Oct	4	Kashiwazaki-Kariwa Unit 2	Diesel fuel leak from fuel pipe of high-pressure core spray system generator In the high-pressure core spray diesel generator room on the first basement level of the reactor building annex building, it was confirmed that diesel fuel was leaking from the joint of the fuel pipe when the fuel was being injected during restoration work after inspection. The amount leaked was about 100 liters. Tokyo Electric Power Co. said that when the pump gasket was replaced an incompatible gasket was used.	
2022	Oct	11	Fukushima Daiichi Unit 6	Cracks occurred in a connecting pipe and an air intake pipe on a system A emergency diesel generator.	
2022	Oct	13	Shika Unit 1	An abnormality occurred due to a disconnection of a heater on an exhaust gas sampling device on an emergency gas treatment system.	
2022	Oct	20	Kashiwazaki-Kariwa Unit 7	A perforation of a diameter of around 60mm was discovered on a water circulation pipe on the water release side of the water circulation system. In the circulation system that sends seawater to the condenser to cool the main steam, a perforation of a diameter of around 60mm was discovered on a water circulation pipe on the water release side water circulation piping system A. The carbon steel pipe has an inner diameter of around 3.6m and a wall thickness of around 16mm. Tokyo Electric Power Co. explains that the cause was corrosion under the inner surface coating.	

2022	Oct	21	Takahama Unit 4	<p>Primary coolant leak from a pressure device release valve.</p> <p>A "pressure device relief valve high temperature" alarm sounded during a routine inspection, and it was found that primary coolant was leaking from the pressure device B relief valve. Kansai Electric Power Co. explained that a seat leak occurred due to contamination on the surface of the pressure device B relief valve seat.</p>	
2022	Oct	26	Tsuruga Unit 2	<p>NRA pointed out regarding the deliberate rewriting of boring log data that data traceability had not been secured and that the grounds for judgments in the assessment results by multiple test methods had not been made clear.</p>	
2022	Oct	30	Takahama Units 3 and 4	<p>A deviation from the operating limits of Units 3 and 4 occurred due to the emergency diesel generator of Unit 3 failing to start automatically due to an abnormality.</p> <p>When an operation to lubricate with oil was performed on the diesel engine (called "turning") of emergency diesel generator system A of Unit 3, a problem occurred in which the gear used to turn the main shaft during turning would not disengage after the operation was completed. The regulation stating that "two diesel generators must be operational" were no longer met in Unit 3, in operation at the time, and at the same time, the regulation stating that "two diesel generators must be operational in other reactors" was not met for Unit 4, which was shut down for a periodic inspection at the time.</p>	
2022	Nov	14	Fukushima Daiichi Unit 5	<p>It was found that regular inspections, as required under the Poisonous and Deleterious Substances Control Act, of an outdoor sulfuric acid tank had not been implemented.</p>	
2022	Nov	30	Takahama Unit 1	<p>NRA pointed out that the road width of the outdoor access route to the north gate of the nuclear power plant from the emergency countermeasures center was too narrow for severe accident countermeasure vehicles to pass during an emergency situation.</p>	
2022	Dec	6	Tokai Daini	<p>Smoke was emitted from an outdoor illumination electrical supply point near the premises' parking lot.</p>	

2023	Jan	2	Mihama Unit 3	Due to a power outage in a power line, as the alarm indicating movement in a 77kV power reception protection relay sounded and the breaker in a standby transformer opened, external power reception via the standby transformer ceased.
2023	Jan	12	Rokkasho Uranium Enrichment Plant	"Exhaust port radiation A high" and "exhaust port radiation A high-high" alerts sounded in the central control room. It was assumed that the value shown on exhaust monitor A rose and gave a mistaken value due to noise when the power for a cutting torch was turned on in the exhaust room.
2023	Jan	17	Kashiwazaki-Kariwa	A fire broke out in the conference room on the second floor of the seismic isolation building when a personal computer burst into flames.
	Jan	26	Shimane	Error discovered in the program for evaluating the radioactivity of the inspection equipment for the removal of low-level radioactive waste. It was reported by the manufacturer that there was an error in the program for the evaluation of radioactivity during the removal of low-level radioactive waste that may have caused the radioactivity concentration to be assessed at a lower value than the actual value. A survey of data on drum cans brought to Japan Nuclear Fuel's Rokkasho low-level radioactive waste disposal facility revealed that 570 out of 20,360 drum cans were not correctly assessed. The waste was said to have met the burial criteria.
2023	Jan	28	Rokkasho Reprocessing Plant	Fire occurred in a fire truck during engine warming-up in the new firefighting building. A fire broke out when engine oil from a fire truck that was being warmed-up leaked and ignited in the firefighting building in the reprocessing plant grounds.

2023	Jan	30	Takahama Unit 4	<p>During operation, the "PR (power range) neutron flux sudden decrease trip" alarm sounded and the reactor automatically shut down.</p> <p>At 15:21 on January 30, while operating at rated thermal power, a "PR neutron flux sudden decrease trip" alarm sounded in the central control room, causing the reactor, the turbine, and the generator to shut down automatically. There was no signal indicating control rod insertion or dropping before the PR neutron flux sudden decrease trip, and no abnormality was observed in the boron concentration in the coolant, the main water supply, or in the main steam flow rate. At 0:12 on January 30, the CRDM (control rod drive mechanism) severe failure warning sounded, and because the amount of current to the system holding the control rods with electromagnets was known to be small, detailed inspections were conducted in the control panel of the control rod drive mechanism until just before the reactor trip signal. (The CRDM severe failure warning also sounded on January 25 and January 29.) As a result of the investigation, it was found that when the movable latch of the control rod at position M10 was turned off for inspection and the control rod was held only by the holding latch, a contact failure occurred in the electric cable connecting through the reactor containment penetration, and since the control rod could not be held because the current flowing through the holding latch decreased, the control rod at position M10 was inserted into the reactor. It was found that the cause of the contact failure in the reactor containment penetration was that excess electrical cable covered the cable on the terminal side inside the terminal box and load continued to be applied in a direction pulling the connector away from the terminal. In addition to the M10 position, excess load was also placed on the control rod cables at the D6 and K4 positions, causing contact failure.</p>	○
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2023	Feb	7	Ikata / Tsuruga	<p>Error discovered in the program for evaluating the radioactivity of the inspection equipment for the removal of low-level radioactive waste</p> <p>It was reported by the manufacturer that there was an error in the program for the evaluation of radioactivity during the removal of low-level radioactive waste that may have caused the radioactivity concentration to be assessed at a lower value than the actual value. A survey of data on drum cans brought to Japan Nuclear Fuel's Rokkasho low-level radioactive waste disposal facility revealed that 102 out of 5,064 drum cans at Ikata and 1,436 out of 9,600 drums at Tsuruga were not correctly assessed. The waste was said to have met the burial criteria.</p>
2023	Feb	8	Tokai Daini	<p>A fire occurred in which an electric cord was scorched and smoke was emitted from a power point into which an electric cord and plug from an electric heater was inserted.</p>
2023	Feb	15	Ohi Units 3 and 4	<p>NRA pointed out that a fire detector on sprinkler equipment in the seawater pipe tunnel had been installed in an inappropriate location.</p>
2023	Feb	21	Tokai Daini	<p>When a function maintenance test was carried out on emergency diesel generator 2C, the seawater coolant pump automatically halted.</p>
2023	Mar	14	Hamaoka Units 1, 2 and 5	<p>The measurement function of personal dosimeters of 15 workers ceased to function due to low power in the batteries.</p>
2023	Mar	14	Kashiwazaki Units 1 and 2	<p>The Kashiwazaki Fire Department pointed out that they had not been notified of the storage battery equipment stored in the radiation control battery room on the third floor of the Units 1 and 2 service building.</p>

2023	Mar	15	Takahama Unit 3	<p>A perforation was confirmed in one heat transfer tube in the reactor auxiliary cooling water system.</p> <p>During rated thermal power operation, a decrease in the water level indicator of the reactor auxiliary cooling water surge tank was noted, and a perforation was discovered in one heat transfer tube of the reactor auxiliary cooling water system C. Eddy current flow detection tests were performed on all heat transfer tubes in reactor auxiliary cooling system C, and it was found that 108 tubes (including the one found to have a perforation) had reduced wall thickness that was less than the judgement criterion.</p>
2023	Mar	15	Onagawa Unit 2	<p>A malfunction occurred in the electromagnetic brake power supply for the fuel gripper of the fuel handling device.</p> <p>When the operation of two types of brakes (electromagnetic and pneumatic) for a fuel gripper was checked during seismic work on a fuel handling device, a problem occurred in which the electromagnetic brake could not be released while it was operating. Failure of the power supply unit that powers the electromagnetic brake was confirmed.</p>
2023	Mar	20	Rokkasho Uranium Enrichment Plant	<p>A leak occurred in a diesel fuel tank transfer pipe in the grounds of the uranium enrichment plant.</p> <p>It was confirmed that diesel fuel was dripping from a transfer pipe connecting the diesel fuel tank to the auxiliary building, where diesel generators are installed.</p>