



ASIA-PACIFIC

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How does Fukushima differ from Chernobyl?

Japanese authorities have raised the severity rating of the nuclear crisis at the damaged Fukushima Daiichi power plant to the highest level, seven.

The decision reflects the ongoing release of radiation, rather than a sudden deterioration. [Level seven](#) previously only applied to the 1986 Chernobyl disaster, where 10 times as much radiation was emitted.

But most experts agree the two nuclear incidents are very different. Explore the table below to find out how they compare.

Fukushima and Chernobyl compared

Category	Fukushima Daiichi	Chernobyl
Date of accident	11 March 2011	26 April 1986
Accident details	A magnitude-9.0 earthquake and resulting tsunami damaged the plant's power systems, causing cooling systems to fail. A series of gas explosions followed	A sudden power output surge during a systems test caused a reactor vessel to rupture, leading to a series of blasts. An intense fire burned for 10 days
Severity rating	Level 7 - major accident	Level 7 - major accident

SOURCE: NUCLEAR AND INDUSTRIAL SAFETY AGENCY, JAPANESE AUTHORITIES, UNSCEAR. *BECQUERELS ARE A MEASUREMENT OF RADIATION

Fukushima and Chernobyl compared

Category	Fukushima Daiichi	Chernobyl
Number of reactors	Six; but only three of concern, plus pools storing spent fuel	Four; but only one reactor involved
Type of reactors	Boiling-water reactors. Japanese authorities stress that unlike at Chernobyl, the containment vessels at Fukushima remain intact. Also, unlike Chernobyl, the reactors at Fukushima do not have a combustible graphite core	Graphite-moderated boiling water reactor. The graphite made it highly combustible. The reactor also had no containment structure and nothing stopped the trajectory of radioactive materials into the air
Radiation released	370,000 terabecquerels* (as of 12 April)	5.2 million terabecquerels*
Area affected	Officials say areas extending more than 60km (36 miles) to the north-west of the plant and about 40km to the south-southwest have seen radiation levels exceed annual limits	Contamination of an area as far as 500 km (300 miles) from the plant, according to the UN. But animals and plants were also affected much further away
Evacuation zone	20km; 20-30km voluntary zone. Five communities beyond the existing evacuation zone have also been evacuated	30km
People evacuated	Tens of thousands	The authorities evacuated, in 1986, about 115,000 people from areas surrounding the reactor and subsequently relocated, after 1986, about 220,000 people from Belarus, the Russian Federation and Ukraine
Related deaths	No deaths so far due to radiation	A UN report places the total confirmed deaths from radiation at 64 as of 2008. Disputes continue about how many will eventually die
Long-term health damage	Not yet known, but risks to human health are thought to be low	Among the residents of Belarus, the Russian Federation and Ukraine, there had been up to the year 2005 more than 6,000 cases of thyroid cancer reported in children and adolescents who were exposed at the time of the accident, and more cases can be expected during the next decades

SOURCE: NUCLEAR AND INDUSTRIAL SAFETY AGENCY, JAPANESE AUTHORITIES, UNSCEAR. *BECQUERELS ARE A MEASUREMENT OF RADIATION

Fukushima and Chernobyl compared

Category

Fukushima Daiichi

Officials say radiation leaks are continuing and could eventually exceed those at Chernobyl. The priority is restoring adequate coolant to the fuel ponds and the reactors themselves

Chernobyl

The damaged reactor is now encased in a concrete shell. A new containment structure is due to be completed by 2014

Current status

SOURCE: NUCLEAR AND INDUSTRIAL SAFETY AGENCY, JAPANESE AUTHORITIES, UNSCEAR. *BECQUERELS ARE A MEASUREMENT OF RADIATION

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