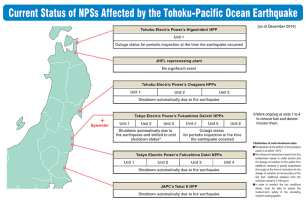
FEPC | The Federation of Electric Power Companies of Japan.

Overview of the Fukushima Daiichi Nuclear Power Station accident

Maintain functionary of key safety facilities following an earthquake

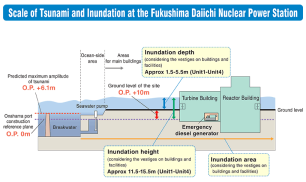
A Magnitude 9.0 earthquake occurred at 2:46 p.m. on March 11, 2011, with an epicenter on the ocean floor off the coast of Sanriku. The Fukushima Daiichi Nuclear Power Station was among those hit by strong shaking. However, Units1,2, and 3-operating at the same time of the earthquake-all made emergency trips. Additionally, their emergency diesel generators started up and cooling of their reactor cores began. The earthquake caused damage to some routine equipment, such as power transmission and receiving facilities, but no damage to key safety facilities, such as emergency diesel generators and coolant injection and heart removal equipment, has been confirmed.



Current Status of NPSs Affected by the Tohoku-Pacific Ocean Earthquake

Almost all power, as well as coolant injection and heat removal function, was lost due to the tsunami

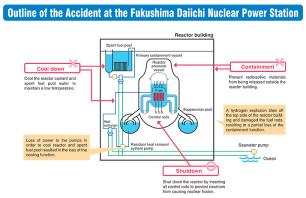
Fukushima Daiichi Nuclear Power Station took a direct hit from an enormous tsunami about 50 minutes after the earthquake happened. Pumps and other outdoor equipment installed on the seaside for releasing heat from the reactor to the sea were damaged, and almost the entire site on which the reactors were built was flooded as a result of the tsunami. Also, water flooded into the turbine building and other structures and power-supply facilities became unusable. As a result, various key safety functions, such as the injection of coolant into reactors and the ability to monitor status, were lost.



Scale of Tsunami and Inundation at the Fukushima Daiichi Nuclear Power Station

Outline of the development of the accident at Fukushima Daiichi Units 1, 2, and 3

Units 1, 2, and 3-which had been operating at the time-experienced severe accidents in which there was a failure to keep the reactor cores cool after they had been shut down, resulting in damage to the cores. The accident developed in the same way at the each Unit: injecting coolant into the pressure vessels became impossible after reactor shutdown, the water in the pressure vessels ran out, fuel temperature rose, hydrogen was generated in large quantities, the fuel melted , the pressure vessels were damaged, the primary containment vessels were damaged, and eventually both hydrogen and radioactive materials were released into the reactor buildings. The greatest underlying cause of the inability to perform cooling was that it became no longer possible to operate and control the “cooling down” systems due to a loss of power. The timing at which power and “cooling down” function were lost differed from unit to unit, but the general outline of how the accident developed was the same at Units 1, 2, and 3.



Outline of the Accident at the Fukushima Daiichi Nuclear Power Station

Outline of the development of the accident at Fukushima Daiichi Unit 4

Unit 4 was undergoing regular inspection and operation had been stopped when the earthquake occurred, with all the fuel for the reactors having been moved to the spent fuel pool. But, on March 15, a hydrogen explosion occurred in the

reactor building of Unit 4. It is presumed that this is the reason why, attendant with the venting of the Unit 3 primary containment vessel, vented gases including hydrogen flowed into Unit 4 through the exhaust pipes.

TEPCO Website

For more information, please refer to TEPCO Website.

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