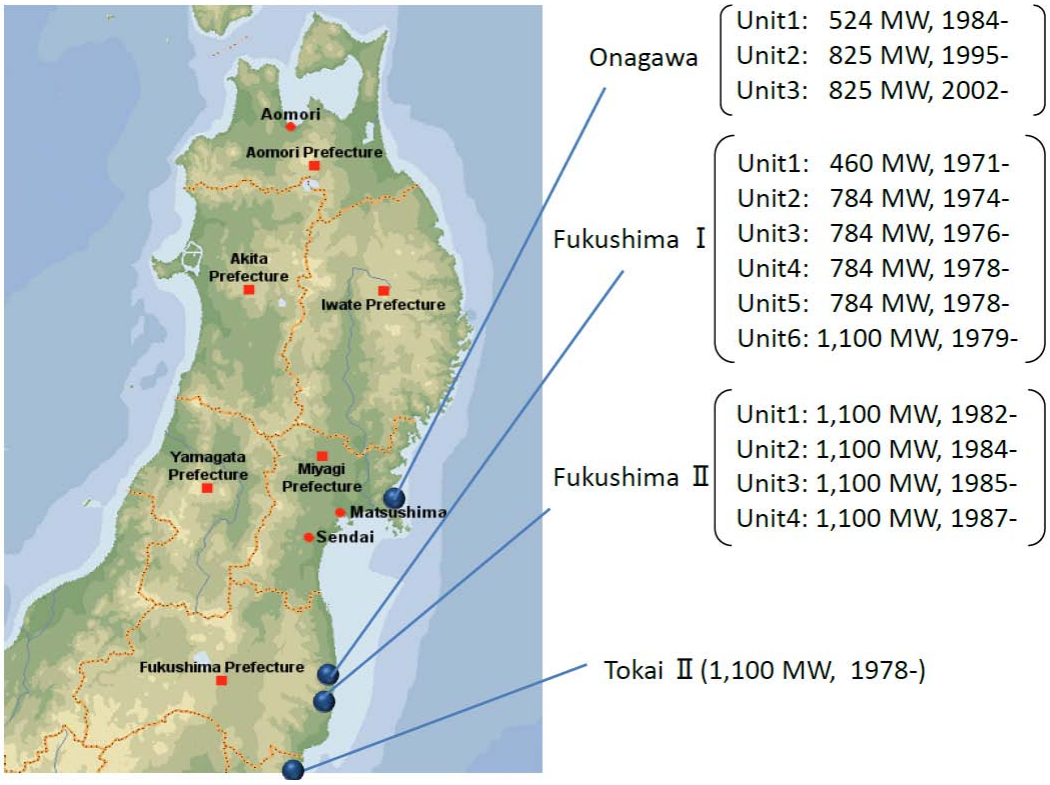
Tohoku Pacific Earthquake and the Fukushima nuclear power plant

11. 03. 14 As of 14:00
Ministry of Economy, Trade and industry

Earthquake occurrence and automatic shut-down of nuclear reactor

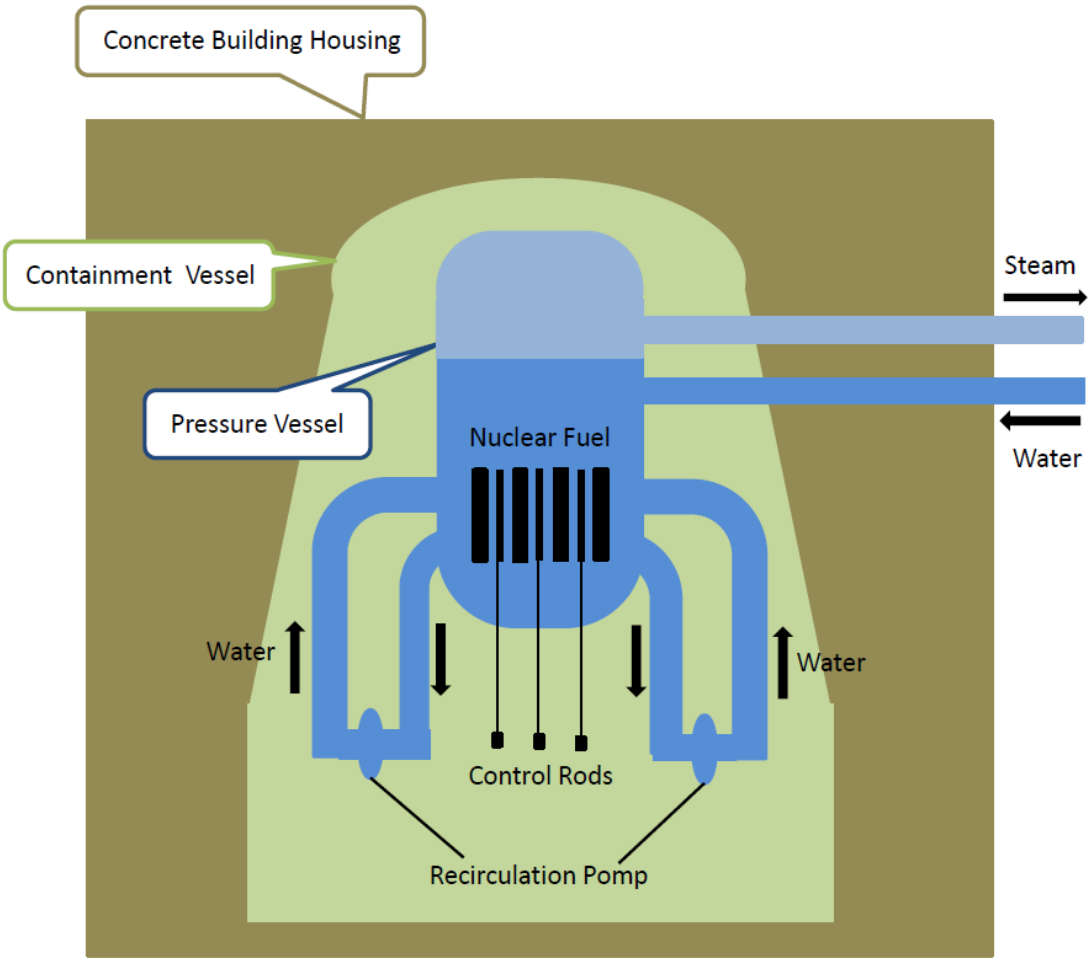


11 March at 2:46 PM an earthquake of Magnitude 9.0 occurred.

All 11 nuclear reactors except for 3 reactors (Fukushima I Unit 4-6) which were under periodical inspection were automatically shut-down.

Outline of the Fukushima Dai-ichi nuclear power station

（Fukushima Dai-ichi nuclear power station）



（Structure of BWR）

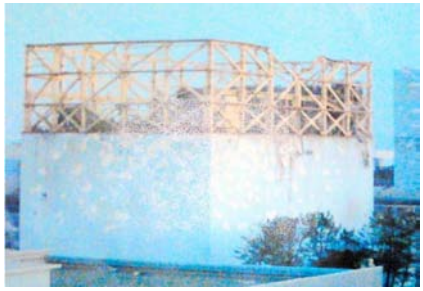
Unit1-3 reactor at the Fukushima Dai-ichi nuclear power station

Unit 1 An explosion caused by hydrogen buildup blew the upper-part off a concrete building housing. What was occurring in the reactor was not a so-called "meltdown." Its containment vessel was not damaged by the explosion.

- After the automatic shut-down of the reactor, water supply function run by seawater pump failed by Tsunami (it is believed that this was caused by Tsunami in which its scale was beyond our assumption), and the temperature of the reactor core went up.

- 12 March 15:36, water levels dropped inside the pressure vessel. Reacted metal and water generated Hydrogen, and the Hydrogen which leaked outside of the containment vessel caused the explosion.

- An explosion caused by hydrogen buildup blew the upper-part of a concrete building housing.



- Cesium and Iodine were detected, it is believed that a part of nuclear fuel was damaged and a small amount of radioactive material was leaked into core cooling water. However, this was not a so-called "meltdown" which means that whole reactor core melts down.

- It is confirmed that the containment vessel had not been damaged. There is no risk of a hydrogen explosion because there is no oxygen in the containment vessel. There is no risk of leaking large amount of radioactive material.

Unit 2 The water level once went down, however, it is now under control by the water injection.

Unit 3 An explosion caused by hydrogen buildup blew the concrete building housing, which is same process as the Unit 1. Its containment vessel was not damaged by the explosion as well.

- The explosion took place at 11:01 am on 14th. There is no risk of a hydrogen explosion because there is no oxygen in the containment vessel. As long as people have evacuated as instructed, there is no effect on human health as Unit 1.

Current Situation

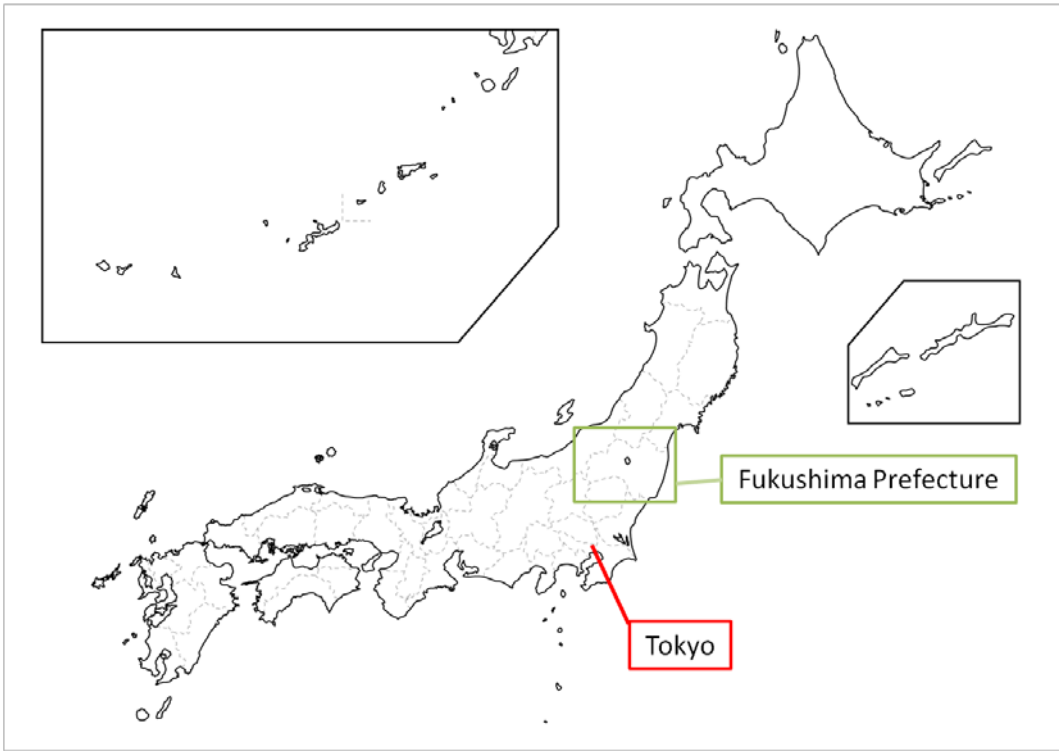
- The situation and the level of radiation are under control.

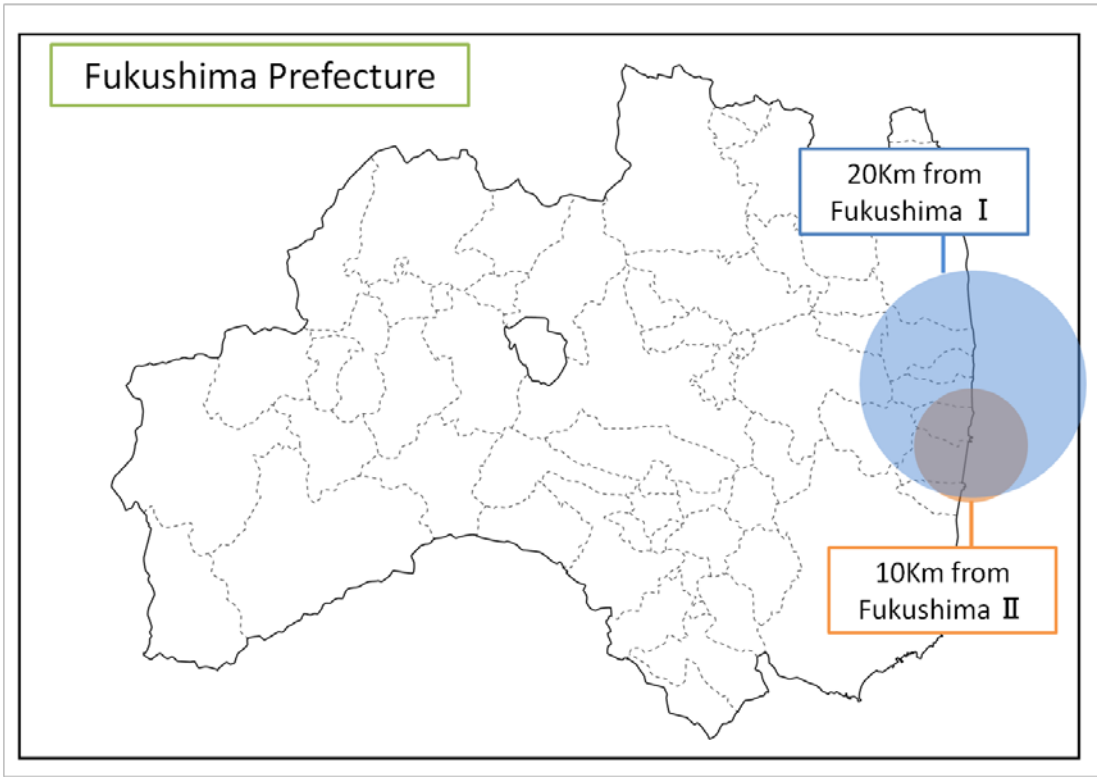
- According to fixed point observation, 34.2 μ Sv/h at 13:12 on 14 March (cf. 600 μ Sv for a X ray stomach check, 200μ Sv for a round trip between Japan and U.S. East Coast).

- Evacuation area is 20 kilometers from NPS. It seems that there are 11 injured working at plants. Situation with regards to radiation-exposed is yet unknown.

- Evacuation area is 20 kilometers from NPS (see the diagram below). It does NOT include the metropolitan area.

- Agricultural products in the evacuation area are not harvested nor distributed.


Fukushima Prefecture
Tokyo


Fukushima Prefecture
20Km from
Fukushima Ⅰ
10Km from
Fukushima Ⅱ