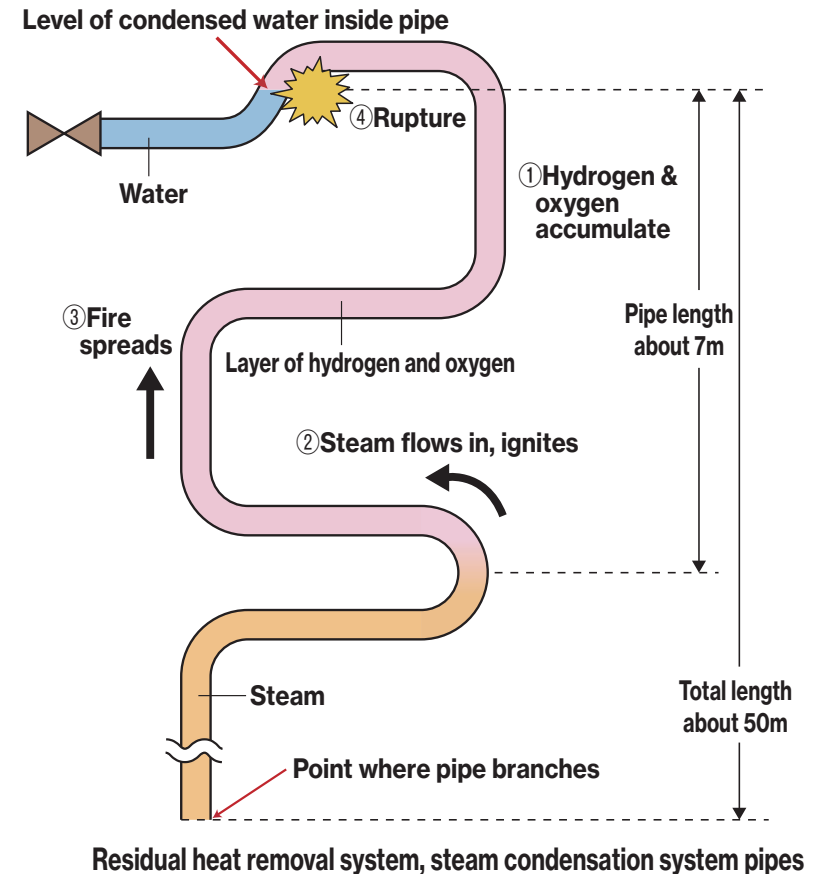
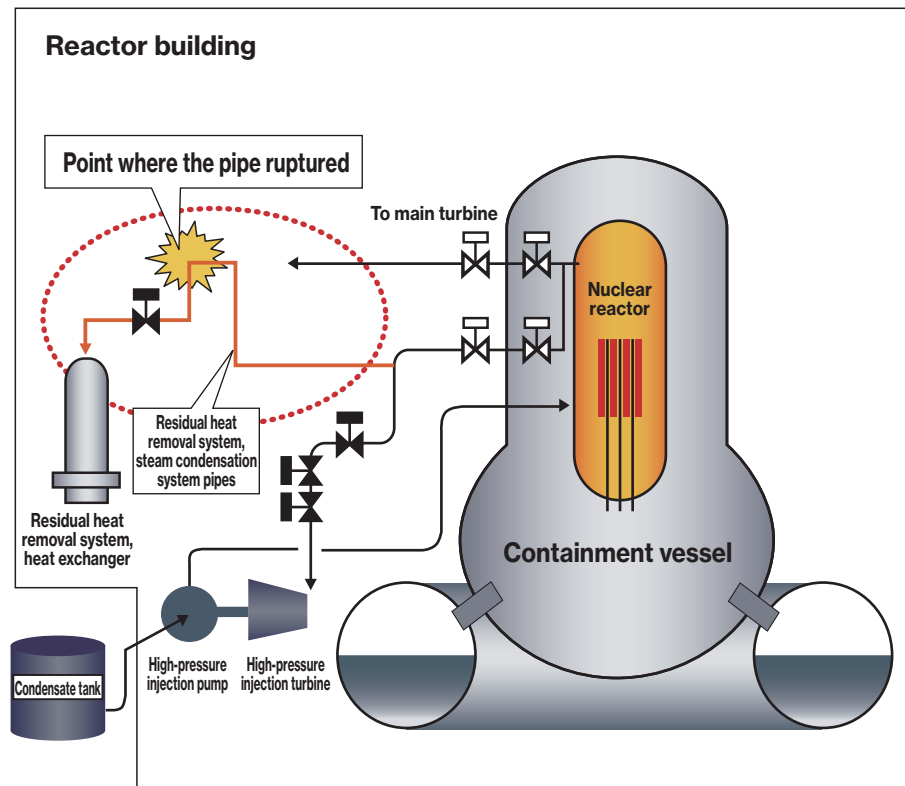


Overview of Pipe Rupture in the Accident at Hamaoka Nuclear Power Plant, Unit 1



○ Overview of the accident

During a manual inspection at 5:02pm on November 7, 2001 of the high-pressure injections system of reactor 1 at the Chubu Electric Power Co., Inc., Hamaoka Nuclear Power Plant, a condensed steam pipe in the residual heat removal system ruptured.

○ Cause of the accident

- ① Steam condenses in the upper part of the pipe. A high concentration of hydrogen and oxygen accumulated at a point about 7m from the surface of the water.
- ② During the manual inspection of the high-pressure injection system, the change in pressure caused super-hot steam to flow into the layer of hydrogen and oxygen, igniting it. Precious metals may have acted as a catalyst.
- ③ Once ignited, the flame spread into the layer of hydrogen and oxygen (combustion state: deflagration → detonation)
- ④ The pressure inside the pipe rose precipitously, rupturing an elbow near the surface of the water (about 3,000 atmospheres of pressure). Other parts of the pipe were deformed.