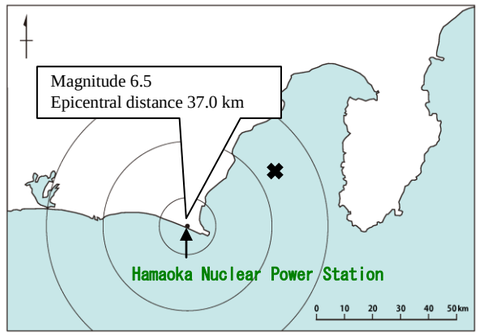
Explanatory materials

● Suruga Bay earthquake

Date and time of occurrence: 5:07 AM, August 11, 2009

Seismic data (Japan Meteorological Agency) / Scale: Magnitude 6.5 / Location of epicenter: 34 degrees 47.1 minutes north latitude, 138 degrees 29.9 minutes east longitude / Focal depth: 23 km / Focal mechanism: Reverse fault with strike slip component (Pressure axis: North-northeast – South-southwest)

Distance from Hamaoka Nuclear Power Station / Epicentral distance: 37.0 km / Hypocentral distance: 43.5 km



● Predominant direction of ground vibration

Predominant direction of ground vibration refers the direction in which tremors are most intense. The results of analysis of the seismographic records of the Suruga Bay earthquake (main shock), the vibration-predominant direction was basically a direction orthogonal to the hypocentral direction, corresponding roughly to an east-west direction in relation to the orientation used as a standard for the reactor building.

● Asperity

An asperity is a region in the epicentralarea of an earthquake in which the earthquake motion is particularly intense.

● Facilities important to seismic design

Facilities important to seismic design refers to the reactor itself, the surrounding pipes, the equipment that stops the reactor, the equipment that cools the reactor, the equipment that seals the reactor, fuel-related equipment, power sources and related electrical equipment, etc.

● Amplification ratio method

The amplification ratio method is one method of simply calculating the stress values for equipment and pipes in the seismic safety check for the existing plant. The actually occurring stresses, etc. generated by the earthquake that is the subject of evaluation can be determined by multiplying the ratios between response values to earthquakes factored into reactor design and response values to the earthquake that is the subject of evaluation (acceleration ratios, etc.) by the actually occurring stresses factored into reactor design.

● Allowable stress state IV_AS

Allowable stress state IV_AS is a status that adds the stress generated by an earthquake to the standard for allowable stress corresponding to operational state IV (an operational state assuming an abnormal state from the perspective of the evaluation of the safety of reactor facilities).

(Reference)

Operational state I: Operational state during normal operation

Operational state II: Operational state that deviates from operational state I, but does not correspond to operational states III or IV, or test states
(Refers to an operational state in which the system deviates from normal operation due to a single instance of equipment malfunction or operator error)

Operational state III: Operational state in which emergency reactor shutdown is necessary due to malfunction in reactor facility, abnormal operation, etc.

Operational state IV: Operational state assuming an abnormal state from the perspective of the evaluation of the safety of reactor facilities
(Refers to operational states originating in events that are inconceivable during the in-service period of the facilities, but which are used to evaluate the adequacy of design in the event that they did occur)

Test state: Operational state in which pressure is increased in excess of the maximum operating pressure for the reactor facility during pressure resistance tests

● Evaluation of seismic safety in light of the new Seismic Design Review Guide

The government has requested power utilities to conduct seismic safety evaluations of their existing reactor facilities for power generation, etc., in line with revisions to the Seismic Design Review Guide made in September 2006, and to report the results of these evaluations.

● Offset VSP survey

Offset vertical seismic profiling (VSP) is a method of studying underground structures by using shaker trucks and other devices to impart elastic waves to the ground surface and recording the responses via receivers positioned in bore holes. This method enables information to be obtained regarding areas that are not contiguous with the bore holes.

<Method employed in (on-land) offset VSP survey (Image)>