

Future plans regarding the analysis of the impacts of the Tohoku - Pacific Ocean Earthquake and the analysis of the earthquake-proof safety against the basic earthquake ground motion Ss at Fukushima Daiichi and Fukushima Daini Nuclear Power Stations

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1. Unit 5 of 1F: analysis of the impacts of the Tohoku - Pacific Ocean Earthquake

(1) Objectives

To evaluate the impacts of the Tohoku-Pacific Ocean Earthquake multilaterally by analysis, while no damages caused by the earthquake at the facilities of Seismic Class S have been confirmed by our on-site inspections.

(2) Items implemented

- Analysis of the impacts at the 7 main facilities caused by the Tohoku-Pacific Ocean Earthquake (hereinafter referred to as “the Earthquake”)
- Analysis of the impacts at the facilities of Seismic Class S caused by the Earthquake (In this regard, however, analysis of some piping arrangement were made using evaluation of Seismic Class Ss as substitutes.)
- On-site inspection of the piping arrangement exceeding the standard evaluation value (Main body of the piping : 1 system, Piping support: 7 systems) (NISA conducted on-site inspection and confirmed that there was no problem)

(3) Items to be implemented

- Study of the maintainability of the design analysis using the value of the Earthquake and detailed study based on the real ability, regarding the piping arrangement exceeding the standard evaluation value

2. Unit 1-4 of 1F: analysis of the impacts of the Tohoku - Pacific Ocean Earthquake

(1) Objectives

To increase data for enforcement in various aspects of the evaluation “Any information showing any occurrence of damages which cause damages of the main safety function have not been acquired by the analysis of the plant parameters and plant behaviors.*”

*Reference: The Impacts and evaluations of the reactor buildings of the at Fukushima Daiichi and Fukushima Daini Nuclear Power Stations by the Tohoku - Pacific Ocean Earthquake in 2011 -Interim Report- (Released on February 16, 2012 by NISA, METI)

(2) Items implemented

- Analysis of the impacts on the 7 main facilities

(3) Items to be implemented

- Picking out* of the facilities of Seismic Class S other than the main facilities relating to process of “shut-down”, “cooling” and “containment”, and conducting an analysis based on the Earthquake, in order to expand the past evaluations
- Study of the maintainability of the design analysis based on the real ability, regarding the facilities having severe result of evaluation based on the existing design methods

* Coverage of the Evaluation (Plan) :

- Reactor pressure vessel
- Piping arrangement of the reactor coolant pressure boundary
 - * Main steam line, Reactor feed water system, Primary loop recirculation system, Residual heat removal system, Clean up water system, Reactor core isolation cooling system, Core spray system, etc.
- Reactor containment facility
- Emergency core cooling system operated after the Earthquake and before following tsunami among the systems

3. Unit 5/6 of 1F and Unit 1-4 of 2F: Analysis of the earthquake-proof safety against the basic earthquake ground motion Ss

(1) Objectives

To conduct seismic analysis and seismic strengthening works where necessary, for the facilities* required to maintain the cold shut down function, in order to prepare the possible earthquakes in the future, while Unit 5/6 of 1F and Unit 1-4 of 2F are currently in the cold shut down status.

* Examples of the facilities required to maintain the cold shut down function

Residual heat removal system, Low pressure core spray system, High pressure coolant injection system, Emergency equipment cooling water system, Emergency gas treatment system, Diesel generator, Piping arrangement of the

reactor coolant pressure boundary, Fuel treatment system (Fuel handling machine, Overhead crane system, etc.

(2) Items to be implemented

- Earthquake-proof safety analysis based on the basic earthquake ground motion S_s , regarding the facility of Seismic Class S related to the maintenance of the cold shut down of the plant.
- Seismic strengthening works to the facilities where necessary, after the earthquake-proof safety analysis

END