

Tohoku Electric Releases Detailed Data of Earthquake Effects

On September 2, the Tohoku Electric Power Co. publicly released observational data of the effects of the August 16 earthquake – the epicenter of which lay off the coast of Miyagi Prefecture – on its Onagawa NPS. When the earthquake struck at 11:46 a.m. on August 16, Units 1 through 3, which were then running normally, halted their operation automatically, as called for by the reactors' design. The electric power company later conducted an investigation to confirm the effects of the temblor on the facilities.

The recent report summarized the various confirmations, concluding that “from a survey of the facilities' safety functions, the investigations so far have confirmed that the reactor suffered no damage that would impair its safety functions. In addition, an analytic review of the soundness of the facilities, with an evaluation of the force impinging on the important equipment (from a safety perspective) of the reactor buildings, has confirmed that the force of the earthquake fell within the parameters considered in the original design, leading to the conclusion that no problems were caused in the facilities' soundness.” Tohoku Electric intends to continue its investigations and confirmations of the earthquake damage in the future.

Also, as regards the evaluation of the facilities' soundness based on the earthquake waves observed on the building structures containing the reactors at Units 1 to 3, the recorded acceleration response spectrum fell within the design limit of standard seismic motion S2 in all of the earthquake wave cycles, except for the roof (upon which no machinery or instrumentation had been installed). At the same time, an analysis of the earthquake data observed on the bedrock surface (eliminating the effects of the upper bedrock) showed that one area experienced seismic motion that exceeded S2 in some of the cycles. For that reason, Tohoku Electric is planning to “carry out an analysis and evaluation of its causes” from now on.

Having received Tohoku Electric's report on the confirmation of the soundness of the facilities at Onagawa NPS, the Nuclear and Industrial Safety Agency (NISA) directed the power company on the same day (September 2) to carry out the following activities from the perspective of “redoubling the assurance of the seismic-resistant safety of the NPS:” (1) a detailed evaluation of the seismic-resistant safety of the important facilities (from a safety perspective) at each of the units of Onagawa NPS after the recent earthquake, and (2) an analysis and evaluation of the reasons why the response spectrum of the observed earthquake waves along the bedrock surface exceeded the standard seismic motion response spectrum in certain sections of the cycle.

On September 5, meanwhile, having received a report from NISA on the matter, Chairman Shojiro Matsuura of the Nuclear Safety Commission stated that “it provides important questions for future discussion,” given the current review of earthquake-resistant design examination guidelines and the like.

Editor: Noriyuki Ishii, JAIF