

Subcommittee Rebutts Article on Discrepancies in NPP Earthquake Safety

On November 30, the 13th meeting was held of the Subcommittee on the Safety Examination Guidelines for Seismic Design, under the Nuclear Safety Commission's Special Committee on Nuclear Safety Standards and Guidelines.

The meeting had been convened to discuss an article printed eight days earlier in the Mainichi Shimbun, in which a great discrepancy was reported in the probability of earthquake-caused damage at three different Japanese nuclear power plants, according to trial calculations by the Japan Nuclear Energy Safety Organization (JNES).

Specifically, one NPP was reported to have a 2% probability of earthquake-caused damage in the next four decades, or 1,000 times greater than that at another NPP. Referring to the article, one subcommittee member, Mitsumasa Hirano (head of JNES's Safety Analysis and Evaluation Division), said that the data used in the trial calculations were design data already made public on standard NPPs, and were not for individual plants. He emphasized that the trial results were for model plants, and did not represent the seismic safety of actual plants.

According to Hirano, the former Nuclear Power Engineering Corp. (NUPEC) had been commissioned by the Nuclear and Industrial Safety Agency (NISA) to do a probabilistic assessment. It performed the trial calculations on three assumed model cases, upon which a method - necessary in the seismic design of NPPs - was developed for generating data on seismic vibrations. That work was then compiled into a report released in September 2003.

As mentioned above, he explained that the design data did not reflect the situation at individual plants, but were already-publicized data on standard NPPs, although the data on seismic vibrations used in the trial calculations came from characteristics of three actual sites. This is why, he said, the names of the three sites were not listed in the report, adding that it was inappropriate to use the report as a basis for discussing actual seismic safety at actual plants, or their compliance with International Atomic Energy Agency's seismic criteria.

JNES explained the situation as follows: "We conducted the trial calculations on model plants in order to develop a method for gathering seismic vibration data for probabilistic assessments. We were not evaluating individual plant's seismic safety per se." The organization said that it was not appropriate to compare the results with other trial calculations made by electric power companies.

There is not as yet a unified approach to probabilistic seismic safety assessment in Japan, and JNES says it is premature to use the concept, which it calls a "medium-range issue." The Atomic Energy Society of Japan is currently working toward such a unified approach.

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