

Event Report on the 77th IEEJ Energy Seminar

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On 20 February 2015, the Institute of Energy Economics, Japan (IEEJ) held a briefing session on "Transition of U.S. Nuclear Power Plant Operations and Regulations from 1979 to Present." At the session, Dr. Gail H. Marcus, who is now active as a consultant on nuclear technology and policy after engaging in nuclear technology and regulatory policy at the U.S. Nuclear Regulatory Commission, the U.S. Department of Energy, the OECD Nuclear Energy Agency and other organizations, presented a report on the transition of U.S. nuclear power plant operations and regulations since the 1979 Three-Mile Island nuclear power plant accident. The report is summarized as follows:

In the United States, proponents of the use of nuclear energy have outnumbered opponents even since the Fukushima accident. One major reason for this situation is that the people have deepened their understanding about a solid safety culture in addition to nuclear energy's significance for global warming measures and energy security. The United States has learned much from Chernobyl, Fukushima and other nuclear accidents and has continued efforts to improve nuclear safety.

In the transition, the NRC has played a great role. The NRC has set five principles -- independence, openness, efficiency, clarity and reliability. Independence means that the NRC understands facts and their interpretation and makes independent decisions without being influenced excessively by any other party. The NRC is not only an independent body but also one of the agencies staffed with the most highly educated and trained officials in the U.S. government. The Japanese Nuclear Regulation Authority (NRA) is a young agency and may improve its operations gradually. As some reports indicate strong political pressure on the NRA, whether the NRA is really independent is a matter of concern.

In the United States, the nuclear industry has contributed to solidifying the safety culture. The Institute of Nuclear Power Operations (INPO), a voluntary safety regulation body founded by power generation operators, has set its mission to achieve highest-level safety and reliability. The nuclear industry, while occasionally criticizing NRC regulations as excessive, has maintained good relations with the NRC. This is because the industry understands that the presence of a strong, reliable regulatory agency is indispensable for obtaining citizens' understanding about nuclear energy.

In this sense, openness or transparency is important. In the United States, the Freedom of Information Act requires the NRC to open information involving its regulatory decisions in principle. So, the NRC holds many open meetings. The NRC, power generation operators and citizens have made progress in understanding the so-called risk-informed regulation approach in which the NRC quantitatively assesses risks and seeks to reduce them as much as possible. As fuel replacement and regular checkup intervals have been extended under this approach, the nuclear power plant capacity utilization rate has remained high over recent years.

A question-and-answer session followed the presentation by Dr. Marcus. Audience

members questioned how much time it would take for Japan to restore confidence in nuclear energy, what has allowed the NRC and power generation operators to develop good relations and how U.S. citizens have understood the probabilistic risk assessment (PRA). These questions reflect Japan's present situation involving nuclear energy and might have been difficult to answer. But Dr. Marcus gave meticulous answers based on his abundant experience, attracting attention from the audience.

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