

Challenges and Opportunities after the Fukushima Nuclear Disaster

- Session:** Regency Room
Date/Time: February 20, 2013 / 17:00-18:15
- Moderator:** Martin Fackler, The New York Times
- Speakers:** Chang Soon-heung, Korea Advanced Institute of Science and Technology
Luis Echávarri, OECD Nuclear Energy Agency
Anton Khlopkov, Center for Energy and Security Studies
Suzuki Tatsujiro, Japan Atomic Energy Commission
- Rapporteur:** Samuel Brinton, Massachusetts Institute of Technology
Seukhoon Paul Choi, Council on Foreign Relations

Session Sketch

Martin Fackler, Tokyo bureau chief for the New York Times, commenced the final plenary session by highlighting that although civilian nuclear programs may seem tamer and safer than nuclear weapons programs, the Fukushima accident demonstrated that this is not the case. He reviewed what had occurred describing how a large earthquake in March 2011 set off a tsunami that hit the Fukushima Daiichi Power Plant and caused its reactors to meltdown. Consequently over 100,000 people were evacuated and until today 90,000 of those dislocated have been unable to return. Mr. Fackler noted that for such an accident to have occurred in a country as technologically and technically outstanding as Japan demonstrates that such an event could happen anywhere, and this reality has focused attention on nuclear safety.

Chang Soon-heung, professor of nuclear and quantum engineering at the Korea Advanced Institute of Science and Technology, discussed lessons learned from the Fukushima accident in regard to how to enhance nuclear safety and public confidence. He argued that nuclear power plants must be prepared for blackouts, and in particular how to remove decay heat in the case of a shut down. In the future, to cope with such incidents, Professor Chang recommended that plants be prepared with functions that use gravity to generate electric

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power or a power supply system located in bunkers. Furthermore, reactors and plants should be built that emphasize radiation containment to the extent that people living around the plants will not have to evacuate even in the case of such an accident. This would not only enhance nuclear safety but help garner public confidence. Also, Dr. Chang argued that more information should be given to the public about what level of exposure has significantly negative effects on health and the different energy options that they have.

Luis Echávarri, director-general of the Nuclear Energy Agency in the Organisation for Economic Co-operation and Development, noted that prior to the Fukushima accident there was discussion about a renaissance of nuclear power, however now this is not the case. He argued that nuclear programs must have public support and emphasized the importance of public confidence in system safety. It is important to reinforce independent regulatory authorities and communication with the general public. Mr. Echávarri also noted that the Fukushima accident should not raise questions about nuclear power in general, but about the specific conditions, technologies, and protocols of that site.

Anton Khlopkov, director of the Center for Energy and Security Studies, concentrated his remarks on one of Russia's most important current projects concerning the expansion of nuclear power: countries in the Middle East. With Iran starting its nuclear power plant in 2011, the United Arab Emirates starting construction, and Turkey preparing a licensing application, the region is of significant interest in the nuclear expansion arena. His conclusion was that Fukushima has brought many positive outcomes to the region due to small countries abandoning projects which seemed infeasible, a review and revision of simply theoretical plans, a decision to pursue next generation power plants, and a realization of the dire need for human resources.

As a member of the Japan Atomic Energy Agency, Suzuki Tatsujiro, vice chairman of the Japan Atomic Energy Commission, began his remarks with an apology for the negative impacts which Fukushima has caused on the nuclear industry as a whole and the people of Japan. He reminded the audience that the accident is not concretely over, with many still

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struggling to finalize the site management, including dealing with the spent fuel and contaminated water. There is also still a large refugee population which is not allowed to return to their homes in the area. Mr. Tatsujro mentioned that Fukushima has brought about a paradigm shift in nuclear safety and the scale of nuclear power in Japan. An internationalization of nuclear safety policy due is needed, according to Mr. Tatsujiro, since the nuclear regulatory governance in Japan has fallen behind the international standard due to domestic interests taking precedence.

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