ROK, China and Japan as Responsible Nuclear Suppliers

Session: Grand Ballroom I
Date/Time: February 19, 2013 / 12:30-13:45

Moderator: Hussein Khalil, Argonne National Laboratory

Speakers: Lee Hee-Yong, Korean Electric Power Corporation
Jane Nakano, Center for Strategic and International Studies
Jasper Pandza, King's College London

Rapporteur: Seukhoon Paul Choi, Council on Foreign Relations

Session Sketch

Hussein Khalil, Director of the Nuclear Engineering Division at the Argonne National Laboratory, commenced the panel discussion by describing the nuclear power industry landscape. He highlighted a weakened confidence in regard to safety as a significant challenge, especially in light of the Fukushima accident. Khalil also identified changes in the landscape, including South Korea becoming a major supplier of nuclear power plants, new countries embarking on the use of nuclear technology, and the United States leveling off in its use and number of projects regarding nuclear power.

Lee Hee-Yong, Senior Vice President of the Overseas Nuclear Project Development Department at KEPCO, introduced the operations of the South Korean government owned Korean Electric Power Company (KEPCO). Explaining that KEPCO is responsible for generating, transmitting, and distributing South Korea's electricity, he also highlighted that it is actively pursuing nuclear power projects overseas. He noted that nuclear energy play an important role in Northeast Asia as it provides China, Japan, and South Korea with energy security. In this regard, the three countries share a common interest of advancing the nuclear industry and face a common challenge to it. Lee explained that the Fukushima accident aggravated concerns about the safety of nuclear energy. North Korean nuclear tests are also

increasing international anxiety. Collectively, this has had another significant impact on South Korea in that it has unfavorably affected current U.S.-South Korean negotiations regarding their 123 agreement. Lee argued that China, Japan, and South Korea are three of the world's most active countries in this industry. He stated that only if these three countries exert collective action in reinforcing the safety of nuclear power plants will global anxiety over nuclear power plants be eradicated.

Jane Nakano, a Fellow in the Energy and National Security Program at CSIS, focused her statements on what is happening in Japan, challenges that this country faces following the Fukishima accident, and general thoughts on what it means to be a responsible exporter. Nakano noted that of the three countries, Japan has the most established and longest history as a supplier of nuclear power plants. Furthermore, she noted that Japan is unique in being a non-nuclear weapons state and party of the Non-Proliferation Treaty with major fuel cycle facilities. However, the Fukushima accident dramatically changed the environment in Japan regarding nuclear energy. Currently, only two nuclear power plants are in operation. This is a direct result of public anxiety about government, industry, and regulator ability to manage accidents. Going forward, Nakano argued that the Japanese government faces the challenge of convincing the public that the nuclear regulatory commission functions will be effective. Also, when and to what extent Japan's remaining reactors will be reactivated is unclear. Despite these challenges, Japan continues to demonstrate a strong commitment to operating as a responsible nuclear supplier. It has ratified the Additional Protocol (AP) and has made AP adoption as a condition required for it to supply to other countries.

Jasper Pandza, a Ph.D. Candidate at the King's College London, focused on China's nuclear program. He explained that China desires to introduce fast nuclear reactors. Pandza noted that China's program is ambitious as it currently operates 16 nuclear power reactors and has 26 under construction. China too has been affected by the Fukashima accident as the country's leadership understands that an accident in China would have significant repercussions for its domestic program. It paused construction and decided that moving forward only generation three designs would be approved. Despite China's long term industry goals, it lacks a

roadmap. Pandza argued that China faces technical challenges to meet its goals, particularly its objective of introducing fast reactors. He noted that many countries have tried to do this, but with very little success. Pandza explained that this was because fast breeding reactors are unreliable, unsafe, and expensive. Despite the technical challenges that China faces, the country enjoys unique qualities that may enable it overcome them. Whereas high capital costs may deter investors in other countries, the Chinese central government's control over research and investment enables it to support the country's program. Finally, Pandza stated that it is unfortunate that China has in the case of deals with Pakistan prioritized strategic and commercial interests over safety.