Key Findings
Nuclear Energy Experts Group
Singapore, Feb. 27-28, 2017

The Pacific Forum CSIS, with support from the Carnegie Corporation of New York and in collaboration with Singapore's S. Rajaratnam School of International Studies, held the Sixth Nuclear Energy Experts Group (NEEG) Meeting in Singapore on Feb. 27-28, 2017. About 35 senior scholars and officials as well as 6 Pacific Forum CSIS Young Leaders attended, all in their private capacity. The off-the-record discussions focused on nuclear power development and nuclear governance in the Asia Pacific, the physical protection of nuclear facilities, cyber nuclear security threats, radioactive source management, and public opinion and education and training. Key findings from this meeting include:

Nuclear power development is uneven in the Asia Pacific. While it is flourishing in China and India (and plants are slowly re-opening in Japan), the prospects for expansion elsewhere in the region are bleak. Taiwan plans to close its plants within the next ten years and it is unlikely that any plant will operate in Southeast Asia before the 2030s, at the earliest.

The 2016 decision by Vietnam to suspend its nuclear power plant project was made because of rising costs, lower power demand projections, and a need to further develop human resources and infrastructure. Given Hanoi's considerable investment in the project, this decision is a reminder of the difficulty (and costs) involved in opting for nuclear energy.

The Vietnamese decision could have negative spillover effects on similar projects in Southeast Asia, all of which are much less advanced. Nevertheless, the Philippines has made clear it remains committed to its project to revive its Bataan nuclear power plant, and others continue to express interest in nuclear energy.

Russia is increasingly reaching out to provide nuclear assistance throughout the region. Cambodia, Myanmar, and Laos have recently signed nuclear cooperation agreements with Russia.

As large nuclear power facilities are seen negatively due to excessive cost and public resistance, "small modular reactors," either floating or land-based, may be attractive options, especially for Southeast Asia. Yet beyond safety and security concerns, there are political, legal, and environmental issues that require research to assess their desirability and feasibility. Liability and transportation are also key concerns.

The four Nuclear Security Summits have helped raise awareness on the importance of securing nuclear and radioactive materials, universalizing several international benchmarks, and improving understanding of the interface among nuclear safeguards, safety, and security, known as the 3 S's.

The nuclear security regime is based on a patchwork of largely voluntary standards and there is little appetite for a treaty imposing stringent requirements on states. The best way to improve the regime is a bottom-up approach that encourages compliance with standards outlined in IAEA Nuclear Security Series No. 20.

The radiological security regime is weak and poorly implemented in many parts of Asia. There are also few regional initiatives and national measures to address radiological security. Given that all regional states use radioactive sources, it is paramount that they build up this regime and explore alternatives to the most sensitive sources.

ASEANTOM and the ASEAN Nuclear Energy Cooperation Sub-Sector Network have a key role to play in developing a sense of awareness on nuclear and radiological security and safety among Southeast Asian states. Workshops can help enhance capacity.

Radioactive source materials are problematic because there is a lack of national policy and liability laws regarding improper disposal. There is also a general perception that alternative sources are more expensive. Fortunately, the development of national policies to enhance source accounting methods and create greater penalties for improper disposal have improved compliance in some states. Additionally, with recent innovations in accelerator technology, the cost of alternative sources is becoming less prohibitive.

Strengthening nuclear and radioactive security begins with improving the physical security of key facilities, which means management must be aware of the potential risks and threats and deploy the appropriate measures to combat them. Facility management must also "own" the responsibility of any problem that may arise.

Nuclear and radioactive security involves protecting against cyber attacks, a growing problem that still remains largely ignored today. In the first report of its kind published last year, the Nuclear Threat Initiative explores ways to address the cyber-nuclear nexus.

Including cyber threats to nuclear power facilities within the context of the overall cyber threat to critical infrastructure helps ensure the issue receives proper attention in response planning and management. However, the unique remediation requirements associated with nuclear power facilities require special attention in preventing cyber-attacks.

Public education and training is paramount to alleviate fears about nuclear power. A key to success is deep collaboration between nuclear regulators and operators. Another is trust between government authorities and the public.

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