

US China Energy Cooperation Program Nuclear Power Working Group

Established in 2012, the Nuclear Power Working Group (NPWG) is part of the US China Energy Cooperation Program (ECP), a commercially driven public-private partnership supported by the US and Chinese governments, namely the US Department of Commerce, Department of Energy, Trade and Development Agency, Chinese Ministry of Commerce and National Energy Administration. The mission of ECP is to drive commercial deployment of clean energy technology and promote investment in both US and China in realization of clean energy industry development and transformation on a whole. The current NPWG membership includes Westinghouse Electric Company, General Electric Company, Curtiss-Wright Flow Control Corporation / EMD, Duke Energy, Rosemount Nuclear Instruments / Emerson Electric Company, and Ceradyne, Inc. US DOC, DOE and State Department have provided tremendous support to NPWG's initiation. In order to better support the priorities in the bilateral nuclear energy cooperative arrangements as well as China's civil nuclear energy development, NPWG would like to also collaborate with relevant Chinese authorities including NEA, National Nuclear Safety Administration, China Atomic Energy Authority, Chinese civil nuclear companies and nuclear industry consortiums on dialogues related to key issues in civil nuclear industry development and commercial partnerships to deploy technology. NPWG hopes to promote commercial and industrial accomplishments between individual US and Chinese companies from the past into a strategic and systematic arrangement supported the bilateral civil nuclear cooperative framework.

Between 2011 and 202, as part of China's energy 12th Five-Year Plan, also in response to the post-Fukushima challenges to the global civil nuclear industry, the Chinese Government issued a series of nuclear industry development guiding documents including *The Report on Comprehensive Safety Inspection of Nation-wide Civil Nuclear Facilities*, *National Energy Technology 12th Five-Year Plan*, *Nuclear Safety and Radioactive Contamination Prevention and Control 12th Five-Year Plan and 2020 Long-Term Goals*, and *Nuclear Energy Mid- and Long- Term Development Plan (Revised)*, and specified goals and requirements for work in safety, research and development, technology adaption and deployment, industry standard and code, legislation and regulation framework building as well as international cooperation. In light of the opportunities, the US civil nuclear companies will like to systematically contribute to the work supported by the US-China cooperative framework on the Peaceful Uses of Nuclear Technology. Through supporting bilateral government dialogues and participating in commercial exchange and collaboration, NPWG hopes to assist China's progress in delivering its key civil nuclear industry objectives, promoting mutual development between the US and Chinese civil nuclear energy markets, and paving a solid foundation for the future US-China partnership to capture the other civil nuclear energy markets of the world. In those auspices, the key industry issues NPWG focuses on include:

- **Safety:** NPWG is committed to support the Chinese government and industry peers as an industry reference to address safety challenges that are results of focusing on task

completion but overlooking safety requirements and details of procedures and qualification standards, vastly diverse nuclear technologies hence the challenge in harmonizing safety standards and requirements, and challenges in implementing a strong Nuclear Safety Culture;

- **Technology adaption:** Along with China's localization efforts, the opportunities to provide imported equipment and services are being reduced significantly, while concerns for the quality of nuclear equipment provided by the Chinese suppliers has slowed down the pace of localization. NPWG acknowledges China's localization efforts, and welcomes a clearer definition of China's localization efforts, and believes the priority must be placed on Nuclear Safety and Quality in the design, manufacturing and operations. NPWG is committed to assist China's nuclear energy development through contributions in nuclear safety code and standard, equipment quality assurance and manufacture, and operations. NPWG would also like to offer itself as a public and private dialogue platform between US and China to help facilitate dialogues on other important aspects of China's localization program that impacts US companies' participation in China's nuclear energy industry include technology protection and assurance.
- **Liability protection:** The absence of formal legislation regarding nuclear liability presents risks for US nuclear companies, many of which, as a result, are discouraged from entry to the Chinese market. Yet, formal legislation on nuclear liability based on international standards is a necessary step to establish protection infrastructure for international suppliers to conduct business in China and encouraging China to merge to the global nuclear energy market. NPWG understands and welcomes China's efforts in moving forward on the formal energy law legislation including nuclear liability. NPWG is committed to provide commercial reference based on business impact of standardized liability protection regime to the bilateral consultation on international conventions regarding nuclear liability as well as China's progress in standardizing atomic energy legislation.

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