



Peaceful Nuclear Cooperation with China

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Committee on Energy and Natural Resources**

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Thank you, Mr. Chairman, for the opportunity to appear before your committee. My name is Robert Ebel, and I direct the Energy and National Security Program at the Center for Strategic and International Studies, a private tax exempt institution focusing on international public policy issues. Its research is nonpartisan and nonproprietary.

For the past several years CSIS has been greatly concerned about nuclear-related issues and has devoted considerable time and attention to dealing with them. In late 1995 we issued a report on Nuclear Energy Safety Issues in the Former Soviet Union and last year followed with a report on The Nuclear Black Market, as part of our project on Global Organized Crime.

As you are aware, China plans to meet a portion of its growing energy needs through a major expansion of its nuclear electric power base. It is obvious to all that such an expansion will involve significant security, commercial, and environmental considerations, not just for the Far East but for the entire world.

Following our interest in nuclear issues, CSIS embarked on an examination of U.S.-China commercial nuclear commerce. Former National Security Advisor Brent Scowcroft accepted our invitation to chair the Steering Committee, which in turn was cochaired by Senator Frank Murkowski, Senator Max Baucus, and Congressman Doug Bereuter. I took on the assignment of project director. The final report owes much of its success to the support and involvement of the Congressional cochaIRS.

My remarks this morning are confined to the highlights of the recently released CSIS report entitled U.S.-China Commercial Nuclear Commerce, with particular emphasis on the key themes of security, environment, safety and economic considerations. With your permission, Mr. Chairman, I would like to submit for the record a copy of this CSIS report.

Security

Our report found that, from a security perspective, no nonproliferation policy can succeed without the active cooperation of the world's major suppliers, and that includes China. China's proliferation practices at times continue to cause concerns but we concluded that the best way to address these concerns is through a cooperative relationship. If such efforts were not successful, then sanctions can be imposed for trade related to nuclear, missile, chemical, or biological weapons.

An agreement between China and the United States for peaceful nuclear cooperation between the two countries was reached in 1985. The U.S. Congress, while approving this agreement, but reflecting its concern over continued Chinese nuclear assistance to countries such as Pakistan, required before implementation of this agreement presidential certification that China was not promoting proliferation.

U.S. restrictions against nuclear cooperation with China were further tightened in the aftermath of the suppression of pro-democracy demonstrators in 1989. But in the years following, China's nonproliferation policy has continued to improve, including such actions as acceding to the Nuclear Nonproliferation Treaty in 1992 and signing the comprehensive nuclear test ban in 1996.

Our report does note however, that concerns about certain continued Chinese exports do exist, particularly with regard to the provision of nuclear technology to Pakistan and cooperation with Iran. How can these concerns best be addressed? Not by defying these concerns as a matter of national pride, but rather by addressing them in the context of a broader relationship in which China sees some advantage to responding to U.S. concerns. U.S. interests in China are best advanced through engagement across a broad spectrum of issues, including nonproliferation.

Environment

China, like its neighboring countries in Southeast Asia and the Far East, has an expanding appetite for energy, an appetite which to be satisfied must be supplied with growing volumes of all forms of fuel. The growth in demand for electricity is perhaps the most telling indicator. Today China has 236,542 megawatts of installed electric power generating capacity. This year an estimated 82 percent of China's electricity will come from thermal power plants, fired primarily by coal. If long-range plans are successful, generating capacity will exceed 500,000 megawatts by the year 2010.

China is the world's largest producer and consumer of coal, but much of the coal is poor in quality, to the extent that by as early as the year 2015, China is projected to become the largest emitter of greenhouse gases in the world.

Can oil and natural gas measurably offset the higher consumption of coal? Unlikely. China is slated to become a major importer of these fuels; concurrently known domestic resources clearly fall well short of meeting future requirements. Hydropower resources are substantial, but most are found far from consuming centers. Additionally, the development of hydropower in itself involves serious environmental consequences.

Expansion of nuclear electric power has been embraced by China as one very logical step in meeting its power needs. If the nuclear construction program is successful, then we can expect that by the year 2010 some 4 percent of electric power generating capacity will be nuclear.

Safety

The U.S. nuclear power industry is based on an infrastructure which enjoys the most operating experience in the world. That industry has developed standardized, advanced light-water reactors engineered and designed to be safer, more reliable, and more cost-competitive than any other existing technology.

But safety also depends on standardization. Standardization enhances safety, a fact that China very clearly understands. China is expected to select families of standardized reactor designs in the coming years. The availability of U.S. designs to the Chinese nuclear power market carries strong global safety implications for all of us as well as attractive opportunity costs for China itself.

Economic Considerations

As noted, China is embarking on a very ambitious program to expand its nuclear generating capacity. If China is to meet the goal that it has set for itself for the year 2020, it will need to order 2,400 megawatts of nuclear capacity every year between now and 2020. In sum, that means a new plant, with two reactor units, annually. Access to the Chinese nuclear power market could translate into more than \$1.6 billion in U.S. exports every year, and to the support of more than 25,400 technical jobs.

But if U.S. companies are denied the opportunity to compete in the Chinese nuclear market, these potential jobs and revenues will be lost to competition. The chart on display depicts the flags of the competition already successful in gaining access -- France, Canada, and Russia -- with reactors already built or on order.

Conclusion

China very much wants the opportunity to acquire nuclear power reactors, for reasons of safety, for reasons of cost, as a stimulus for enhanced cooperation between the two

countries. But peaceful nuclear cooperation cannot go forward without assurances from China regarding its nonproliferation policies.

The CSIS report acknowledges that. If the administration finds that China has met the essential requirements for certification, then such certification should be provided to Congress so that the 1985 agreement can be implemented at the earliest date. Following that, the administration should actively support civilian nuclear cooperation with China.

Thank you Mr. Chairman, for the opportunity to present to your committee the highlights of the CSIS report on U.S.-China Commercial Nuclear Commerce and I look forward to any questions you may have.