

# CHINA'S NUCLEAR EXPORT CONTROLS: POLICY AND REGULATIONS

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China has moved up a steep learning curve on nuclear proliferation since it joined the International Atomic Energy Agency (IAEA) in 1984. Beijing has stated repeatedly that it opposes nuclear proliferation and will not help any country develop nuclear weapons. In 1992, it acceded to the Non-Proliferation Treaty (NPT) after more than 20 years of criticism. Nevertheless, it is fair to say that although China has embraced the norms and principles of nonproliferation, there is still a gap between its general nonproliferation posture and its export practice. As it promotes international nuclear cooperation with other countries, China must decide how to balance international nuclear trade with export control.

As a nuclear weapons state, China's nuclear resources, engineering, and manufacturing capabilities set it apart from other emerging nuclear suppliers. China needs Western civilian nuclear technology for its nuclear energy program, but its export of enriched ura-

nium, heavy water, research reactors, and other sensitive technology has caused proliferation concerns. To strengthen overall implementation of the nonproliferation regime, the international community must integrate China into the existing supply-side control system.

International supply-side restraints are based on effective national export control systems. In order to fulfill its international nonproliferation commitments, Beijing needs to strengthen its export control system and adjust its nuclear export practice to international standards. This paper will discuss China's policy in nuclear exports and its attitude toward international supply-side restraints. Also, by comparing China's controls to those of other nuclear suppliers, it will attempt to characterize the current Chinese export control system and to identify major weaknesses in that system.

## EXPLAINING CHINA'S NUCLEAR EXPORTS

As with China's conventional arms sales behavior, the driving motivation behind China's export of nuclear-related material, equipment, and technology is to earn much needed hard currency. But unlike arms sales, China has less political and strategic incentive for nuclear exports. In the discussion of China's nuclear export behavior, domestic "supply-push" stimulus is often the main factor influencing these exports.<sup>2</sup> Until the late 1970s, China's nuclear program was essentially a military program, with built-in secrecy and inhibition on foreign contact. Since its civilian nuclear program is still underdeveloped, China's military nuclear program produces a surplus of enriched uranium, heavy water, and metal alloys. China became a nuclear exporter in the early 1980s when the bomb program began to convert to civilian use.

China's nuclear industry employs more than 300,000 workers, with a full-

spectrum capability in uranium mining, processing, metallurgy, fuel-fabrication, enrichment, plutonium production, re-processing, and weapons design. In the 1980s, when the military budget and state funding for the defense industry declined, the nuclear factories had an extremely hard time adjusting to the reduction in military orders and the consequent shutdowns and financial deficits. Conversion of the defense industry became the only way to cope with unemployment and factory closures.

In March 1981, Zhang Aiping, Vice Premier and Director of the Commission of Science, Technology, and Industry for National Defense (COSTIND), chaired a review panel which made the suggestion that the military nuclear program should integrate into the civilian nuclear industry and shift to more civilian production upon fulfilling its military production tasks (*Junmin Jiehe, Baojun Zhuanmin*).<sup>3</sup> In 1986, in order to push forward defense industry conversion, the State Council took control over four ministries (nuclear, aviation, ordnance, and space). This reorganization meant that the ministries no longer reported to the COSTIND and the Central Military Commission.<sup>4</sup> Now, the COSTIND controls only the research, development, and production of certain high technology weapons and provides related policy guidance.

The defense industry's conversion has had two results: (1) the full use of surplus military capacity for civilian production, and (2) the transfer of advanced military technology to civilian use. In 1979, civilian products manufactured in the defense industry were only 8.1 percent of the total output. In 1991, this rate increased to 65 percent. In 1992, 67 percent of production and research capacity had been converted to civilian use, and the civilian output accounted for 70 percent of the industry's total production.<sup>5</sup>

While other sectors of the defense industry rushed to produce consumer goods, such as televisions, automobiles, motorcycles, refrigerators, and air conditioners, the nuclear sector had more difficulties in converting its surplus capacity into profitable civilian production. In 1989, the military electronic industry ranked first in the production of civilian products, with 86 percent of its total output. The shipbuilding industry was second at 83 percent, followed by the space industry at 71.8 percent, the aviation industry at 69 percent, and the ordnance industry at 64 percent. The nuclear industry ranked the lowest among the defense industry sectors, with only 42 percent civilian production.<sup>6</sup> Among the civilian goods produced by the nuclear industry, isotope irradiation devices were the main money-earning products.

**CHINA'S NUCLEAR-RELATED EXPORTS AND SERVICES<sup>7</sup>**

- Natural uranium
- Enriched uranium
- Fabricated fuel assemblies
- Heavy water
- Research reactors/components
- Power reactors (300-megawatt, Qinshan-type)
- Metal alloys
- Nuclear waste service
- Reprocessing technology
- Technical assistance: prospecting and design
- Training: nuclear physics, engineering, and operation
- Project construction

For the nuclear industry, defense conversion means a redirection to civilian nuclear energy programs. When it shifted its focus to nuclear energy programs, the China National Nuclear Corporation (CNNC)<sup>8</sup> began to diver-

sify its products and to chase foreign customers in the international market. It has lined up four new nuclear power plant projects after the Qinshan and Daya Bay plants.<sup>9</sup> The CNNC's long-term goal is to achieve self-reliance in the design, manufacture, construction, and running of nuclear power plants, and to possess the full-cycle nuclear fuel technology. To achieve this objective, it needs, on the one hand, to introduce advanced Western technology and know-how into its program and, on the other hand, to export what it produces to the world market to support its foreign purchases.

**BEIJING'S NUCLEAR EXPORT POLICY**

Before China joined the IAEA in 1984, its nuclear cooperation with and export to certain threshold states raised concern about the risk of nuclear proliferation. Chinese activities included unsafeguarded transferring of heavy water to Argentina and India, assisting Pakistan in the acquisition of enrichment and reprocessing technology, and entering into a research reactor deal with Algeria in 1983, which was not revealed until 1991.<sup>10</sup>

Beijing shifted its nonproliferation policy after it joined the IAEA. At the 1984 IAEA General Conference, Jiang Xingxiong, then-China's Minister of Nuclear Industry, declared that China would have a responsible policy in nuclear exports and that its nuclear cooperation would be solely for peaceful purposes. On November 14, 1985, a spokesman of the Chinese Foreign Ministry stated that China would request all countries receiving its nuclear exports to accept the safeguards of the IAEA.<sup>11</sup>

In September 1988, the IAEA Board of Governors approved a voluntary safeguards agreement it negotiated with

China. In the agreement, China further committed that "it will require the recipient countries to accept safeguards by the International Atomic Energy Agency ... and that nuclear material and equipment imported to China will only be used for peaceful purposes."<sup>12</sup>

In order to build a "responsible" image, China has negotiated nuclear cooperation agreements with more than a dozen countries.<sup>13</sup> Each of the agreements includes a guarantee that China's nuclear exports would be used solely for peaceful purposes, and, where the recipient country is a non-nuclear weapons state, these exports would fall under IAEA safeguards. In the agreements with Japan and Western European countries, China accepts IAEA safeguards on its imports of civilian nuclear technology and equipment from these countries. In negotiating the Sino-U.S. nuclear cooperation agreement, the United States did not request IAEA safeguards on China's imports from America because China is already a nuclear weapons state. These agreements also contain a guarantee against re-transfer of material or equipment by either party without the prior consent of the other party. Most of the agreements also require that adequate physical protection be maintained on all im-

ported nuclear material and equipment while within the territory of either party.

When it acceded to the NPT, China explicitly undertook the commitment not to provide special fissionable material or equipment especially designed or prepared for the processing or production of nuclear weapons to any non-nuclear weapons states. As a party to Protocol II of the Treaty of Tlatelolco, China has committed not to aid the parties of the Latin American nuclear-free zone in violating the treaty and not to use or threaten to use nuclear weapons against the region. In 1987, China signed a comparable protocol under the Treaty of Rarotonga, a treaty establishing a South Pacific nuclear-weapons-free zone.

All nuclear weapons states have a strong self-interest in curtailing the spread of nuclear weapons, especially on their peripheries. But they also have economic or commercial interests in expanding their own nuclear exports. The question concerning China's behavior is not whether China supports the norms of nuclear nonproliferation. Rather, it is an issue about whether China will play by the same nuclear trade rules as other nuclear suppliers in the world.

## CHINA AND THE NUCLEAR SUPPLIERS GROUP (NSG)

Apart from the IAEA, China is not a participant in multilateral supply-side control organizations that attempt to confine nuclear exports to developing countries. For political reasons, China tends to attach no political preconditions and few technical restraints on its economic assistance and exports to the Third World. It still follows this tradition in its nuclear cooperation with Third World countries. After many years of isolation and little experience with international standards in nuclear trade, China took some time to learn safeguards in nuclear exports. Its conformist behavior resembles French experience and attitudes before 1979.

China was invited to join the NSG along with India, Argentina, Brazil, South Korea, and South Africa,<sup>14</sup> but it declined. Beijing did show willingness to engage in serious dialogues with the NSG, but it is unlikely to join the NSG or the Zangger Committee soon. To qualify as a member of the NSG, a country must be a party to the NPT, have the status of an existing or emerging supplier, and have an effective export control system. China meets the first two criteria, but there is a big question mark for the third. China is holding out, not because it does not meet the criteria. Rather, it thinks that the NSG is an industrialized countries' cartel and that it is discriminatory because non-proliferation is sought at the expense of the developing countries' peaceful use of nuclear energy.

Chinese leaders state that they support a balanced policy of promoting peaceful use of nuclear energy and preventing the spread of nuclear weapons, the two basic objectives laid down in the IAEA's Statute.<sup>15</sup> They view stringent NSG export controls as impediments to technology transfer for the

### CHINA AND NONPROLIFERATION REGIMES

Nuclear	IAEA (1984), NPT (1992), Treaty of Rarotonga (1987), Tlatelolco Treaty (1974), and Physical Protection Treaty (1990), has not joined the NSG or the Zangger Committee
Missile	Agreed to comply the MTCR parameters (11/91)
Conventional	U.N. Arms Register, P-5 Mideast Arms Transfer (withdrew 11/92)
Chemical	Geneva Protocol, Chemical Weapons Convention (1993) Not a member of the Australia Group

developing countries' nuclear energy programs. Countries with advanced nuclear technology, they argue, should collaborate on peaceful uses of nuclear energy to benefit the economic development of the developing countries. The prevention of nuclear weapons proliferation should not hinder the transfer of nuclear goods and technology for peaceful purposes.

In the area of technology transfer, Beijing often views itself as a victim both of the Western countries' refusal to share technology and of their economic sanctions for exporting technology itself. It would be very difficult for the Chinese government to join the NSG without first explaining to its people why China should comply with the rules of the game made by Western powers, while at the same time it is denied access to high technology by COCOM and other Western restrictions. Many people see China's arms sales and export of sensitive technology as a way to draw international attention and fight back. In 1992, China cancelled a deal with Iran to supply a 20-megawatt research reactor because of U.S. intervention. But, China responded to the U.S. sale of F-16s to Taiwan by announcing it would sell a 300-megawatt nuclear power reactor to Tehran.

The 1992 NSG Warsaw meeting adopted a control list of 65 dual-use items, materials, and technologies and a policy that requires all members to demand full-scope safeguards for their nuclear exports to all non-nuclear weapons states. In the 1993 Lucerne meeting, the dual-use technology control list was formalized into the NSG Guidelines, which obligate suppliers not to transfer these items if the sale would be contrary to the objective of the nonproliferation of nuclear weapons.<sup>16</sup> These actions closed what have been major loopholes in the supply-side control regime. Although China is not a signifi-

cant supplier of dual-use technology in the international market, the possibility that it may export some dual-use technology and equipment (such as vibration test equipment, high-strength aluminum, uranium isotope separation, explosives, implosion systems, and heavy water production-related equipment) could be counterproductive for the global control system. Also, current Chinese export policy does not request full-scope safeguards<sup>17</sup> from the recipient countries, which could create opportunities for potential proliferators.

### LEGAL FOUNDATION OF CHINA'S EXPORT CONTROLS

Discrepancies in national legal practices can cause significant differences in schemes for the regulation of nuclear exports. Because of that, there can be no single criterion to assess the adequacy of particular national legislative measures. From a nonproliferation point of view, however, we can assess the Chinese export control system by asking the following questions: (1) is there legislation in place to control nuclear-related exports; (2) does the legislation include a clearly-defined list of controlled nuclear products; (3) how does this list compare with international standards; and (4) how are these export controls implemented?

An effective export control system requires specific foreign trade regulations, competent administrative institutions, and enforcement capabilities. Applying these criteria and using comparisons with the experience of various Western countries, China's export control system must be characterized as relatively weak. Although one can say that informal and political means exist to implement export control in China, trends in the reform of the foreign trade system as well as the weakening of the central government's control capabili-

ties in the evolving market-oriented economic system are making informal, political controls more difficult to implement.

Unlike other nuclear suppliers, China has no atomic energy statute in place, nor specific regulation about nuclear export control. Among the traditional suppliers, France, Germany, Belgium, the Netherlands, Switzerland, and the United States all have complex and apparently rigorous special statutory schemes for controlling nuclear-related exports, while Britain and Italy rely on their existing general export control laws to regulate nuclear exports.<sup>18</sup> Among the emerging nuclear suppliers, South Korea, India, and Pakistan have specific nuclear energy statutes that regulate all nuclear-related trade and activities.<sup>19</sup> The countries without specific nuclear control statutes (that is, Britain and Italy) tend to add a nuclear trigger list to their general export control lists. In China, no such nuclear trigger list has been enacted, and the general export control laws have been kept vague about the restrictions on nuclear-related products.

China's first export control law was the Provisional Rules of Foreign Trade Administration (*Duiwai Maoyi Guanli Zhanxing Tiaoli*), which was enacted in December 1950.<sup>20</sup> This law established a system requiring all importers and exporters to have licenses issued by central or provincial foreign trade authorities. But when all private foreign trade companies were nationalized in 1956, import-export activity fell under the control of special, state-owned trading corporations, and the licensing system—for all practical purposes—ceased to exist. In a circumstance where only 10 to 15 national foreign trading corporations dominated all imports and exports, it was relatively easy for the government to implement export control. For this reason, the Chinese government was able to carry out effective export con-

trols from 1956 to 1978, despite the lack of specific export control regulations.

The economic reforms since 1978 have revitalized China's economy and opened up a long closed economic system. The reforms loosened up tight control on foreign trade as well. In 1980, an export licensing system was reestablished by the Temporary Provisions of Export Licensing System (*Guanyu Chukouxuke Zhidu de Zhanxing Banfa*).<sup>21</sup> The new regulation sets out license application procedures, requirements, and responsible institutions. It also includes a clause for punishing violators. From 1985 to 1988, approximately seven other decrees were issued to articulate detailed rules about license applications, approval procedures, and jurisdictions for the responsible institutions.<sup>22</sup>

China is drafting a comprehensive foreign trade law, which will likely be completed and submitted to the People's Congress this year. On January 1, 1993, another export control regulation, Temporary Rules on the Management of Export Goods (*Chukou Shangpin Guanli Zhanxing Banfa*) was enacted.<sup>23</sup> This new regulation reflects some important changes laid out in the 1988 State Council's decision on reforms in the foreign trade system. The number of controlled export goods is reduced by about 50 percent from the previous list. All controlled goods are now placed in four categories: (1) 38 products vital to the national economy that will remain under state production and export controls; (2) 54 commodities listed under "voluntary export quota controls" that will need permits to be shipped to key countries or areas; (3) passive quota control goods (mainly textile products) whose export is subject to the quota agreement between China and recipient countries; and (4) 22 goods (including some sensitive technological products and scarce domestic

goods) that are subject to general export control and require export licenses.

Heavy water, rare-earth metals, and dual-use chemical products (10 unspecified items) are on the general control list. Chemical poison goods are listed, but not specified. The list also includes lead, nickel, aluminum, and yellow phosphorus. No nuclear materials or equipment (except heavy water) appear on the list, and only two dual-use items (bearings and computers) are listed.

Nominally, the Ministry of Foreign Trade and Economic Cooperation (previously the Ministry of Foreign Economic Relations and Trade) has jurisdiction over all exports. But, in practice, nuclear products (such as enriched uranium, research, and power reactors) and other products from the former defense industry ministries have never fallen under its control. The six newly-organized, ministerial-level corporations for the national defense industry are responsible for producing and exporting them. This explains why the export control regulations concern only the products from non-defense industries, and why nuclear materials are not on the list.

Heavy water appears on the control list because the Chinese define it as a chemical product rather than as a nuclear material. It is produced by the Ministry of Chemical Industry, and is exported by the China National Chemical Industry Import and Export Corporation (SINOCHEM), a major national trading corporation under the Ministry of Foreign Economic Relations and Trade. China Nuclear Energy Corporation can purchase heavy water from the Ministry of Chemical Industry and is entitled to export the heavy water at its disposal.

It has been a Chinese premise and practice that unless an export is listed as banned, it is permitted. Some general control articles, however, have been

included in China's foreign trade regulations to provide the government with broad and flexible control power over sensitive (and unlisted) exports. The 1980 export license regulation provides that an export license must be obtained in order to export any goods that the government prohibits. One could argue that all nuclear-related goods fall into this category. A 1986 Directive of the Ministry of Foreign Economic and Trade, approved by the State Council, specifically states that all technology exports must be compatible with China's foreign policy and national security interests (especially those of sensitive technology and materials), and the government prohibits all exports of technology that violate its foreign policy and seriously affect its national interests.<sup>24</sup> Thus, these vague and general articles provide broader control powers, but, in many cases, they also blur the scope of export controls.

## IMPACT OF REFORMS IN THE FOREIGN TRADE SYSTEM

China has carried out a series of reforms on its foreign trade system since 1978. The major objectives are loosening the centralized control on foreign trade, giving state-owned large enterprises more power in import and export decisions, and integrating China into the world economy. These reforms in the foreign trade system have weakened export control on three levels.

First, the reforms have transferred more power to the provincial and local governments (especially the Southeast coastal provinces) to develop their own export and import policies. The provincial and regional foreign trade bureaus now have more autonomy over their exports, including the power to issue export licenses. Thus, it has become difficult to impose and enforce uniform nonproliferation standards on

the exports from different provinces.

Second, national foreign trading corporations controlled by the central government no longer dominate in foreign trade. There are now more than 2,500 foreign trading companies or companies with foreign trade rights. Each industrial ministry has its own foreign trading arm, so do many provincial and local governments. As the power of the state central planning in foreign trade diminishes, the export control capability of the Ministry of Foreign Trade and Economic Cooperation also declines.

Third, at the micro level, most state-owned large industrial enterprises have been granted foreign trade rights. They can sell and buy goods in the international market, not through national foreign trading corporations. This right gives them more incentives to export. In April 1993, 100 research and design institutes were granted direct foreign trade rights as a measure to promote high technology exports.<sup>25</sup> Many of them are defense research and development institutes. This change creates the possibility that more Chinese defense enterprises will enter the world market and export dual-use and other sensitive technology and equipment.

## DECISIONMAKING PROCESS

China's export control relies more on informal administrative action than on clearly-defined regulations and legal procedures. The country has a long tradition of not using published laws as a means for social control. Although this tradition is gradually being overcome, and the government now spends more time drafting laws, it still has a long way to go before binding laws on foreign trade activities are in place and can be effectively enforced. The People's Congress is speeding up the law-making process in recent years, but export control legislation is not a pri-

ority.

There is no specific procedure for administrative action in export control matters. It is known that inter-ministerial consultations take place in the decisionmaking process. A directly responsible ministry (*zhuguan bumen*) has the power to approve the proposed export, but it must consult with the ministries concerned (*youguan bumen*), which have no veto power but can press a pending issue to the higher governing and coordinating bodies. There is no legal power for export control vested in higher-level bodies, but they have the authority to interpret policy and to decide conflicting matters. Connection and personal influence can be powerful in the process.

For nuclear-related exports, the China National Nuclear Corporation (CNNC), the successor of the Ministry of Nuclear Industry after 1988, is the "directly responsible ministry." Although its name is business-like, it still functions as a government bureau for the national nuclear industry and directly reports to the State Council. The only difference is that its organization of nuclear production is more business-like. As a state holding corporation, the CNNC approves the exports from its affiliated or subject companies by a form of "ratification document" (*pi wen*), instead of an export license. Sometimes, there is a joint ratification document (*lianhe pi wen*) when other ministries are concerned.

The Ministry of Foreign Trade and Economic Cooperation has the authority to make rules and regulations for all foreign trade activities. The Customer Service (*Haiguan Zongshu*) is the enforcement bureau for export control. But the ministry's jurisdiction is limited to the export goods it used to control, not the goods controlled by former military industry ministries. The Customer Service usually does not stop ex-

ports with licenses or "ratification documents."

The Commission of Science, Technology, and Industry for National Defense (COSTIND) was once the "directly responsible ministry," but after 1985 its role became limited in deciding exports of civilian nuclear products. It still controls the military nuclear production, provides policy guidance for the defense industry, and organizes research and development for high technology weapons, which are procured by the People's Liberation Army (PLA).

The role of the Foreign Ministry is increasing. Since it is responsible for interpreting China's international obligations and foreign policy, it becomes an important player in the process when it intervenes in nuclear exports. But the Foreign Ministry sometimes is not well-informed on all sensitive exports (especially some secret arms sales), and it is put in the awkward position of having to deal with foreign protests.

An inter-ministerial coordinating body, Leading Group of Military Products Export (*Junpin Chukou Lingdao Xiaozu*), was established in 1990. It is comprised of leaders from the Central Military Commission, the PLA, the COSTIND, the Foreign Ministry, and the former defense industry ministries.<sup>26</sup> It meets regularly to discuss arms sales and sensitive exports and makes decisions on disputed arms export issues. Exports of sensitive products such as missile components and technology, highly enriched uranium, and heavy water are treated as arms sales, while exports of most civilian nuclear materials, equipment, and technology do not reach the conference table of the Group and are decided at the ministerial level.

## CONCLUSIONS

In the past decade, China's nuclear export policy has gone through a pro-

cess of reevaluation and readjustment. China's insensitivities about nuclear proliferation risks and relaxed export controls have been replaced by a more responsible nonproliferation posture and restrained export practice. China needs to participate in international nuclear trade and to cooperate with other countries in its ambitious nuclear energy program. It can be predicted that the CNNC will become a major player in the international nuclear market in the next decade.

Will China play by the same rules as the NSG countries do in nuclear trade? There are costs and benefits, both political and economic, for Chinese leaders to decide. Beijing's attitude toward the NSG is also linked with the state of its political relations with major Western powers. As in the case of the Missile Technology Control Regime, Beijing might keep a lukewarm relationship with the NSG but never fully commit to it.

China's domestic export control system also causes concerns about its future nuclear exports. A reliable export control system should be structured according to specific laws and procedures, not just administration policy guidance. Establishing an effective export control system not only constitutes the basis for responsible Chinese nuclear export, but also serves the interests of the international nonproliferation regime.

<sup>1</sup> The author wishes to thank the Program for Nonproliferation Studies at MIIIS for its support of this research. He is grateful for the helpful comments of an anonymous reviewer.

<sup>2</sup> For discussions of the emerging suppliers, see Rodney Jones, et al., eds., The Nuclear Suppliers and Nonproliferation: International Policy and Choices (Lexington, Mass.: Lexington Books, 1985); Leonard S. Spector, Going Nuclear (Cambridge, Mass.: Ballinger, 1987); and Nuclear Ambitions (Boulder, Colo.: Westview Press, 1990), and William C. Potter, ed., International Nuclear Trade and Nonproliferation: The Challenge of the Emerging Suppliers

(Lexington, Mass.: Lexington Books, 1990).

<sup>3</sup> Li Jiu, et al., Dangdai Zhongguo de Hegongye (Contemporary China's Nuclear Industry), (Beijing: China Social Science Press, 1987), p. 80.

<sup>4</sup> Zhang Chunting, "A Major Reform in China's Military Industry System," Liaowang, November 24, 1986, pp. 3-4.

<sup>5</sup> Renmin Ribao (People's Daily, overseas edition), February 8, 1993.

<sup>6</sup> Jiefangjun Bao (PLA Daily), December 19, 1991.

<sup>7</sup> For more information about China's nuclear exports, see past issues of Eye on Supply from No.1 (Spring 1990) to No.8 (Winter 1993) and its successor publication The Nonproliferation Review 1 (Fall 1993)(Monterey Institute of International Studies, Program for Nonproliferation Studies).

<sup>8</sup> The Ministry of Nuclear Industry was restructured into the CNNC in 1988, so that it could function as a self-supporting economic corporation, instead of a government administrative body.

<sup>9</sup> They are the Yinkou Nuclear Power Plant, Liaoning Province (two Russian PWRs), the Shanqian Nuclear Power Plant in Fujian Province (1,200 MWs), the Sanmen Nuclear Power Plant in Zhejiang Province (2 x 1,000 MW PWRs), and a second nuclear power plant in Guangdong Province.

<sup>10</sup> For details, see issues of Eye on Supply, loc. cit.

<sup>11</sup> Xinhua News Agency, November 14, 1985.

<sup>12</sup> See IAEA Gov/235.

<sup>13</sup> China has nuclear cooperation agreements with 21 countries, and only 16 of the accords are officially recognized by the Chinese government. See Daniel K. Schultz, "The PRC's Nuclear Cooperation Agreements," Eye on Supply, No.4 (Spring 1991).  
<sup>14</sup> On December 2, 1992, Argentina formally adhered to the NSG Guidelines, and South Korea may follow suit soon. See Tadeusz Strulak, "The Nuclear Suppliers Group," The Nonproliferation Review 1, (Fall 1993), p. 10.

<sup>15</sup> The IAEA Statute Article II states that "The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purposes."

<sup>16</sup> For more discussion, see Roland Timerbaev, "A Major Milestone in Controlling Nuclear Exports," Eye On Supply, No.6 (Spring 1992), and Strulak, op. cit.

<sup>17</sup> Under full-scope safeguards, an importing state must conclude a safeguard agreement with the IAEA that places all of its nuclear facilities under inspection.

<sup>18</sup> France and Germany have enacted two separate regulatory schemes: one for nuclear fuel and materials and another for nuclear equipment and components. For more discussion about the European nuclear export control, see Joel Davidow, Comparative Study of European Nuclear Export Regulations, report

prepared for Lawrence Livermore National Laboratory (August 1985).

<sup>19</sup> A detailed study of export control laws of the emerging nuclear suppliers was prepared by Burrus M. Carnahan, et al., The Legal Foundation for Export Control in the Emerging Nuclear Suppliers: A Comparative Study, report prepared for Los Alamos National Laboratory (September 1990). For a brief discussion, see Burrus M. Carnahan, "Export Laws and Policy of the Emerging Nuclear Suppliers: A Basis for Cautious Optimism," Eye on Supply, No.5 (Fall 1991), pp. 66-76.

<sup>20</sup> It was issued by the then-Central Government Ministry of Trade. A decree of detailed rules, Detailed Rules Regarding the Provisional Rules of Foreign Trade Administration (Duiwai Maoyi Guanli Zhanxing Tiaoli Shishi Xizhe) was enacted by the same ministry on December 28, 1950.

<sup>21</sup> It was issued by the State Commission on Import and Export Management and the Ministry of Foreign Trade on June 3, 1980.

<sup>22</sup> For instance, Duiwai Jingji Maoyibu Guanyu Chukou Xukezheng Fenji Guanli Youguan Wenti de Tongzhi (Ministry for Foreign Economic and Trade: Notices on Multilevel Management of Export Licenses) March 18, 1985; Duiwai Jingji Maoyibu Guanyu Chukou Xukezheng Qianfa Yuanzhe he Youguan Guiding de Tongzhi (Ministry for Foreign Economic and Trade: Notices on the Principles and Regulations Concerning Issuing Export Licenses) January 13, 1988); and Duiwai Jingji Maoyibu Guanyu Tiaozheng Jingchukou Xukezheng Guanli de Ruogan Guiding (Ministry for Foreign Economic and Trade: Several Regulations on Adjusting the Management of Import and Export Licenses) June 1, 1988.

<sup>23</sup> Issued in December 1992 by the Ministry of Foreign Economic Relations and Trade (which became the Ministry of Foreign Trade and Economic Cooperation in March 1993). Its text appears in Intertrade (Guoji Maoyi), February 1993.

<sup>24</sup> Guanyu Kaituo Guowai Jishu Shichang Jiaqiang Jishu Chukou Guanli de Qingshi (Report on Opening Up Our Technology Export and Strengthening the Management of Technology Export), issued by the Ministry of Foreign Economic Relations and Trade and approved by the State Council in October 1986.

<sup>25</sup> More institutes will have the same right later. See Minister of Foreign Trade and Economic Cooperation Wu Yi's speech, "An Important Step in Adjusting Our Foreign Trade Strategy," Intertrade (Guoji Maoyi), April 1993, pp. 5-6.

<sup>26</sup> For more discussion about the decisionmaking process, see John W. Lewis, Hua Di, and Xue Litai, "Beijing's Defense Establishment: Solving the Arms-Export Enigma," International Security 15 (Spring 1991), and Yan Kong and William C. Potter, "Comments on Beijing's Defense Establishment," Eye On Supply, No. 4 (Spring 1991).