Technical Bulletin #59 on Prohibition of Dual Use Exports to North Korea



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I. Introduction

This Special Report takes an incisive look into *Technical Bulletin #59 on Prohibition of Dual Use Exports to North Korea,* the recently released 236 page list of items Chinese companies and individuals are banned from trading with North Korea.

Click here to read a translatable version of the original list on the Nautilus website.

Click here to read the original list posted to the Ministry of Commerce of the Peoples Republic of China website.

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The views expressed in this report do not necessarily reflect the official policy or position of the Nautilus Institute. Readers should note that Nautilus seeks a diversity of views and opinions on significant topics in order to identify common ground.

II. Special Report by cavazos, hayes and von hippel

Technical Bulletin #59 on Prohibition of Dual Use Exports to North Korea

On September 23, 2013, China released a 236 page list of items that Chinese companies and individuals are proscribed from trading with North Korea (see translated summary below). [1] The publication of the list may indicate China's desire to play an active and constructive role in its new " Great Power Type relationship", within East Asia, with the United States and globally. The document is broadly consistent with and supportive of Park Guen-Hye's "trustpolitik" promoted by the South Korean administration as a way to engage North Korea. However, nothing indicates that by issuing tighter controls, China is fundamentally changing its policy toward North Korea, let alone abandoning it.

The degree to which China enforces the prohibition of trade in items on this list will mostly determine the success of the program, but at the strategic level, simply releasing the document sends clear political signals to North Korea, the United States, South Korea and the international order as represented by the United Nations. The release also opens a small window for cooperation with China and North Korea. China, for example, could offer North Korea training in export controls, non-state actor nuclear security, or invite it to attend a regional UN Security Council Resolution (UNSCR) 1540 Committee workshop. Other states can offer to provide technical assistance and training for Chinese implementation of Technical Bulletin #59. The cooperation can be in the form of training on identifying prohibited items, codifying review procedures, and institutionalizing information-sharing on trade in items listed in this document, as well as enforcing other UN Security Council Resolutions. In particular, China may have difficulty implementing Technical Bulletin #59 in private companies as against state-owned enterprises that trade and invest in North Korea—a major weakness in the modern Chinese export control system as documented by Stephanie Lieggi in 2010 and Chin-Hao Huang in 2012. [2] The decision to release the list was highly political. Because it is a joint document and coordination was required between four named institutional bureaucracies (the Ministry of Commerce, the Ministry of Industry and Information Technology, China Customs Bureau, and the China Atomic Energy Authority) the decision to compile and coordinate such a list was made at least at the Politburo, the second highest level of China's government. The decision may also

have been made at the highest level of China's government, the Politburo Standing Committee as the document directly impacted the remits of both the Foreign Affairs Leading Small Group and Finance and Economy Leading Small Group. One organization not named as sponsor of the list of but undoubtedly crucial to its formulation and release is China's Ministry of National Defensevia the General Armaments Department. This Ministry must have been involved because of the missile and drone technologies included in the list.

In China making such a highly political decision to produce this document and then compiling a lengthy list and coordinating across bureaucracies would take many months. It is unclear what confluence of events and factors led China to promulgate the document on September 23, 2013. Whether the political decision originated in part from bottom-up due to export control agencies pushing for greater clarity as trade with the DPRK become more sensitive, was a pre-emptive move to avoid another embarrassment to China such as the reported export of Transporter Erector Launchers by Wanshan Special Vehicle Company to the DPRK in 2012, [3] or reflected a geo-strategic move at the top which was then orchestrated top-down, is unknown.

At the technical level, China's prohibition list seems to reflect China's assessment of North Korea's programs and a rough idea of North Korea's technical sophistication, since the list is not a wholesale repetition of proscription lists from the Nuclear Suppliers Group, [4] Wassenaar Convention, [5] and Missile Technology Control Regime. [6] This is consistent with regulations and listings issued earlier that aim to adapt global listings to Chinese conditions—in particular, aiming at products made in China that might be exported to a North Korean nuclear weapon program, or are products known to be made by prominent Chinese companies, but not blanket coverage. In particular, China has implemented the Wassenaar controls in limited ways for political reasons. China also attempted to thread the needle between proscribing missile technologies yet allowing rocket technologies, since China affirms the sovereign right of nations to peacefully use space.

As conveyed in the document to various Chinese public and private entities stretching from Beijing headquarters for legions of China's State Owned Enterprises to distant customs house on China's far-flung borders, to busy transshipment ports such as Dalian and Penglai where many North Korean ships visit constantly, China prohibits trade with North Korea in four broad fields: **Nuclear**, **Missile**, **Chemical and Biological** and **Supplemental**. The **Nuclear** field targets technologies and materials required to produce enriched Uranium and Plutonium. The **Missile** field proscribes most technologies and material required for a credible missile program - from the warhead to the guidance systems to the propulsion systems. The **Chemical and Biological** field proscribe trading in various precursor chemicals which are potentially useful in making chemical weapons. This field also forbids trading in many potent biological agents. It is easy to panic here, but China is likely listing many of these out of an abundance of caution – and frustration – in its dealings with North Korea, as well as to show its good faith in upholding international norms against weapons of mass destruction.

The way in which the document is organized and the relative coverage on the list reflects China's concerns with North Korea's proliferation activity. China is mostly concerned with North Korea's nuclear program and uses roughly 56% of the document to relay the first of four concerns. North Korea's missile program is second on the list, and accounts for about 32 % of the proscribed items. The Chemical and biological field is likely meant to convey that China does not support any form of weapons of mass destruction in North Korea. The two-page Supplemental list seems to be more of a catch-all and does not necessarily seem representative of specific concerns that China has about North Korea.

Rigorously enforcing this list may have the following effects that serve Chinese strategic interests. It would likely:

- Put the onus back onto the United States and the ROK to find ways to reduce tensions with North Korea since they will bear most of the costs of isolating the North;
- Underscore China's claim to be the "honest broker" in the Six-Party Talks process by "balancing" the "pro-DPRK" meeting on September 18, 2013 in Beijing on resuming the Six-Party Talks, where China's foreign minister called for "constructive moves" to resume the Talks—comments clearly aimed at the United States (the DPRK sent their senior nuclear negotiator whereas the United States and South Korea governments shunned the meeting) with a harsh measure aimed at the DPRK;
- Put North Korea on notice that China will not cut it any slack in advancing its nuclear and missile program due to its impact on much more strategically significant potential proliferation by Japan and South Korea; China does not want any more nuclear neighbors;
- Channel North Korean attempts to procure critical supplies for its nuclear and missile program into black market channels via smuggling across the border, which Chinese authorities may be able to monitor and use "flexibly" to exert control while maintaining open lines of communications with the DPRK;
- Expand China-DPRK non-sanctioned trade and investment as North Korea has no alternative supplier for most goods and services, given its lack of ability to mobilize international trade financing (witness the Cuba-DPRK sugar for arms deal), thereby partly paying for the costs of Chinese food aid and technical assistance, and extracting early returns on its infrastructural investment in DPRK bridges, railways, ports and mines;
- Ensure that U.S. forces in Korea and Japan remain committed to the Korean Peninsula, which reduces their potential to be swung south in a Taiwan conflict scenario and (from a Chinese perspective) keeps Japan and South Korea on a short leash.

From the perspective of US and ROK strategic interests, the Chinese move implies that it is time to recognize the need for a comprehensive security strategy [7] to deal with the DPRK and related security problems in Northeast Asia that would replace a 236 page positive, yet obviously stop-gap measure.

To date North Korea had not reacted to the document. China's Ministry of Foreign Affairs explained on September 24, 2013 that its strict enforcement of sanctions against the DPRK was not punitive, but rather, was intended to realize the denuclearization of the Korean Peninsula [8]—a figleaf that will not impress North Koreans. Almost certainly, the DPRK's leaders will view the document as an affront to the DPRK's sovereignty.

We should anticipate a period of increased tension in the near future. Track 2 efforts to advance conflict resolution strategies and to rebuild communication channels needed for crisis management with the DPRK are in order.

EXCERPTS FROM THE LIST OF PROHIBITED DUAL-USE TECHNOLOGIES AND ITEMS

What follows are selected portions of the 236 page document. In particular, we include the entire introduction paragraph, the titles and page numbers for the four major "fields". We also highlight a few key subsections with page numbers and make a few comments or observations at various points. Sometimes we mean the points to clarify and other times we want to stimulate discussion or provide ideas for further research.

The document is written in a dispassionate, technical tone familiar to bureaucratic institutions the world over. There are attempts in the document to educate the reader by explaining what

something is or what it does or why it's important, but highly specialized and technical terms rule this document.

Fortunately, Nautilus has been working on many of the technical terms to improve translation on our website. We also extensively consulted with the excellent technical terms in a glossary (in English) (in Chinese) produced independently for the Nuclear Threat Initiative by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies. The International Atomic Energy Agency Safety Glossary (English) (Chinese PDF) is another "go to" document for technical terms.

Click here to read a translatable version of the original list on the Nautilus website.

Translations below (and any errors) by Roger Cavazos.

附 件[1]

禁止向朝鲜出口的两用物项和技术清单 [2]

总说明：

本清单分为核领域、导弹领域、化学和生物领域及补充

物项四个部分，分别根据联合国安理会第 1718 号决议、第

2087 号决议和第 2094 号决议相关规定，依据国际原子能机

构 INFCIRC/254/Rev.11/Part 1、INFCIRC/254/Rev.8/Part 2

文件、联合国安理会 S/2012/947、S/2006/853、S/2009/364

文件以及联合国安理会第 2094 号决议附件三制定。[3], [4]

NOTE: This is a list of all four fields and selected sub-fields.

第一部分 核领域 The First Field: Nuclear

NOTE: Nuclear Field coverage runs from pages 2-134

I. 触发清单 Items to look for (A Chinese play on words as it literally means "triggered inventory") (pg 2)

3. 辐照燃料元件后处理厂以及专门为其设计或制造的 Plants for reprocessing irradiated fuel and equipment specifically designed or manufactured (for that purpose) (pg 12)

4. 核反应堆燃料元件制造厂以及专门为其设计或制造17的设备 按语Nuclear reactor fuel and equipment specifically designed or manufactured (for that purpose) (pg 16)

5.3. 专门设计或制造用于气体扩散法浓缩的组件和部Equipment designed or prepared for gaseous diffusion enrichment components (pg 28)

5.7. 专门设计或制造用于以激光为基础的浓缩工厂的系统、设备和部件Equipment designed or manufactured for use in laser-based enrichment plants (pg 45) Inclusion here indicates China likely assesses North Korea uses laser enrichment.

II. 核两用品及相关技术出口管制清单Export control list of Nuclear Dual-use items and related technologies (pg 70)

5.研制核爆炸装置所用的试验和测量设备Developing equipment designed to test and measure nuclear explosive devices (pg 125)

6.核爆炸装置的部件 Components of a nuclear explosive device (pg 130)

第二部分导弹领域 The Second Field: Missiles

NOTE: Missile Field coverage runs from pages 135-209

第 1 项完整投掷系统Complete delivery systems (pg 145) It should be noted that items 1-4 exactly mirror MTCR handbook in ordinal rankings. The titles are almost the same in Chinese and the English version of the MTCR handbook. The Chinese-language Missile Field closely tracks the MTCR handbook through the rest of the Field. [5]

第 2 项可用于完整运载系统的完整子系统 (pg 146) (Subsystems as complete systems) Proscribing ceramic or ablative material directly aims at greatly increasing the probability any device re-entering the atmosphere is incinerated in the intense heat and thus decreasing the credibility of any North Korean Intercontinental Ballistic Missile program

第 3 项 推进组件及设备Propulsion components and equipment (pg 151) This section is meant to prevent any missile from even lifting off the launchpad.

第 4 项 推进剂、化学品及推进剂生产Propellants, chemicals and producing propellants) (pg 157)

第 5 项 （留白）(pg 168) This section is “blank”. Since almost all the other sections track with MTCR handbook, it appears as though China combined a few MTCR chapters into one. However, there is a small, unknown, probability that “blank” is meant to convey “reserved for future use”, “too sensitive to be released”, “no consensus achieved” or none of the above. There are only three “blank” sections in the entire document – all of them in the Missile Field.

第 9 项 结构复合材料生产、热解沉积与致密化以及结 构材料 (pg 168) (Structural materials, composites, pyrolitic technologies and densification) Of note, it appears only France, Germany, Russia, the United Kingdom and U.S. possess this capability. China appears to be proscribing a capability they cannot provide anyway. See Federation of American Scientist MTCR handbook Chapter 7 for more information on Pyrolitic technologies.[6]

第 10 项 飞行控制 Flight Controls (pg 183)

第三部分化学和生物领域 The Third Field: Chemical and Biological

NOTE: Chemical and Biological Field coverage runs from pages 210-234

化学前体 Chemical Precursors (pg 210-215) This is a list of chemicals China proscribes by name and by CAS or Chemical Abstract Service registry number. CAS only catalogs chemicals that have been described in open scientific literature.

化学两用品制造设施、设备及相关技术Dual use chemicals, manufacturing facilities and related technologies (pg 215- 224) China includes many items from Wassenaar Convention lists, but not every item. [7]

This next section should be read as descriptive. DO NOT PANIC or assume that North Korea is: 1) actively seeking these things; 2) has these capabilities 3) is preparing to use these biological agents or 4) has weaponized these capabilities

生物剂 Biological Agents (pg 224-230) There are several things listed here. It does not mean North Korea has or is pursuing each of these. It more likely means China wants to emphasize they are putting DPRK and the world on notice, China wants to be on the record as upholding current international norms and opposing setting new international norms tolerating these potential weapons of mass destruction.

第四部分 补充物项The Fourth Field: Supplemental

NOTE: Supplemental Field coverage runs from pages 235-236. This two page field is the shortest field in the entire document. Including Sodium perchlorate and Red Fuming Nitric Acid, which are rocket fuel may be sending the signal one last time – don't launch

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III. References

[1] (Chinese) Ministry of Commerce, "Technical bulletin #59 on prohibition of dual use exports to North Korea," in Chinese:中华人民共和国商务部， 商务部 工业和信息化部 海关总署 国家原子能机构公告2013年第59号 关于禁止向朝鲜出口的两用物项和技术清单公告， September 23, 2013. Available at: http://www.mofcom.gov.cn/article/b/e/201309/20130900317758.shtml
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[2] Lieggi, Stephanie. "From proliferator to model citizen? China's recent enforcement of nonproliferation-related trade controls and its potential positive impact in the region." *Strategic Studies Quarterly* 4.2 (2010), available at: handle.dtic.mil/100.2/ADA520907; Chin-Hao Huang, Bridging the Gap, Analysis of China's export controls against international standards, May 25, 2012, at: https://www.gov.uk/government/publications/analysis-of-chinas-export-controls-against-international-standards

[3] M. Hibbs, "China and the POE DPRK Report," Arms Control Wonk, July 2, 2012, at: http://hibbs.armscontrolwonk.com/archive/879/china-and-the-poe-dprk-report

[4] Nuclear Suppliers Group, Guidelines for Nuclear Transfers, INFIRC/254/Rev 11/ Part 1. Available at: http://www.nuclearsuppliersgroup.org/Leng/PDF/infcirc254r11p1.pdf; and Nuclear Suppliers Group, Guidelines for Nuclear Transfers, INFIRC/25/Rev 8/ Part 2. Available at: http://www.nuclearsuppliersgroup.org/Leng/PDF/infcirc254r8p2.pdf.

[5] Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use goods and technologies, available at: http://www.wassenaar.org/controllists/

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[7] Morton Halperin, "Promoting Security in Northeast Asia: A New Approach", NAPSNet Policy Forum, October 30, 2012, at: https://nautilus.org/napsnet/napsnet-policy-forum/promoting-security-in-northeast-asia-a-new-approach/

[8] Megha Rajagopalan, “China says banned exports to North Korea not meant as punishment,” Reuters, September 24, 2013, at: http://news.yahoo.com/china-says-banned-exports-north-korea-not-meant-103605273.html

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IV. NAUTILUS INVITES YOUR RESPONSES

The Nautilus Peace and Security Network invites your responses to this report. Please leave a comment below or send your response to: nautilus@nautilus.org. Comments will only be posted if they include the author’s name and affiliation.

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