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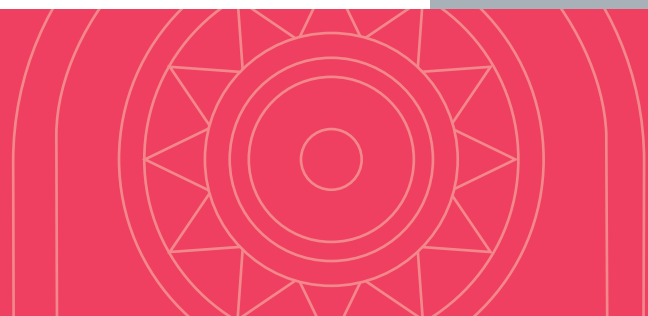
Between Aid and Restriction:

Changing Soviet Policies toward China's
Nuclear Weapons Program: 1954-1960

By Zhihua Shen and Yafeng Xia

NPIHP Working Paper #2

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Christian F. Ostermann, Leopoldo Nuti and Evan Pikulski, Series Editors

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The paper's key findings include:

- Soviet aid to China's nuclear program has typically been viewed by historians as a product of both Soviet leader Nikita Khrushchev's romantic belief in world socialist revolution, and the strength of the Sino-Soviet alliance.
- New Chinese archival sources presented by Shen and Xia in *Between Aid and Restriction*, suggest that the history of Chinese-Soviet nuclear cooperation may need to be re-examined: Khrushchev only consented to assist China in developing nuclear energy for peaceful purposes in 1954 because of the post-Stalin power struggle within the Soviet government—during which he expected to acquire much-needed political support from Mao.
- Consequently, Soviet support for the Chinese nuclear energy program between 1954 and 1957 included the construction of a research reactor and cyclotron in China, cooperative uranium prospecting and mining, the establishment of an Eastern Atomic Energy Institute to train specialists in nuclear technology, and other training for Chinese scientists and technicians.
 - Despite the peaceful nature of Soviet aid, Mao intended from the outset to use Soviet support to lay the foundation for a nuclear weapons program.
- Soviet support for China's nuclear program expanded to include directly weapons-related assistance in 1957, after Mao once again expressed his support to Khrushchev following the so-called anti-party incident which threatened to cost Khrushchev his leadership position in the Soviet Union.
 - Soviet support for Chinese nuclear weapons development included assistance in uranium enrichment, plutonium reprocessing, warhead design and production, as well as missile technology development.
- Summer 1958 marked the beginning of the end of Soviet nuclear assistance to China, when the PRC bombardment of Jinmen Island, off Taiwan, caught Moscow off guard.
 - China's failure to turn over a captured US-made Sidewinder missile to the Soviet Union for study contributed to the deterioration of Sino-Soviet nuclear relations.
- By 1959, with Khrushchev's position as leader of the USSR now secure, the flow of Soviet nuclear aid to China became increasingly limited in pace, scope and depth.
 - The Soviet decision not to send a long-promised Atomic bomb teaching model to China was among the most concrete manifestations of the deteriorating Sino-Soviet relationship.
 - By August 1960 the last of the Soviet nuclear advisors in China had returned to the USSR.
- Soviet assistance had helped China establish a comprehensive nuclear science and technology industry. The end of Soviet aid was a significant set-back, but it came far too late to halt China's nuclear development completely. China's first atomic bomb test took place on 16 October 1964.

Between Aid and Restriction: Changing Soviet Policies toward China's Nuclear Weapons Program: 1954-1960¹

By Zhihua Shen and Yafeng Xia²

In October 1964, the People's Republic of China (PRC) detonated its first atomic bomb. Since then, China has grown to be the world's third largest nuclear power. Drawing upon newly available archival documents from the PRC Foreign Ministry Archive (PRCFMA), Chinese provincial archives and other sources, this paper will address a series of fundamental questions about China's nuclear development. How did China build its nuclear weapons program?³ What role did the Soviet Union play in the process? How important was Soviet aid to China's entry

¹ William Burr, Mark Kramer, Lorenz Luthi, Vojtech Mastny and Sergey Radchenko read early versions of the article and offered useful suggestions. A condensed version (c.a. 10,000 words) was published in *Asian Perspective*: Zhihua Shen and Yafeng Xia, "Between Aid and Restriction: The Soviet Union's Changing Policies on China's Nuclear Weapons Program, 1954-1960," *Asian perspective*, vol., 36, no. 1 (Jan. -Mar. 2012), pp. 95-122.

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³ Nuclear weapons in this article include atomic bombs, hydrogen bombs and associated delivery system (rocketry and missiles). During the 1950s they were then called sophisticated weapons or new national defense technology in China.

into the nuclear club? Why did the Soviet Union go back on its decision to provide China with an atomic bomb teaching model in June 1959, and withdraw all Soviet experts from China in summer 1960?

This paper will expand upon an already significant research corpus on the history of the Chinese nuclear program. The Chinese historiography, for example, focuses on China's independent development of its nuclear weapons program after the Soviet Union went back on its promise to provide China a prototype atomic bomb in June 1959 and subsequently tore up the 1957 Sino-Soviet accord on assisting the Chinese nuclear weapons program.⁴ In the English literature, a 1967 article by Morton H. Halperin examined Soviet assistance to the Chinese nuclear weapons program from 1957 to 1960. Halperin explored the interaction between Soviet nuclear aid to China and Soviet efforts to negotiate a nuclear test ban treaty in the period. The article relied mainly on published English language sources.⁵ John Lewis and Litai Xue documented how Beijing built the bomb in their 1988 book *China Builds the Bomb*.⁶ Shu Guang Zhang examined how Mao perceived the military and strategic value of nuclear weapons and how that perception changed China's national defense policy.⁷ William Burr and Jeffrey Richelson have written on U.S. intelligence reports on the progress of China's nuclear program during the Kennedy and Johnson administrations from 1960 to 1964.⁸

⁴ The following are the most important titles on the topic in Chinese: Nie Rongzhen, *Nie Rongzhen huiyilu* [Memoirs of Nie Rongzhen], 3 volumes, [Beijing: Jiefangjun Wenyi Chubanshe, 1982]. For an English version of Nie Rongzhen's memoirs, see *Inside the Red Star: The Memoirs of Marshal Nie Rongzhen* (Beijing: New World Press, 1988); Li Jue chief ed., *Dangdai Zhongguo hegongye* [Contemporary China Nuclear Industry] (Beijing: Zhongguo Shehui Kexue Chubanshe, 1987); Nie Rongzhen Zhuanji bianxiezu, *Nie Rongzhen zhuan* [A Biography of Nie Rongzhen] (Beijing: Dangdai Zhongguo Chubanshe, 1994); Zhou Junlun, chief ed., *Nie Rongzhen nianpu* [Chronology of Nie Rongzhen] (Beijing: Renmin Chubanshe, 1999). For the most recent study on the Chinese nuclear weapons program and Sino-Soviet relations, see Dai Chaowu, "The Development of Chinese Nuclear Program and the Sino-Soviet Split, 1954-1962," *Dangdai Zhongguo shi yanjiu* [Contemporary China History Studies], No. 3 (2001), pp. 76-85; No. 5 (2001), pp. 62-72, but Dai's article relies solely on the Chinese sources.

⁵ Morton Halperin, "Sino-Soviet Nuclear Relations, 1957-1960," in Morton Halperin ed., *Sino-Soviet Relations and Arms Control* (Cambridge: The MIT Press, 1967), pp. 117-44.

⁶ John W. Lewis and Xue Litai, *China Builds the Bomb* (Stanford: Stanford University Press, 1988). Lorenz Luthi also gives the topic limited treatment. See Lorenz Luthi, *The Sino-Soviet Split: Cold War in the Communist World* (Princeton, NJ: Princeton University Press, 2008).

⁷ Shu Guang Zhang, "Between 'Paper' and 'Real Tigers': Mao's View of Nuclear Weapons," in John L. Gaddis, et al ed., *Cold War Statesmen Confront the Bomb: Nuclear Diplomacy since 1945* (New York: Oxford University Press, 1999), pp. 194-215.

⁸ William Burr and Jeffrey T. Richelson, "Whether to 'Strangle the Baby in the Cradle': The United States and the Chinese Nuclear Program, 1960-1964," *International Security*, Vol. 25, No. 3 (Winter 2000/01), pp. 54-99.

To date, the two best studies on how Soviet nuclear aid to the PRC affected Sino-Soviet relations are a 1999 article by Victor M. Gobarev and a 2009 article by Liu Yangqiong and Liu Jiefeng. Making use of Russian and Chinese sources, Gobarev's article examined alteration in Soviet policy toward the Chinese nuclear weapons program from 1949 to 1969. Gobarev argued that the Soviet leader Nikita Khrushchev was the last romantic believer in world socialist revolution. He considered the PRC to be the Soviet Union's most important ally. These factors contributed to Khrushchev's momentous decision to transfer Soviet technology for nuclear weapons production to China in 1957. But gradually, Khrushchev came to realize that there was a real possibility that Mao could turn his nuclear weapons on the Soviet Union once they were built. This realization resulted, according to Gobarev, in the suspension of all Soviet aid to China's nuclear program.⁹ Newly available sources demonstrate that it is time to reconsider Gobarev's interpretations.

Another important contribution to the field is by Liu Yangqiong and Liu Jiefeng, two scholars from the National University of Defense Technology of China. Their piece has done a good job of describing the kinds of Soviet nuclear technology transferred to China, and assessing the role of this technology in building China's atomic bomb.¹⁰ But the article does not shed much light on how nuclear technology transfers were connected with the ebb and flow of Sino-Soviet relations.¹¹ It is thus necessary to study the issue in greater historical depth.

Based on newly available Chinese and Russian archival documents and oral history interviews with those who were involved in Sino-Soviet nuclear collaboration, this article examines Soviet policies toward the Chinese nuclear weapons program from Soviet leader Nikita

⁹ Victor M. Gobarev, "Soviet Policy toward China: Developing Nuclear Weapons: 1949-1969," *The Journal of Slavic Military Studies*, Vol. 12, No. 4 (December 1999), pp. 22, 30.

¹⁰ Liu Yangqiong and Liu Jiefeng, "Analysis of Soviet Technology Transfer in the Development of China's Nuclear Weapons," *Comparative Technology Transfer and Society*, 7:1 (April 2009), pp.66-110.

¹¹ There are several other items: Amardeep Athwal, "The United States and the Sino-Soviet Split: The Key Role of Nuclear Superiority," *The Journal of Slavic Military Studies*, 17:2 (2004), Athwal concludes that "The United States, primarily through its position of nuclear superiority and increased tendencies to exploit it, led the PRC to press the USSR for increased nuclear assistance and the provision of nuclear weaponry. This caused great strains in Sino-Soviet relations, as the USSR was reluctant to share such technology with any state, let alone communist." See p. 289. Our article demonstrates that this assertion is not true. There is one book in Russia on the Soviet military advisors in China. It also touches on Soviet nuclear aid to China. See Zazerskaia T.G., *Sovetskie spetsialisty i formirovanie voenno-promyshlennogo kompleksa Kitaia, 1949-1960 gody* (1949-1960) [The Soviet Experts and the Establishment of China's Military Industry] (Sankt-Peterburg: NIIKh SpbGU, 2000).

Khrushchev's decision to assist China in developing atomic energy for peaceful purposes in October 1954 to the withdrawal of all Soviet nuclear specialists from China in August 1960. It examines the origins of Soviet policies and the reasons that these policies changed over time. It also looks at the development of the Chinese nuclear weapons program under these circumstances.

The article argues that Khrushchev only consented to assist China in developing nuclear energy for peaceful purposes in 1954 because of an internal power struggle within the Soviet government during which Khrushchev sought Mao's political support. At this juncture Khrushchev did not envision Soviet support for Chinese nuclear weapons development. After the so-called anti-party incident in June 1957, Mao immediately expressed his support for Khrushchev. Grateful for prompt and vocal support, Khrushchev decided to reward him by helping to develop China's nuclear weapons program. One year later, however, the PRC's bombardment of Jinmen Island, off Taiwan, in summer 1958, caught Moscow off guard. The shelling, which took place without consultation with Moscow, led Khrushchev to fear that Mao was too belligerent to responsibly handle nuclear weapons. Khrushchev was justified in feeling that there was a general weakening in Sino-Soviet relations, and in retaliation decided to rescind the October 1957 Sino-Soviet agreement to deliver an atomic bomb teaching model to China. By August 1960—less than three years later—all Soviet specialists working on China's nuclear weapons program had been recalled.

Khrushchev's decision to rescind the Sino-Soviet agreements and withdraw Soviet specialists was a blow for China's nuclear weapons program. Many projects were postponed or not put into production because the Chinese did not have the necessary technological expertise, essential equipment had failed to arrive or the designs were not yet complete. The article concludes that the Soviet decision in 1960 to stop providing technology and equipment in addition to withdrawing specialists might have slowed China's progress considerably, but did not alter—and may even have reinforced—Mao's determination to make the PRC into an independent nuclear power.

From Stalin to Khrushchev: Soviet Support for China's Peaceful Nuclear Program

Though Mao famously declared that “the atomic bomb is a paper tiger” in August 1946,¹² the Chinese Communist Party (CCP) in fact had an early interest in acquiring nuclear weapons. Mao's pronouncement stems from his view—reinforced by his own experience leading a people's war against first the Japanese during WWII and then against the Chinese Nationalist government—that it was the people, not the weapons used, which would decide the outcome of a future war. In part, Mao sought to ensure that the CCP's rank and file would not be intimidated by western nuclear sabre rattling. In line with this policy, following Mao's August 1946 speech, the head of the CCP Secret Service, Kang Sheng, “began recruiting overseas Chinese scientists, especially those specializing in rocketry and nuclear energy.”¹³

In early 1950, during Mao's first visit to Moscow, Stalin invited Mao to watch a documentary film on the successful test of the first Soviet atomic bomb, which took place in August 1949. Stalin wanted to show Mao the power of nuclear weapons, and indicated that the Soviet Union had the capability to offer a nuclear umbrella—a nuclear weapons-backed security guarantee—to China and other socialist bloc countries.¹⁴ In drafting the Sino-Soviet Treaty of Friendship, Alliance and Mutual Assistance, which was signed during Mao's visit, the Soviet Foreign Ministry intentionally alluded to this offer, “In the event of an invasion of one of the signatory countries by a third country, the other signatory country shall render assistance *with all means at its disposal*.”¹⁵ The insights on the power of the bomb that Mao gained in Moscow

¹² *Mao Zedong xuanji* [Selected Works of Mao Zedong] (Beijing: Renmin Chubanshe, 1967), pp. 1135-36.

¹³ Chong-Pin Lin, *China's Nuclear Weapons Strategy: Tradition within Evolution* (Lexington Books, 1988), pp. 44-45, 143.

¹⁴ Ye Zilong, *Ye Zilong huiyilu* [Memoirs of Ye Zilong] (Beijing: Zhongyang Wenxian Chubanshe, 2000), pp. 185-86. According to Ivan Kovalev, Stalin's personal representative to the CCP, Liu Shaoqi, Mao's second in command asked to tour Soviet nuclear installations when he led a CCP delegation to Moscow in June-August 1949, Stalin refused. Instead, the Chinese were shown a basic educational film on the test of a Soviet nuclear device planned for the end of August. See Kovalev's unpublished memoirs, cited from Sergei Goncharov, John Lewis and Xue Litai, *Uncertain Partners, Stalin, Mao, and the Korean War* (CA: Stanford University Press, 1993), p. 71. Also see Dieter Heinzig, *The Soviet Union and Communist China: 1945-1950: The Arduous Road to the Alliance* (New York: M.E. Sharpe, 2004), pp. 223-24; Shi Zhe, *Zai lishi juren shenbian—Shi Zhe huiyilu* [Together with Historical Giants: Memoirs of Shi Zhe] (Beijing: Zhongyang Wenxian Chubanshe, 1991), pp. 409-10.

¹⁵ A newly declassified Russian source indicates that Victor M. Gobarev's assertion is questionable. Gobarev wrote that Zhou Enlai suggested adding after, “shall render assistance,” the words, “with all means at its disposal.” After intense debate, the Soviets reluctantly accepted the Chinese wording. See AVPRF (Archive of Foreign Policy of Russian Federation), f. 07, op. 23a, p. 18, d. 235, 1.16-19; see Gobarev, “Soviet Policy”, p.5. The first version

strengthened his resolve not to depend on the Soviets for a nuclear umbrella but instead to develop an independent Chinese nuclear capability.

Prior to Stalin's death in March 1953, Moscow was willing to offer a nuclear umbrella to all socialist countries,¹⁶ but was unwilling to share nuclear secrets to enable them to build nuclear weapons of their own. After Stalin's death, in an effort to win the struggle for leadership of the Soviet Union, Khrushchev resolved to improve relations with China and Mao. During Khrushchev's visit to China in October 1954, Mao told Khrushchev that he was interested in atomic energy and nuclear weapons and hoped that the Soviet Union would assist China with its nuclear program. Khrushchev was taken by surprise. After a pause, Khrushchev attempted to persuade Mao to concentrate on economic development, arguing that it was not necessary for China to expend badly needed capital for domestic growth on a nuclear program because the Soviet Union already provided nuclear protection for China.¹⁷ Eager to strengthen his ties with Mao, however, Khrushchev did offer to assist the Chinese in building a very small nuclear research reactor for training technical personnel and conducting research in atomic physics, but he offered no help in the field of nuclear weapons.¹⁸

The Soviet Union was determined to maintain military superiority in the socialist bloc, which included a monopoly on nuclear weapons. The Soviet Union was also well aware that research into and production of nuclear weapons was immensely costly. Thus, Khrushchev's proposal was reasonable, and indeed the only feasible option. In addition, there was an unstated and inconvenient motivation underlying Khrushchev's proposal: the United States and the Soviet Union were then discussing the possibility of strategic arms control.

signed by both sides was similar to the second draft on this issue. (See *Renmin ribao*, February 15, 1950, p. 2) The second draft was produced on 9 January when Zhou Enlai was still in Beijing and had not departed for Moscow.

¹⁶ Russian archival sources reveal that the Soviet General Staff prepared a special contingency plan in the wake of the U.S. landing at Inchon. See Gobarev, "Soviet Policy", pp. 7-8.

¹⁷ See Roland Timerbaev, "How the Soviet Union Helped China Develop the A-Bomb," *Yaderny Kontrol* [Nuclear Control], no. 8 (Summer-Fall 1998). An abridged English version can be found at www.pircenter.org/data/publications/ykd23-1998, pp. 45-46. Dmitrii Shepilov, editor in chief of *Pravda* who accompanied Khrushchev during this China trip, recounted the same story in his memoir. See Shepilov, *The Kremlin's Scholar: A Memoir of Soviet Politics under Stalin and Khrushchev*, trans. by Anthony Austin and edited by Stephen Bittner (New Heaven and London: Yale University Press, 2007), pp. 381-82.

¹⁸ See Shi, *Zai lishi juren shenbian*, pp. 572-573; Wang Yan, chief ed., *Peng Dehuai zhuan* [A Biography of Peng Dehuai] (Beijing: Renmin Chubanshe, 1998), p. 578. We disagree with Gobarev's interpretation that Khrushchev turned the Chinese request down. See Gobarev, "Soviet Policy", p. 20.

Long before the Soviets' first atomic bomb test, the United States made a proposal to internationalize the control of nuclear weapons in an effort to head off nuclear proliferation. On 14 June 1946, the head of the U.S. delegation to the U.N. Atomic Energy Commission, Bernard Baruch, proposed using the new international organization to control research on and production of nuclear weapons, as well as the accumulation of fissile materials—the so-called Baruch plan. Unwilling to cede its right to develop its own bomb to the UN, the Soviet delegate, Andrei A. Gromyko, put forth a counter proposal.¹⁹ The United States and the Soviet Union thus began negotiating and quarrelling on whether and how to restrict nuclear weapons development.

After acquiring nuclear weapons, and especially after Khrushchev came to realize that nuclear weapons threatened the very existence of the human race, Moscow began to rethink Soviet military strategy. On 1 April 1954, Khrushchev received a report on the threat of thermonuclear weapons to the human race. The report was based on the views of renowned physicist and father of Soviet atomic bomb Igor V. Kurchatov and other scientists. In the few years since the end of WWII, the development of the hydrogen bomb and the expansion of the US and Soviet nuclear arsenals raised the power of nuclear weapons to inflict casualties on the human race to an astronomical level. The pace of the development and deployment of nuclear explosive devices was so fast that in a few short years, nuclear explosives would make it impossible for life to exist on the earth if a war broke out and both sides' entire arsenals were used.²⁰ The danger of nuclear war may have expedited Soviet negotiation with the West on arms reduction and the prevention of the proliferation of nuclear weapons.

In April 1954, the UN Disarmament Commission established a Subcommittee consisting of the United States, the Soviet Union, the United Kingdom, France and Canada. In May, the United States submitted a working paper in the establishment of an international control organ

¹⁹ Larry Gerber, "The Baruch Plan and the Origins of the Cold War," *Diplomatic History*, Vol.6 (No. 1, 1982), pp.69-95; V. Batiuk, "Plan Barukha i SSSR" [The Baruch Plan and the Soviet Union], in IVI RAN, *Kholodnaia voina: novye podkhody i novye dokumenty* [The Cold War: New Views and New Sources], (Koskva: IVI RAN, 1995), pp. 85-98. For a recent study on this subject, see Campbell Craig and Sergey Radchenko, *The Atomic Bomb and the Origins of the Cold War* (New Haven: Yale University Press, 2008), chapter 5, especially, pp. 212-13.

²⁰ RGANI (Centre for the Preservation of Contemporary Documentation), f.5, op.3, d.126, 1.39-41, cited from Yuri Smirnov and Vladislav Zubok, "Nuclear Weapon after Stalin's Death: Moscow Enters the H-Bomb Age," *CWIHP Bulletin*, Issue 4 (Fall 1994), pp.14-15; For this issue, also see renowned Soviet nuclear physicist Peter Kapitsa's article and letter to Khrushchev. Shen Zhihua, et al, *Sulian lishi dang'an xuanbian* [Collection of Selected Soviet Historical Documents] (Beijing: Zhongguo Shehui Kexue Chubanshe, 2002), vol. 26: pp. 465-88.

with appropriate rights, powers, and functions. In June, the UK and France submitted a proposal on the phrasing and timing of the chief elements of a disarmament program. The Soviet Union initially refused to discuss these proposals.²¹ But Moscow's attitude had softened greatly by September. In its draft resolution to the UN Disarmament Commission on 30 September, the Soviet Union conceded that 50 percent of the agreed reduction in armed forces and conventional armaments might take place before any action to prohibit nuclear weapons.²² This was the first major shift in the Soviet position on nuclear arms control since the Baruch Plan discussions of 1946.

In the wake of the Geneva Conference of 1954, the PRC announced on numerous occasions that it adhered to the five principles of peaceful co-existence – “diplomacy of peace.” However, new tensions soon emerged in the Taiwan Strait, and China and the United States were brought to the verge of another direct military confrontation after the Korean War.²³ In July 1954, the CCP Central Committee decided that China must liberate Taiwan, but it did not call for immediate action. On 27 July, while Premier and Foreign Minister Zhou Enlai was visiting Poland, Beijing cabled Zhou the CCP Central Committee (CC)'s decision on the preparation for the Taiwan campaign and asked Zhou to inform and consult with the Soviet leaders when he arrived at the Soviet Union the following day. On the 29th, Zhou conversed with Soviet leaders Nikita Khrushchev and Georgii Malenkov regarding Beijing's decision.²⁴

Pursuing what some political observers called the Soviet “peace offensive” and fearful that war could escalate into a global conflict, the post-Stalin Soviet leadership was interested in improving relations with the West.²⁵ Furthermore, the Chinese artillery bombardment of Jinmen, (Quemoy), an island off the China coast, near Xiamen, Fujian, held by the Chinese Nationalist government in Taiwan on 3 September set off the Taiwan Strait Crisis of 1954-1955; the United

²¹ For the U.S. working paper and Anglo-French memorandum, see Department of State, *Documents on Disarmament, 1945-1959* (Washington D.C.: Government Printing Office, 1960), vol. 1(1945-1956), pp. 414-24.

²² For the September 1954 Soviet draft proposal, see *Ibid.*, pp. 431-33.

²³ Chen Jian, “Bridging Revolution and Decolonization: The ‘Bandung Discourse’ in China’s Early Cold War Experience,” *The Chinese Historical Review*, vol. 15, no. 2, fall 2008, pp.226-27.

²⁴ Li Ping, et al., *Zhou Enlai nianpu, 1949-1976* [Chronology of Zhou Enlai] (Beijing: Zhongyang Wenxian and Renmin Chubanshe, 1997), vol.1, p. 405; Zhonggong zhongyang wenxian yanjiushi, ed., *Deng Xiaoping nianpu, 1904-1974* [Chronology of Deng Xiaoping] (Beijing: Zhongyang Wenxian Chubanshe, 2009), vol. 2: pp. 1187-88.

²⁵ Ciphred Telegram, Resolution, USSR Council of Ministers with draft letters from Soviet Government to Mao Zedong and Kim Il-sung and directive to Soviet delegation at United Nations, 19 March 1953, *CWIHP Bulletin*, nos.6-7 (Winter 1995-96), p. 80.

States supported the Chinese Nationalists and threatened the PRC with nuclear attack.²⁶

Although the PRC's belligerency in the Taiwan Strait was not in line with the Soviet new policy orientation, it didn't negatively affect Sino-Soviet relations. Moscow was concerned about Beijing's military action in the Taiwan Strait, but closely coordinated with the PRC for a peaceful resolution of the crisis.²⁷

Khrushchev's need for Mao's political support eclipsed the tensions surrounding the Taiwan Strait Crisis of 1954-55, and during his October 1954 visit, he agreed to assist China in developing atomic energy for peaceful purposes as a compromise. This was the first step in China's nuclear weapons research and production effort. Soon after Khrushchev left China, Mao openly discussed nuclear weapons with visiting Indian Prime Minister Jawaharlal Nehru, stating on 23 October that China had "just started scientific research" on the atomic bomb.²⁸

Sino-Soviet Nuclear Energy Cooperation Begins in Earnest

In January 1955, the Soviet Union decided to offer assistance to China and several East European countries for the development of atomic energy programs. China and the Soviet Union soon signed an agreement on uranium cooperation. In March 1956, the Eastern Atomic Energy Institute was established in Moscow, where many leading Chinese nuclear physicists received training and conducted research. From 1955 to 1957, the Soviet Union increased aid for the establishment of China's atomic energy industry. Though Soviet aid during this period was aimed at supporting a peaceful energy program, Mao continued to accept this assistance with a view towards supporting China's bomb project.

Not long before, China's uranium exploration effort had made major progress in Haicheng of Liaoning province and Fuzhong of Guangxi province, which caught the attention of

²⁶ See Ronald W. Pruessen, "Over the Volcano: The United States and the Taiwan Strait Crisis, 1954-1955," in Robert Ross and Jiang Changbin, eds. *Re-examining the Cold War: U.S.-China Diplomacy, 1954-1973* (Cambridge: Harvard University Press, 2001), p. 98.

²⁷ AVPRF, f. 0100, op. 48, p. 394, d.10, l.185-87.

²⁸ S. Gopal, general editor, *Selected Works of Jawaharlal Nehru*, series II, vol., 27 (1 October 1954—31 January 1955) (New Delhi: Oxford University Press, 2010), p. 36. Also *Mao Zedong wenji* [A Collection of Mao Zedong's Papers] (Beijing: Renmin Chubanshe, 1999), vol. 6, p. 367.

the CCP leadership.²⁹ On 15 January 1955, an enlarged CCP CC Secretariat meeting was held to discuss the issue. After reports from Li Siguang, the Minister of Geology, Liu Jie, Deputy Minister of Geology and Qian Sanqiang, the head of the Chinese Academy of Science's Institute of Physics, Mao outlined his commitment to acquiring the bomb: "In the past years, we have been busy doing other things, and there was not enough time for us to pay attention to this matter [of nuclear weapons]. Sooner or later, we have to pay attention to it. We can achieve success provided we put it down as the order of the day." Mao posited that, "Now, [because] the Soviet Union is giving us assistance, we must achieve success! We can also achieve success even if we do it ourselves. As long as we have people and resources, we can create miracles!"³⁰ The meeting approved the plan for the Chinese nuclear weapons program, code named 02.

Apparently as a result of the enlarged CCP CC secret meeting two days before, on 17 January 1955, the Soviet government issued a statement: In order to promote peaceful use of atomic energy, the Soviet government would provide China and several Eastern European countries with large-scale aid in science, technology and industry, including experimental nuclear reactors, the design for accelerators, and related equipment and fissionable materials. On 20 January, China and the Soviet Union signed an accord on exploration, appraisal and geological prospecting of radioactive elements in China. According to the accord, China and the Soviet Union would jointly implement exploratory surveys of the uranium ore in China. China would organize mining operations of the uranium ore with industrial value, while the Soviet Union would provide technology and equipment. The extracted uranium would first satisfy China's need and the surplus was to be sold to the Soviet Union. Subsequently, a contingent of Soviet geologists arrived in China to assist the Chinese uranium ore prospecting effort, which has already achieved some success.³¹ On 31 January, at the fourth plenary meeting of the State

²⁹ Li Qi, *Zai Zhou Enlai shenbian de rizi—Xihuating gongzuo ren yuan de huiyi* [The Days When Working for Zhou Enlai—Reminiscences of Staff at the West Pavilion] (Beijing: Zhongyang Wenxian Chubanshe, 1998), p. 658; Yang Mingwei, "The Decision to Build and Develop China's Nuclear Energy Program," *Dang de wenxian* [Party Historical Documents], No. 3 (1994), p. 29.

³⁰ Li, *Dangdai Zhongguo hegongye*, pp. 13-14; Lewis' and Xue, *China Builds the Bombs*, pp. 38-39.

³¹ *Zhou Enlai nianpu*, vol. 1, p. 441; Li, *Dangdai Zhongguo de hegongye*, p. 20. Regarding uranium exploration, see Li, *Dangdai Zhongguo hegongye*, pp. 22-23; Lewis and Xue, *China Builds the Bomb*, pp. 73-87. Craig and Radchenko, *The Atomic Bomb and the Origins of the Cold War*. According to Chinese foreign ministry archives, the Soviet Union proposed to the Chinese government to revise the 1955 Sino-Soviet uranium accord on 9 July 1956. After receiving approval from Premier Zhou Enlai, the Chinese side indicated their assent. According to this revised

Council of China's central government, Zhou Enlai said, "We are far behind in this area, but, with Soviet help, we have the confidence and determination that we can catch up." [Document 1] On the same day, the State Council passed a resolution supporting the Soviet proposal to assist China in researching peaceful use of nuclear energy.³² On 18 February, Defense Minister Peng Dehuai submitted to Mao a formal research and development plan for China's nuclear weapons program,³³ and on 31 March, Mao announced that "China has entered a new historical epoch of research on atomic energy."³⁴ Thus Mao took the first critical step toward nuclear power that he had long craved. He was determined to become a member of the nuclear weapons club.

On 27 April, Soviet and Chinese government delegations signed the "Agreement on Utilizing Atomic Energy to Meet the Needs of Chinese National Economic Development." It stipulated that the Soviet Union would assist China in nuclear physics research and with conducting nuclear tests for peaceful purposes. The Soviet Union would send specialists to assist China in designing and building a 6,500-10,000 kilowatt heavy-water research reactor and a 12.5-25 MeV (Million Electric Volt) cyclotron. The Soviet Union would provide the requisite scientific and technological reference materials, sufficient nuclear fuel and radioisotopes to keep the nuclear reactor running, and would train Chinese nuclear physicists and technical personnel.³⁵ In October, a scientific nuclear energy research facility (codenamed 601 chang [plant]) was established at Tuoli in an outer suburb southwest of Beijing. The nuclear reactor and cyclotron were installed there. The team of Soviet experts, headed by N. V. Solonov and A. G.

1956 Sino-Soviet uranium accord, China would manage its uranium mining and prospecting independently. The Soviet Union would withdraw its investment, but the Soviet experts would stay on their jobs in China, and the Soviet Union would continue to sell equipment to China. See "Telegram, Embassy in the Soviet Union to the Foreign Ministry", 13 July 1956; "Chinese Foreign Ministry Memorandum to the Soviet Union", 17 August 1956, Chinese Foreign Ministry Archive (hereafter cited as *PRCFMA*), No. 109-00751-01, pp. 5-6, 7-10. Thus, the assertion, made by John Lewis and Litai Xue, that "further advances in the Soviet nuclear program depended on obtaining uranium ore from China, and to get this ore the Soviets, in the winter of 1955-56, had pledged unofficially to provide China full-scale assistance" is not accurate in light of new sources. See Lewis and Xue, *China Builds the Bomb*, pp.61-62.

³² "Address by Zhou Enlai at the Fourth Plenary Meeting of the State Council (Excerpt)," 31 January 1955, *Dangde wenxian*, No. 3 (1994), pp. 16-19 [Document 1]; Also see *Xinhua yuebao* [New China Monthly], 28 February 1955, p. 53; *Renmin ribao*, 28 January 1955, p. 1; 1 February 1955, p. 1; Timerbaev, "How the Soviet Union Helped China Develop the Atomic bomb," p. 46.

³³ Wang, *Peng Dehuai zhuan*, p. 562.

³⁴ "Mao Zedong's Speech at the CCP National Congress," 31 March 1955, *Dangde wenxian*, No. 3 (1994), pp. 13-14.

³⁵ *Renmin ribao*, 5 November 1956, p. 6; Li, *Dangdai Zhongguo de hegongye*, p. 20; Ge Nengquan, *Qian Sanqiang nianpu* [Chronology of Qian Sanqiang] (Jinan: Shandong Youyi Chubanshe, 2002), p. 119.

Alekseev, made significant contributions to the construction of the facility.³⁶ In December, a delegation of Soviet nuclear scientists, led by academician and head of Soviet Institute of Nuclear Physics I. I. Novikov, visited China and presented a series of educational films on peaceful uses of atomic energy to the Chinese. In addition, they brought many books on nuclear science and technology. The seven Soviet scientists gave a lecture on the peaceful uses of atomic energy to an audience of 1,400 high-level Chinese officials, including Premier Zhou Enlai. On 26 December, Zhou discussed “The Outline of Nuclear Programs of the People’s Republic of China, 1956-1967 (draft)” with Soviet ambassador Pavel Yudin, the leader of the Soviet specialists in China Ivan V. Arkhipov, and Professor Novikov.³⁷

Nearly a year later, on 20 March 1956, the Soviet Union called a meeting of delegates from every socialist country except North Vietnam to discuss the establishment of an Eastern Atomic Energy Institute. China sent a delegation headed by Liu Jie, vice minister of geology and Qian Sanqiang, director of the Institute of Physics, at the Chinese Academy of Science. On the 26th, eleven socialist countries signed a “Resolution on Establishing a Joint Institute of Nuclear Research.”³⁸ Located in Dubna, a small town on the outskirts of Moscow, the Joint Institute of Nuclear Research was a nuclear science research and training laboratory. As initiators, the Soviet Union (50%) and China (20%) bore the bulk of the costs for construction and daily operation. The Soviet Union invested 520 million rubles for equipment and facilities in the first six months, which funded a 680 Mev synchrocyclotron—the largest in the world at the time—and a physics laboratory.³⁹ The regulations of the Institute stipulated that, “Scientific research results will be distributed to all member states.”⁴⁰

The establishment of the Dubna Institute was a major step in Sino-Soviet atomic energy research. To a large extent, it laid the theoretical and personnel foundation for the Chinese

³⁶ In September 1959, 601 suo was merged into Institute of Nuclear Energy, the Chinese Academy of Sciences. Wu Yukun and Feng Beichuan eds., *Zhongguo yuanzileng kexue yanjiuyuan jianshi, 1950-1985* [A Brief History of Chinese Institute of Atomic Energy, 1950-1985], (1987, unpublished), pp. 15-17, 102-107.

³⁷ *Zhou Enlai nianpu*, vol. 1, pp. 529-30.

³⁸ *Ibid.*, p. 529. All socialist countries except North Vietnam were present at the first conference of the Eastern Atomic Energy Institute. After the conference, the Soviet Union invited North Vietnam to join the Institute. “Report, B. Vaninkov to the CPSU CC,” 22 March 1956, RGANI, f. 5, op.30, d.174, ll.31-33.

³⁹ Sergei Goncharenko, “Sino-Soviet Military Cooperation,” in Odd A. Westad ed., *Brothers in Arms: The Rise and Fall of the Sino-Soviet Alliance (1945-1963)* (Stanford: Stanford University Press, 1998), p.157; *renmin ribao*, 22 September 1956, p. 5; Li, *Dangdai Zhongguo de hegongye*, p. 20.

⁴⁰ See “Joint Regulation of Institute of Atomic Energy” (in Russia), *PRCFMA*, No. 109-00752-01, pp. 4-31.

nuclear weapons program. Many noted Chinese nuclear physicists did research at Dubna and benefited a great deal from the experience. Wang Ganchang, a leading Chinese nuclear physicist said, “The Soviet comrades took good care of us. Whatever we didn’t know, they would tell us. They also made efforts to provide the equipment we needed as early as possible.”⁴¹ Zhou Guangzao, a leading theoretical physicist and future president of the Chinese Academy of Science said, in addition to the Soviet comrades’ help, he was particularly satisfied with the fact that the Dubna laboratory fostered “an atmosphere for creative scientific research, frequently unrestrained discussions and debates, and swift absorption of the results of world nuclear science research.”⁴²

Soviet aid further promoted China’s atomic energy research. In order to strengthen the leadership of Chinese atomic energy research and to smoothly complete the construction of the Soviet-aided experimental reactor and cyclotron at Tuoli, China’s State Council decided to establish a Bureau of Construction Technology under the State Construction Commission, which was put in charge of constructing nuclear research facilities. Liu Wei was appointed its first director. On 4 July, senior CCP leaders Chen Yun, Nie Rongzhen and Bo Yibo were appointed to form a troika in charge of China’s nuclear program. An administrative body was established in the third office of the State Council (with Bo Yibo as director, and Liu Jie his deputy) for directing day-to-day activities.⁴³

Throughout 1956 and 1957, Soviet support for China’s peaceful nuclear energy project continued to expand. The Sino-Soviet accord of 7 April 1956 was an agreement to build a railroad from Aktogay, a city in Kazakhstan near China, to Lanzhou, the capital of Gansu Province in China. This of course would make it much easier for the Soviet Union to transport equipment to China’s first nuclear weapons experimental center in Lop Nur, Xinjiang.⁴⁴ On 17

⁴¹ Wang Ganchang worked at the Dubna Institute from September 1956 to February 1960. He was the vice director of the Institute from January 1959 to February 1960. See *Zhongguo yuanzileng kexue yanjiuyuan jianshi*, pp. 108, 110.

⁴² *Renmin ribao*, 18 April 1957, p.5.

⁴³ Li, *Dangdai Zhongguo de hegongyi*, pp. 14-16.

⁴⁴ “Sino-Soviet Communiqué Issued after Mikoyan’s Visit to China,” 7 April 1956, *PRCFMA*, No. 204-00024-01, pp. 11-13. Liang Dongyuan contends, “Although the railroad eventually served an important function in delivering the test equipment to Lop Nur, China did not officially designate the site for nuclear-weapons testing until May 1958.” See Liang Dongyuan, *Yuanzidan diaocha* [Inquiry into China’s Atomic Bomb] (Beijing: Jiefangjun Chubanshe, 2005), p. 91.

August, the Soviet Union and China signed another agreement on Soviet aid to China's atomic energy industry, under which the Soviet Union would assist China in constructing nuclear facilities and laboratories.⁴⁵

On 16 November 1956, the Third Ministry of Machine-building (renamed the Second Ministry of Machine-building in February 1958) was established and given responsibility for building and developing China's nuclear industry.⁴⁶ By March 1957, in compiling its Second Five-Year Plan, the Third Ministry stipulated that China would establish a small but comprehensive nuclear industry before 1962.⁴⁷

In order to help China's nuclear science research, the Soviet Union dispatched competent specialists. In May 1957, Evgeny D. Vorobyev, a close aide of Kurchatov, arrived at the Chinese Academy of Science's Institute of Physics with a team of dozen specialists. According to interviews with his Chinese colleagues, he was a man of broad scientific knowledge and ability. The initial task of the Vorobyev team was to train Chinese specialists in studying enriched uranium and plutonium. They also compiled teaching plans and course materials, and supervised experiments on the nuclear reactor. Vorobyev and Qian Sanqiang worked well together. With the assistance of the Soviet specialists, the experimental reactor and a cyclotron were soon completed at 601 suo in Tuoli, Southwest of Beijing. The Chinese were also able to acquire a small amount of plutonium from a heavy water reactor with the help of Soviet specialists.

Through teaching and experiments, they also educated a cadre of Chinese scientific and technical specialists. When Vorobyev first arrived in China, there were only about 60 nuclear physicists in the Institute of Physics. By the time Vorobyev left China in November 1959, the number had increased to 6,000, a 100-fold increase in two and a half years.⁴⁸ According to Meng Gefei, who headed the Chinese Academy of Science's Institute of Physics during the 1950s, Vorobyev made significant contributions to China's nuclear weapons program by instructing the

⁴⁵ Li, *Dangdai Zhongguo de hegongyi*, p. 21.

⁴⁶ *Zhou Enlai nianpu*, vol.1, p. 605.

⁴⁷ *Zhongguo yuanzileng kexue yanjiuyuan jianshi*, p. 29.

⁴⁸ Shen Zhihua's interview with Meng Gefei, September 2002. Meng Gefei was the head of Institute of Physics of the Chinese Academy of Science in the 1950s. Evgeny A. Negin and Yuri N. Smirnov, "Did the USSR Share Atomic Secrets with the Chinese?" in *Parallel History Project on Cooperative Security (PHP)* website at www.php.isn.ethz.ch/collections/coll_China~wapa/negin_smirnov_engl.cfm. See *Zhongguo yuanzileng kexue yanjiuyuan jianshi*, p. 28.

Chinese on how to build reactors, harness nuclear power, set up research progress and overcome technical problems.⁴⁹ The dispatch of excellent scientists such as Vorobyev is proof of the Soviets' sincerity in their desire to help China to build its peaceful nuclear capability.

Khrushchev's Decision to Aid China's Nuclear Weapon and Missile Programs

Although the peaceful use of atomic energy might become the technical basis for research and production of nuclear weapons, it was not easy to achieve this transformation. It requires not only significant infrastructure and equipment, but also the mastery of special techniques in the field of isotope separation (for enriched uranium-based bombs), reprocessing of spent reactor fuel (for plutonium-based bombs) and the intricate task of nuclear detonation. It took the United States and the Soviet Union five to seven years to achieve similar transformations.⁵⁰ Taking into consideration China's weak industrial foundation, low level of technological development, and the Western economic embargo against China, China had to rely on Soviet aid in order to develop the atomic bomb in a similar time period. While it assisted the Chinese with atomic energy and peaceful atomic research, the Soviet Union initially showed little interest in China's request for assistance with its nuclear weapons program and was hesitant when the Chinese asked for help with its missile program.⁵¹

Even while the development of China's atomic bomb was in the early theoretical research stage, Chinese leaders began to consider the development of missiles as a delivery system for Chinese atomic weapons. On 14 March 1956, the Aviation Industry Commission under the

⁴⁹ Meng Gefei, *Weibei jiekai de midi—Zhongguo hefanyingdui shiye de quzhe daolu* [Undisclosed Riddle—the Tortuous Road in Developing China's Nuclear Reactor] (Beijing: Shehui Kexue Wenxian Chubanshe, 2002), pp. 24-30.

⁵⁰ Zhu Kezhen, *Zhu Kezhen quanji* [Complete Works of Zhu Kezhen] (Shanghai: Shanghai Keji Jiaoyu Chubanshe, 2008), vol. 16: p. 432.

⁵¹ While the Soviet assisted experimental nuclear reactor and research institutes were still under construction, the Chinese repeatedly stated that China's main purpose was not to learn methods for peaceful use of nuclear energy, but rather to learn how to extract materials for producing a nuclear bomb. The Soviet Union declined to respond. See *Memoirs of I.V. Arkhipov*, submitted to the CPSU CC in 1989. In 1995, Arkhipov handed to Yan Mingfu a copy of his memoirs, a copy of *Records of Major Events in Sino-Soviet Conflict* and *The Origins and Process of the Sino-Soviet Conflict, 1958-1985*, supervised and drafted by Arkhipov. Yan Mingfu was a Russian language interpreter for top Chinese leaders from 1956 to 1965. We are grateful to Yan Mingfu for making these valuable historical materials to us. Also see Chen Geng zhuan bianxiezu, *Chen Geng zhuan* [Biography of Chen Geng] (Beijing: Dangdai Zhongguo Chubanshe, 2007), p. 505.

Ministry of National Defense was established and Nie Rongzhen was appointed director. On 10 May, Nie put forth “Preliminary Opinions on the Establishment of China’s Missile Research Program.” On 26 May, the Central Military Commission held a special meeting to discuss and assess the issue. During the meeting, Zhou Enlai suggested: “Missile research should make a bit of a breakthrough ... Immediately amass forces, establish organizations and train talents.” In July, the Missile Management Bureau (the Fifth Bureau of the Ministry of National Defense) was established and Zhong Fuxiang was appointed director. On 8 October, Qian Xuesen, a U.S. trained world class expert on rocketry was appointed the director of the newly established Academy of Missile Research (renamed the Fifth Academy after March 1957). By late 1956, China’s missile research program now had the right administrative structure for success.⁵²

In contrast to the rudimentary nuclear energy research, missile research was purely military in nature and directly connected with the goal of building a delivery system for atomic warheads. When China asked for Soviet help, the Soviet Union reacted cautiously. At the time, Moscow was seeking discussion of a nuclear test ban with the United States and Britain. On 16 July 1956, Soviet Foreign Minister Dmitri Shepilov declared at a Supreme Soviet meeting that the experimental detonation of atomic weapons should be suspended without delay.⁵³ On 14 January 1957, the Soviet Union presented a motion at the U.N. to ban nuclear testing.⁵⁴ On 22 March, the Soviet Embassy handed a memorandum on the proposal to the Chinese government. Regarding the issue of nuclear weapons, the Soviet Union had proposed a complete prohibition on the production of nuclear weapons delivery systems, including missiles. In addition, they proposed the destruction of all atomic and hydrogen bombs, and the establishment of an international control mechanism. The memorandum also mentioned that the Soviet Union felt that “obligations to be undertaken by China under the arms reduction treaty must be studied with

⁵² Shen Zhihua’s interviews with Wang Yazhi, June-August, 2001. Wang Yazhi was Peng Dehuai’s military secretary in the 1950s. Xie Guang, chief ed., *Dangdai Zhongguo de guofang keji shiye* [Contemporary China’s National Defense] (Beijing: Dangdai Zhongguo Chubanshe, 1992), vol. 1, pp. 28-29; Zhang Yu, “The Days When I was Commander Peng’s Nurse,” *Renmin ribao*, 30 December 1984, p. 5; *Nie Rongzhen zhuan*, pp. 544-46, 548; *Nie Rongzhen nianpu*, pp. 575, 577; *Peng Dehuai nianpu*, p. 612.

⁵³ *Renmin ribao*, 18 July 1956, p. 5.

⁵⁴ “Soviet Draft Resolution Introduced in the First Committee of the General Assembly: Cessation of Nuclear Weapons Tests, January 14, 1957,” in *Documents on Disarmament, 1945-1959*, pp. 736-37.

the participation of the People's Republic of China.”⁵⁵ **[Document 4]** If the Soviet Union wanted China to support its disarmament goals, it would have to provide nuclear aid to China. But once China's nuclear weapons program was developed, it would affect the result of the Soviet Union's proposed nuclear weapons disarmament and non-proliferation negotiations. Moscow found itself in a dilemma, and therefore chose not to assist in building Beijing's missile program in 1956.

On 17 August 1956, at the request of Nie Rongzhen, State Planning Commission Chairman Li Fuchun wrote to the Soviet Chairman of the Council of Ministers Nikolai Bulganin, requesting that the Soviet Union provide comprehensive aid for the establishment and development of China's missile program.⁵⁶ Li proposed that the Chinese government send a delegation to the Soviet Union to negotiate. The Communist Party of the Soviet Union (CPSU) CC responded to the CCP's request on 13 September, by agreeing to provide some rudimentary training for the Chinese in missile technology, and that it would send Soviet nuclear specialists to Chinese universities to work and teach. The CPSU had also instructed relevant Soviet military and civilian organizations to send syllabi and teaching plans for missile specialists as well as teaching tools, samples and technical manuals to China. From the new semester which began in early 1957, Soviet institutions of higher learning would set up committees to enroll 50 Chinese students to major in missilery.⁵⁷ But the Soviet offer did not meet China's expectation. Nie was “very disappointed.”⁵⁸

In view of the Soviet attitude, on 12 October 1956, Nie Rongzhen called a meeting of the members of Aviation Industry Commission and missile specialists to address the challenges in developing the missile program. Nie said, “We will proceed with our missile research with or without the Soviet aid... We should prepare for negotiation on the one hand, and actively make preparations for setting up our missile program on the other.”⁵⁹ Based on the discussion at the meeting, a “Report on Strengthening Missile Research and Production in Our Country” was

⁵⁵ “Memorandum from the Soviet Government to the Chinese Government on the Arms Reduction Issue,” 22 March 1957, *PRCFMA*, 109-00786-09 **[Document 4]**, pp. 59-63. Also see Halperin, “Sino-Soviet Nuclear Relations, 1957-1960,” p.118.

⁵⁶ *Nie Rongzhen zhuan*, p. 569.

⁵⁷ *Nie Rongzhen nianpu*, vol. 1, p. 588.

⁵⁸ *Nie Rongzhen zhuan*, p. 569; *Nie Rongzhen huiyi lu*, pp. 800-801.

⁵⁹ *Nie Rongzhen junshi wenxuan* [Selected Military Writings of Nie Rongzhen] (Beijing: Jiefangjun Chubanshe, 1992), p. 395; *Nie Rongzhen zhuan*, pp. 570-71.

drafted on the 15th. The report stated, “presently, Soviet aid is only for training cadres... but falls short of our original request. If we proceed in accordance with the plan, it would take at least seven to eight years before we could engage in missile research, trial manufacturing and production.” The request therefore proposed actively making preparations for an independent Chinese missile program while continuing to negotiate with the Soviet Union.⁶⁰ Two days later, the CCP CC responded to the CPSU CC’s message of 13 September. It stated that in order to quickly train cadres specializing in missile technology, China would send 50 students to the Soviet Union to study missile technology in accordance with the CPSU’s agreement. China also planned to ask students now at the Soviet universities to switch to missile related majors. Meanwhile, China would add majors in missile technology at key universities and hoped that the Soviet government would supply teaching materials, teaching tools and samples and send specialists to China to teach. It still hoped to send delegations to Moscow to negotiate.⁶¹

It took more than six months for the Soviet Union to reply to China’s repeated requests for Soviet assistance to China’s atomic bomb, hydrogen bomb and aircraft industry projects during China’s Second Five-year Plan period. This positive change in the Soviet stance had much to do with China’s role in assisting the CPSU in handling the October 1956 Polish-Hungarian Crises.⁶² On 30 March 1957, the Soviet Union agreed to sign an “Accord on Assisting the People’s Republic of China on Special Technology” with China. The accord stipulated that the Soviet Union would send five specialists to China to help organize teaching programs. The Soviet specialists would teach rocketry in Chinese universities, would organize courses on [rocketry] jet technology, and provide teaching plans and outlines. During the 1957/1958 academic year, Soviet universities would enroll 50 Chinese students, and the Soviet Union would provide two R-1 missile samples which were (based on the German V-2 design) along with their technical manuals. The Chinese government would reimburse the Soviet Union for all expenses

⁶⁰ *Nie Rongzhen nianpu*, vol. 1, pp. 591-92; *Nie Rongzhen zhuan*, pp. 571-72.

⁶¹ *Nie Rongzhen nianpu*, vol. 1, pp. 592-93.

⁶² Nie Rongzhen discussed this in his memoir. See *Nie Rongzhen huiyilu*, vol. 3, p. 803. For China’s role in the Polish-Hungarian Crises, see Shen Zhihua and Yafeng Xia, “New Evidence for China’s Role in the Hungarian Crisis of October 1956: A Note,” *The International History Review*, Vol. 31, No. 3 (September 2009), pp. 558-75.

incurred in the process and promised to keep the assistance secret.⁶³ This new accord still did not satisfy China's needs, and the agreement was carried out neither smoothly nor completely.

While the Sino-Soviet negotiations on Soviet nuclear assistance to China were deadlocked, Khrushchev was confronted with difficult domestic political problems similar to the ones he faced in 1954. In response, he decided to open the gate to the Chinese in the field of nuclear weapons research and production. In June 1957, the CPSU CC meeting passed a "Resolution on the Malenkov, Kaganovich, and Molotov Anti-Party Group," expelling them from the CC.⁶⁴ Khrushchev was the victor, but he still had many political enemies within and outside the party. He was aware that he needed the support of other communist parties, especially the CCP and Mao Zedong in order to consolidate his power as a leader of the CPSU in the Soviet Union and the socialist bloc.⁶⁵ So anxious was Khrushchev that on 5 July, immediately after the resolution passed, he dispatched Anastas Mikoyan, a CPSU Politburo member and vice premier, to China to solicit Mao's views. Mao and the CCP expressed their support for Khrushchev in the political struggle.⁶⁶

Mao gave Khrushchev timely help, and Khrushchev repaid in kind. When Nie Rongzhen met the chief Soviet advisor to China, I. V. Arkhipov, in June 1957, he asked the Soviet government to assist China in developing atomic bombs and missiles. Arkhipov explained that he would need to await instructions from Moscow,⁶⁷ but, when the Chinese government once again requested Soviet help in July, the Soviet Union responded swiftly. On the 22nd, Arkhipov told Nie that the Soviet government was willing to assist China in developing new national

⁶³ Nie Rongzhen nianpu, vol. 1, p. 605.

⁶⁴ V. P. Naumov, "Khrushchev's Struggle for Personal Dictatorship," *Novaia i noveishaia istoriia* [Modern History], No.2 (1996), pp.10-31; R. G. Pikhov, "Internal Political Struggle of the Soviet Leadership in 1945-1958," *Novaia i noveishaia ictoriia* No. 6 (1995), pp. 3-14. For documentary records, see N. Kovaleva, et al, *Molotov, Malenkov, Kaganovich, 1957: stenogramma iyunskogo plenuma ZK KPSS i drugie dokumenty* [Molotov, Malenkov, Kaganovich, 1957: Stenographic Records of the June Plenum of the CPSU CC and other Documents] (Moscow: MFD, 1998). For a Chinese translation of the source, see Zhao Yongmu, et al trans., *Sulian gongchandang zuihou yige "fandang" jituan* [The Last "Anti-Party" Clique of the CPSU] (Beijing: Zhongguo Shehui Kexue Chubanshe, 1997).

⁶⁵ See Liu Xiao, *Chushi Sulian banian* [Eight Years of Serving as Envoy in the Soviet Union] (Beijing: Zhongyang Dangshi Zhiliao Chubanshe, 1986), pp. 50-51.

⁶⁶ For details, see Shen Zhijia and Yafeng Xia, "Hidden Currents during the Honeymoon—Mao Zedong, Khrushchev and the 1957 Moscow Conference," *Journal of Cold War Studies*, Vol. 11, No. 4 (Fall 2009), pp. 74-117.

⁶⁷ "Recollection of Fan Jisheng, who was then Nie Rongzhen's secretary," cited from Liang, *Yuanzidan diaocha*, p. 77.

defense technology.⁶⁸ After further consultations, on 24 August, the Soviet charge d'affaires in Beijing, S. F. Antonov, handed a diplomatic note to Chinese deputy foreign minister Zhang Wentian. The Soviet government agreed that the Chinese government should send a delegation to the Soviet Union to negotiate "on issues of the establishment of atomic, missile and aviation industries."⁶⁹ We strongly believe that Khrushchev personally made the decision to assist China in building a nuclear industry to repay Mao for his political support.⁷⁰

After receiving the formal Soviet reply, the Chinese government dispatched a delegation of over 40 people headed by Nie Rongzhen, Song Renqiong, the minister of Second Ministry of Machine-building and Chen Geng, the vice chief of the General Staff of the Chinese Army. The delegation also included 21 specialists and professors of rocketry, atomic energy, aircraft production, and electronics. After nearly a week of negotiation, the Soviet Union produced a draft agreement. Mikhail Pervukhin, chairman of the Soviet Foreign Trade Liaison Commission, told Nie that "it was the first time that the Soviet Union had offered such an agreement." Nie called a meeting of the PRC delegation, stating that "The foundation of China's national defense will leap to a new level in science and technology after the completion of the Second Five-year Plan."⁷¹ On 29 September, Peng Dehuai and Li Fuchun called a meeting of the leaders of China's national defense industry. The attendees agreed that the Soviet-proposed aid program met all of China's needs, and approved the accord for signature.⁷² On 5 October, Zhou Enlai cabled Liu Xiao, Chinese ambassador to the Soviet Union, and Nie Rongzhen, asking Nie to sign the Soviet proposed accord on behalf of the CC.⁷³ On 15 October, the Soviet Union and China signed the "Agreement on Developing New Weapons and Military Technology Equipment and Setting up a Comprehensive Atomic Energy Industry in China" (shortened to the "New Technology for National Defense Agreement").

⁶⁸ *Nie Rongzhen nianpu*, vol. 1, p. 615; *Nie Rongzhen zhuan*, p. 575.

⁶⁹ "Minutes of Zhang Wentian's Meeting with the Soviet charge d'affaires," 24 August 1957, *PRCFMA*, No. 109-00787-04, pp. 8-10.

⁷⁰ Before the declassification of Soviet and Chinese Cold War era documents, Roderick MacFarquhar made an identical argument in early 1980s. See Roderick MacFarquhar, *The Origins of the Cultural Revolution, vol., 2, The Great Leap Forward, 1958-1960* (New York: Columbia University Press, 1983), pp. 10-15.

⁷¹ *Nie Rongzhen nianpu*, vol. 1, pp. 619-20; *Nie Rongzhen zhuan*, pp. 575-79.

⁷² *Nie Rongzhen nianpu*, vol. 1, p. 622.

⁷³ *Zhou Enlai nianpu*, vol.2, p. 80.

According to the new agreement, the Soviet Union would assist China in building a comprehensive atomic industry, including research and production for the atomic bomb. The Soviets would provide a teaching model of an atomic bomb with blueprints. As a key link to the production of the atomic bomb, the Soviet Union would also sell industrial equipment for producing enriched uranium, and would provide uranium hexafluoride to begin enrichment operations when the plant came online. Prior to April 1959, the Soviet Union delivered ground-to-ship missile equipment sufficient for two companies and assisted the Chinese navy in building a missile unit. The Soviet Union also assisted China in missile research and production, and launcher design. The Soviet Union planned to provide sample missiles and relevant technical materials before the end of 1961, dispatch technical specialists to assist in missile production, assist China in designing a test site and in training specialists to conduct an atomic bomb test.⁷⁴ On 29 September 1958, the Soviet Union and China signed an “Additional Agreement on Soviet Technical Aid to China’s Atomic Energy Industry” (shortened to “Additional Agreement”). It specified more detailed and concrete regulations for individual projects. It also set 1959 or 1960 as the time frame for project completion.⁷⁵

“The New Technology for National Defense Agreement” and the follow-on “Additional Agreement” were milestones in Sino-Soviet cooperation on China’s nuclear weapons program. China’s atomic energy industry “entered a new stage of industrial build-up for research and production of nuclear weapons.”⁷⁶ Before this stage, Soviet aid to the Chinese nuclear industry had carefully avoided military applications. Discussion of the development of nuclear weapons never appeared in the documents or materials that the Soviet Union gave to the Chinese.⁷⁷ Prior to the agreement, Soviet specialists working on the nuclear industry were invited by and under the jurisdiction of the Chinese military. It was the Foreign Experts’ Bureau, however, which coordinated their routine activities. After the signing of the “New Defense Technology

⁷⁴ Nie Rongzhen nianpu, vol. 1, p. 623 ; Li, *Dangdai Zhongguo de hegongye*, p. 43; Dong Fanghe, *Zhang Aiping zhuan* [A Biography of Zhang Aiping] (Beijing: Renmin Chubanshe, 2000), p. 728; Xiao Jingguang, *Xiao Jingguang huiyilu* [Memoirs of Xiao Jingguang] (Beijing : Jiefangjun Chubanshe, 1988), vol. 2, pp. 172-74. Lewis and Xue, *China Builds the Bomb*, p. 62. During the negotiations, the Soviet Union declined to offer technical material on nuclear powered-submarines. See Li, *Dangdai Zhongguo de hegongye*, p. 32.

⁷⁵ Li, *Dangdai Zhongguo de hegongye*, pp. 21-22.

⁷⁶ *Zhongguo yuanzileng kexue yanjiuyuan jianshi*, p. 29.

⁷⁷ Shen Zhihua’s interview with Meng Gefei.

Agreement,” all of the Soviet specialists involved with sophisticated technology ended their participation in activities organized by the Foreign Experts’ Bureau.⁷⁸ The “New Technology for National Defense Agreement” symbolized the turning point in Soviet nuclear aid to China. The Soviet Union now provided China with sophisticated technology and equipment intended to support the research, design and production of atomic weapons as well as missiles to deliver them.

The Limits of Soviet Aid

At the Moscow Conference of world communist and workers’ parties in November 1957, Mao, gave a speech in which he asserted that “if worst came to the worst and half of mankind died [in a nuclear war], the other half would remain while imperialism would be razed to the ground and the whole world would become socialist. In a number of years there will be 2.7 billion people or more.” This famous remark shocked Khrushchev and Eastern European leaders, but did little damage to Sino-Soviet relations. Nor did it affect Soviet nuclear aid to China.⁷⁹ A year after the incident, Soviet aid to China’s nuclear weapons program continued to flow smoothly. In June 1958, the heavy-water reactor and cyclotron were successfully constructed with Soviet assistance, and this greatly improved the technical basis and research conditions for China’s nuclear physics program. Meanwhile, qualified personnel trained during the construction process and the data collected not only provided prerequisites for China’s peaceful use of atomic energy, but also indirectly laid the foundation for China’s research into and production of nuclear weapons. On 21 June, Mao confidently stated out at an enlarged meeting of the Central Military Commission “The atom bomb is not really a big deal. Without it, some people say you count for nothing. Well then, good. We’ll make some. We’ll make some atom bombs, hydrogen bombs and inter-continental missiles. With ten years of effort, this is entirely possible.”⁸⁰ **[Document 9]** In addition, the Soviet Union provided physical examples of several missiles, aircraft and other

⁷⁸ Shen Zhihua’s interview with Xuan Miao, 22 December 2002. Xuan Miao worked for Foreign Experts’ Bureau in the 1950s.

⁷⁹ See Shen and Xia, “Hidden Currents during the Honeymoon.”

⁸⁰ “Address by Mao Zedong to the Enlarged Meeting of the Central Military Commission (excerpt),” 21 June 1958, Jilin Provincial Archive, 1/1-14/126 **[Document 9]**, pp. 13-14.

pieces of military equipment, delivered top secret materials on missiles, atomic bombs, and dispatched relevant technical specialists to China. This made it easier for the Chinese to become familiar with and to master sophisticated aspects of weapons research and production. Nie Rongzhen stated that the Soviets played a crucial role in initiating and accelerating Chinese nuclear weapons research and production, especially in missile programs and test site construction. On this basis, China started to “digest materials, to research and design, and begin trial production [of nuclear weapons].”⁸¹ In August 1958, the Second Ministry of Machine-building presented to the CCP CC, “Opinions on Developing the Atomic Program’s Policies and Plan,” which clearly proposed “military use as primary, and peaceful use as secondary.” Zhou Enlai and the CCP CC approved the proposal.⁸²

In developing a Chinese atomic bomb, the Soviet Union not only provided equipment, blueprints, and technical materials, but also dispatched a large number of specialists to China. The Soviet specialists played many important roles from the selection of plant locations and designs to installing and adjusting equipment. They also helped Chinese technical specialists understand documents and materials and with training Chinese technicians to master plant operations. Yuan Chenglong, former vice minister of the Second Ministry of Machine-building, recalled that, “In those years, when our country decided to develop its nuclear industry in order to acquire the atomic bomb, the Soviet Union gave us help. More than 1,000 Soviet specialists worked in the Second Ministry of Machine-building.”⁸³

All told, China and the Soviet Union signed six agreements on nuclear science and technology, and nuclear industry construction, including two on uranium exploration and mining (1954 and 1956), one on nuclear physics (1955), two on nuclear industrial construction (1956 and 1958), and one on nuclear weapons research and production (1957). According to Chinese experts, these six agreements covered a fairly complete industrial system for nuclear research and production, including foundational nuclear science research, uraninite exploration and

⁸¹ Nie Rongzhen *huiyilu*, vol. 3, pp. 803-804; Nie Rongzhen *zhuan*, p. 579; Nie Rongzhen *nianpu*, vol. 2, p.671.

⁸² Yang Liantang, “Zhou Enlai and China’s Nuclear Industry,” *Zhonggong dangshi yanjiu* [CCP History Studies], No. 1 (1998), p. 6.

⁸³ Yuan Chenglong, “The Initial Production of Chinese Atomic Bomb,” *Yanhuang chunqiu* [Spring and Autumn of the Yellow Emperor], No. 1 (2002), p. 25. According to Russian sources, the number of Soviet specialists who assisted China in its nuclear program is 640. See Victor Usov, “The Growl of ‘Paper Tiger’: How the Nuclear Issue wrecked the Sino-Soviet friendship?” 30 September 2003 in <http://www.scol.com.cn>.

mining, uranium conversion, uranium enrichment, production of nuclear fuel elements, plutonium production reactors, uranium/plutonium separation and treatment, nuclear device construction, and nuclear explosive testing. This made possible the all-around development of China's nuclear science and nuclear industrial construction.⁸⁴

With the assistance of Soviet specialists, plants and facilities for atomic bomb production were designed. By the end of 1957, work on setting up the research base was in full swing: Soviet specialists were in charge of the preliminary and key technological design works, while the Chinese side was responsible for implementation and auxiliary design and construction. On 27 September 1957, the Soviet-assisted 7,000 kilowatt heavy-water reactor and 1.2 meter diameter research cyclotron were delivered to China. China truly was "making a leap-forward toward the era of atomic energy," said Nie at the delivery ceremony, "The construction and delivery of the experimental nuclear reactor and cyclotron will promote the swift development of atomic science and technology in our country... The imperialists can no longer monopolize atomic weapons."⁸⁵ In 1958, 111 experts from Glavatom, the Soviet Union's main nuclear administration, and 43 geologists who specialized in prospecting for nuclear raw materials were sent to China.⁸⁶ The production of nuclear fuel and research into the production of a nuclear explosion was well underway.

There was also substantial progress in the missile program. The Soviet Union continued to provide technical materials and samples, and to assist China in training military missile units. On 26 November, acting chief Soviet military advisor Major General Victor S. Shevchenko relayed notice from the Soviet Defense Ministry that 60 railway cars in two trains loaded with R-2 surface-to-surface missiles and related equipment would arrive at China's Manzhouli station in late December. In order to teach the Chinese how to operate and maintain the equipment, the Soviet Union would send 103 specialists to teach missile operation and deployment for three months.⁸⁷ The R-2 missiles and equipment arrived at Manzhouli on 20 December. Several days

⁸⁴ Li Yingxiang's letter to Shen Zhihua on 12 March 2010. Li Yingxiang was director of the General Office of the Second Ministry of Machine-building, and one of the editors of *Dangdai Zhongguo hegongye*.

⁸⁵ *Zhongguo yuanzileng kexue yanjiuyuan jianshi*, p. 21; *Renmin ribao*, 28 September 1958, p. 1.

⁸⁶ Timerbaev, "How the Soviet Union Helped China," p. 47.

⁸⁷ *Nie Rongzhen nianpu*, vol. 1, pp. 627-28.

later, a team of Soviet specialists led by Major General Remi Gaidukov arrived in Beijing. They helped the Chinese locate a suitable site and designed a missile test launching range.⁸⁸

On 11 January 1958, the PLA artillery unit, which had just received the R-2 missiles, began training. Although the R-2 missile, an improved Soviet version of the German V-2 rocket, was already retired from the Soviet arsenal, it could still play a vital role in the Chinese army. Qian Xuesen explained to the Chinese soldiers that “the R-2 missile is the first generation of Soviet products. It is not advanced. But for us, it is a teaching tool. It enables us to avoid detours.” There were a total of 533 apprentices and another 150 probationary trainees. They were organized into 23 teaching groups based on disciplines. In the first three months, the Soviet officers and soldiers provided the Chinese with one-on-one individual training. Then, the Chinese organized training on their own. By the end of the training on 24 July, 1,357 PLA members were proficient in surface-to-surface missile technology—a solid beginning for the Chinese Army’s Missile Unit. The effort also led to the training of a large number of Chinese technicians, instructors and administrators.⁸⁹ In September 1958, a missile school was established under the jurisdiction of the Chinese Air Force to train technical and commanding officers specializing in surface-to-surface, ground-to-air, and ground-to-ship missile technology. The school was established in accordance with Soviet advice, and its faculty included twelve Soviet specialists, including Gusev and Nikolaev, who were missile drillmasters.⁹⁰

After consultation and negotiation with Soviet specialists, on 6 October 1958, China’s first surface-to-air missile unit was established in Beijing, code-named Army Unit No. 543. On 27 and 29 November, four sets of surface-to-air missiles provided by the Soviet Union arrived in Beijing, two for the Air Force, one for the Fifth Academy to copy, one for No. 20 base for testing purposes. Simultaneously, ninety-five Soviet specialists arrived. Zhang Baihua, who was in charge of organizing the missile unit, recalled later,

⁸⁸ Ibid., p. 632.

⁸⁹ Li Ling and Zhou Fei, “The Birth of China’s Missile Unit,” *Dangshi bolan* [Well-read in Party History], No. 9 (2002), pp. 11-12.

⁹⁰ Wang Dinglie, “The Birth of the First Missile School of Our Army,” in Chinese People’s Liberation Army Historical Materials Compiling Committee, ed., *Kongjun huiyi shiliao* [Reminiscence on the Chinese Air Force] (Beijing: Jiefangjun Chubanshe, 1992), pp. 481-85.

On 21 December, the training period started ... A total of 464 personnel from 16 different units including three battalions participated in this training. Theoretical training consisted of 17 disciplines while weaponry and operation were divided into four types. The Soviet missile battalion guided the actual Chinese combat units. By April 1959, the Chinese soldiers all passed live ammunition firing practice with distinction ...⁹¹

On 7 October, the second missile battalion led by Yue Zhenhua shot down a Taiwanese RB-57 D high-altitude reconnaissance plane over Beijing. The Soviet specialists were especially pleased. The Chinese Air Force Commander Liu Yalou later explained that: “the battle of 1959 was conducted completely according to what the Soviet advisors had taught us.”⁹²

It is important to note that the Soviet nuclear aid to China was not without limits. Many Soviet specialists came up against the restrictions imposed on them from Moscow while they were in China. Nikolay I. Pavlov, the head of one of the Chief Directorates of the Soviet Ministry of Medium Machine-building (the Atomic Ministry), advised those specialists who were going to China in 1958, “[You] should go to the Chinese comrades and explain to them what nuclear weapons are... They want to produce the atomic bomb and we should tell them how to do it.” But in practice, the content of what the Soviet specialists could discuss was severely restricted. According to the directives from higher authorities, every Soviet expert was to lecture only upon that part of atomic bomb technology for which he or she was responsible in the 1951 atomic bomb design. Soviet leaders “declined a proposal to share with China a more advanced device than the 1951 bomb.” As scientists, the Soviet specialists tried their best to fulfill their duties. Victor Y. Gavrilov “told the Chinese about the general physics of the bomb, paying special attention to the physics of the blast wave and critical mass.” Academician Evgeny A. Negin, the first deputy of the scientific director and the chief designer of the Soviet nuclear center at Arzamas-16, gave lectures on “the design of the explosive charge in the atomic bomb

⁹¹ Zhang Baihua, “Recollection on the Formation of the First Surface-to-Air Missile Unit,” *Kongjun huiyi shiliao*, pp. 489-93.

⁹² Yue Zhenhua, “Recollection of the Battle of Shooting Down U.S.-made U-2 Plane,” *Bainianchao* [Hundred-year Tide], No. 6 (2002), pp. 17-22; Shen Zhihua’s Interview with Yun Qiancheng, 2 March 2002, who was then vice director of Operation Department of the Chinese People’s Air Force. On 5 November 1960, China successfully launched its first short-range ballistic missile, which was put into production in 1962. In May 1963, China conducted its first medium-range ballistic missile (MRBM) test. More than a year prior to China’s first nuclear detonation, China possessed a delivery system for the atomic bomb. See Lin, *China’s Nuclear Weapons Strategy*, p. 49.

and the principles used in its construction.” Nikolay G. Maslov “used a drawn scheme of the charge and ‘encased’ it in a ballistic case. He talked about the bloc of automatic machinery, what kind of devices, how they function and what they were for.” According to later recollections, the Soviet specialists believed that the Chinese got all they wanted within the limits set by Moscow and the range of what the Soviet specialists knew.⁹³

It was difficult to define Moscow’s limits. Those Soviet specialists who were dispatched to work in confidential units were afraid of leaking information considered top secret by Moscow. According to a report to the CPSU CC in 1957, several advisors who were sent to China in the capacity of teachers and educators were never briefed on what they could or could not disclose. The report went on to say that they “sank into passiveness or said what the Chinese already knew long ago from newspapers or even the Soviet press” because of the fear of retribution for revealing secrets.⁹⁴ Meng Gefei recalled one of his conversations with Vorobyev, the chief of the Soviet contingent of specialists at the Institute of Atomic Energy. On the one hand, this sincere and senior Soviet expert had to guard the secrets of the Soviet nuclear submarine program, but on the other, he wanted to address the questions raised by the Chinese specialists. Attempting to play both sides proved enormously difficult and took a toll on the Soviet scientists.⁹⁵

The Soviet specialists did not create the issue themselves. The Soviet missile expert Major General Aleksandr Savel’ev was sent to China to work for about a year, and was put in charge of training Chinese soldiers in the use of missile equipment. Prior to his departure for China in autumn 1959, Savel’ev was summoned to Moscow for instruction. The Commander-in-chief of the Soviet Strategic Rocket Forces, Mitrofan Nedelin, exhorted Savel’ev that he could only lecture on the equipment already delivered to the Chinese, “but shouldn’t reveal his knowledge on other subjects.” When in doubt, he should ask for instruction and clarification from Moscow via a high frequency communication line at the Soviet Embassy in Beijing. On particularly sensitive cases, he should contact Nedelin directly.

Savel’ev’s attempts to follow these instructions only led to additional dead ends complied. When he and Vorobyev disagreed on whether he could lecture on topics beyond tactical missiles,

⁹³ Negin and Smirnov, “Did the USSR Share Atomic Secrets?”

⁹⁴ Cited from Deborah A. Kaple, “Soviet Advisors in China in the 1950s,” Westad ed, *Brothers in Arms*, p.123.

⁹⁵ Meng, *Weibei jiekai de midi*, pp. 24-29.

he asked Nedelin for instruction. Nedelin advised, “Don’t offer any response to questions raised by the Chinese. Otherwise, you might deliberately or inadvertently leak state secrets...”⁹⁶ Nie Rongzhen’s observation was correct. On sophisticated weapons, “Soviet aid was [provided] with reservation and limitations after the accord was signed. The Soviets’ intention was to keep a substantial distance ahead of us in new weapons and scientific research. They wanted us to copy their third line or outdated equipment, but did not give us the latest first or second line products.”⁹⁷

These cases demonstrate Khrushchev’s later assertion that “we’d given the Chinese almost everything they asked for. We kept no secrets from them” was an exaggeration.⁹⁸ As Liu Yangqiong and Liu Jifeng note, Khrushchev’s “perspective [was] political and does not reflect expert knowledge of the technical issues involved in developing an atomic bomb... The Soviet Union transferred advanced technology to China in some areas such as the experimental heavy-water reactor), but not others, like the gaseous diffusion plant, and the diffusion barrier,” which were used to enrich uranium to make it weapons usable.⁹⁹

Khrushchev’s Decision to Terminate Nuclear Aid

In the first half of 1958, China and the Soviet Union continued to collaborate and cooperate in the nuclear field. China even proposed the establishment of a joint Sino-Soviet conference on national defense industries as a mechanism for achieving broader military cooperation.¹⁰⁰ But soon, policy differences between the two countries became more apparent as Mao’s words and deeds moved further and further away from what Moscow considered acceptable. Several incidents that occurred in the second half of the year strained bilateral relations, including the controversy surrounding the joint Sino-Soviet long-wave radio station,

⁹⁶ Aleksandr Dolinin, “Kak nashi raketniki kitaitsev obuchali” [How Our Missile Experts Taught the Chinese], in *Krasnaia zvezda* [Red Star], (Moscow) No. 6, 13 May 1995.

⁹⁷ *Nie Rongzhen nianpu*, p. 742. Also see Li Yingxiang’s letter to Shen Zhihua.

⁹⁸ Nikita Khrushchev, *Khrushchev Remembers--The Last Testament*, Strobe Talbott, trans. (Boston: Little, Brown and Company, 1974), p. 268.

⁹⁹ Liu and Liu, “Analysis of Soviet Technology Transfer,” pp. 97-98.

¹⁰⁰ “Telegram drafted by Second Ministry of Machine-building for the Foreign Ministry to ambassador Liu Xiao, “ 25 November 1957, *PRCFMA*, No. 109-00881-01, pp. 59-61; Record of Liu Xiao’s Conversation with N. T. Fedorenko, 14 December 1957, *PRCFMA*, No. 109-01097-10, pp. 150-55.

the joint Sino-Soviet submarine fleet, and especially the PRC's shelling of Jinmen Island. Eventually, these incidents led to Khrushchev's decision to rescind the Sino-Soviet accord and to suspend the agreement providing China with an atomic bomb teaching model and related technical materials.¹⁰¹

As an ally, the Soviet Union should have been consulted regarding the PRC's military action against the offshore islands in summer 1958. They were not, yet afterwards the Soviet Union had to share responsibility for the action in the eyes of the international community. Khrushchev was embarrassed and irritated, especially over a related incident which took place during the crisis.

In the course of the air war over Wenzhou, Zhejiang province, the Taiwanese Air Force launched several US designed Sidewinder air-to-air missiles, one of which has landed failed to explode. Soviet advisors in China alerted Moscow to the fact that the Chinese had the newly-fielded Sidewinder, piquing Soviet interest. But the Chinese did not initially respond to the Soviet request to examine the missile, and then pleaded that it could not be given to the Soviets since the Chinese were studying it. Khrushchev was so angry at the Chinese reply that he withdrew his offer to provide materials on the research and development of the R-12 intermediate range ballistic missile. He also expressed his indignation at the Chinese through his military advisors. Several months later, when the Chinese reluctantly delivered the American missile to the Soviet Union, it had been improperly re-assembled and the sensing element for the infrared homing system—a crucial piece of sophisticated technology—was missing. The Soviets believed that the part was either lost through carelessness, or was secretly being kept by the Chinese. Khrushchev was justified in feeling that there was a general weakening in Sino-Soviet relations, and in retaliation finally decided to renege on the October 1957 promise to deliver an atomic bomb teaching model to the Chinese by the promised June 1959 deadline.¹⁰²

Khrushchev repeatedly told Mao that although the Taiwan issue was China's internal affair, it was also a matter which affected the entire socialist bloc. As allies, he suggested, China

¹⁰¹ For details of these incidents in Sino-Soviet military relations, see Shen Zhihua, "Khrushchev, Mao Zedong and the Unfulfilled Sino-Soviet Military Cooperation," *Social Sciences in China*, Vol. 24, No. 2 (Summer 2003), pp. 118-26.

¹⁰² *Khrushchev Remembers -- The Last Testament*, p. 269.

and the Soviet Union should consult with each other and coordinate policy on matters of such importance. Khrushchev complained to Mao in face-to-face talks that as an ally, the Soviet Union was uninformed as to what China would do the next day.¹⁰³ In his view, China's abnormal behavior was an insult which humiliated all of its allies. More importantly, China's foreign policy during the 1958 Taiwan Strait Crisis demonstrated that China deviated from the principle of peaceful coexistence outlined in the 1957 Moscow Declaration.

The actions of the Chinese were more erratic and bellicose than Khrushchev could tolerate. During the crisis, the Soviet Union issued two public statements in which it offered a nuclear umbrella to protect China.¹⁰⁴ Khrushchev's response showed that the Soviet Union, as head of the socialist bloc, felt that it bore responsibility for China's actions. By extending the Soviet nuclear umbrella, the Soviet Union was attempting to revert to its previous position and renege on its relatively recent willingness to offer nuclear aid to China.¹⁰⁵

According to Arkhipov's recollection, China's displeasure with Soviet policies on the nuclear test ban treaty negotiations and the prevention of nuclear proliferation also contributed to the animosity which had crept into the relationship. In 1958, the Soviet Union asked China to support its proposal for a ban on nuclear weapons production and testing, China did not reply. In 1959, the Soviet Union inquired about the Chinese attitude regarding nuclear proliferation. The Chinese replied, stating curtly that "We expect the Soviet Union to carry out the agreements regarding nuclear energy industry and to provide equipment for the production of the 'final products'."¹⁰⁶

¹⁰³ Shen Zhihua and Li Danhui collected and arranged: *ZhongSu guanxi: Eguo dang'an fuyinjian huibian* [Sino-Soviet Relations: Collections of Xeroxed Russian Archives] (Shanghai, 2004), vol. 13, pp. 3210-3222.

¹⁰⁴ Regarding the publication of the two Soviet declarations and the Sino-Soviet consultations on 7 and 19 September, see "Minutes of Zhou Enlai's Conversation with Soviet Councilor," 5 September 1958; "Minutes of Liu Xiao's Conversation with (Soviet vice foreign minister Vasilii) Kuznetsov," 8 September 1958; "Minutes of Zhou Enlai's Conversation with Antonov," 18 September 1958; "Minutes of Zhang Wentian's Conversation with Antonov," 19 September 1958, see *PRCFMA*, No. 109-00833-04, pp. 94-103; No. 109-01211-04, pp. 30-31; No. 109-00833-01, pp. 4-20; No. 109-00833-01, pp. 21-46.

¹⁰⁵ When Minister of Foreign Trade Li Qiang was negotiating in Moscow in spring 1960, members of the Soviet delegation once hinted that in accordance with the agreement, the Soviet Union should provide an A-bomb teaching model to China, but someone (referring to Khrushchev) disagreed. Shen Zhihua's interview with Su Shifang, 29 October 2001. Su was then working at Commercial and Trade Section of the Chinese Embassy in the Soviet Union.

¹⁰⁶ Arkhipov, *Su Zhong chongtu dashiji; Memoirs of Arkhipov*.

Before the Taiwan Strait Crisis, on 24 April 1958, Khrushchev wrote to inform Zhou Enlai that the Soviet government had designated the Soviet Foreign Aid Liaison Commission to handle the issue of offering an atomic bomb teaching model and technical materials to China according to the New Defense Technology Agreement. The Soviet side would get it done rapidly, Khrushchev assured Zhou.¹⁰⁷ This indicated that Khrushchev was supportive of China's nuclear weapons program before the Taiwan Strait Crisis in 1958.

After the Taiwan Strait Crisis, however, Khrushchev regretted ever having signed the agreement with the Chinese and felt the rift in Sino-Soviet relations. After consultation with Efim Slavsky, the minister of Medium Machine-building, Khrushchev decided that the sample R-12 missile and other materials might be provided to China, but "the offer of an atomic bomb teaching model must be reconsidered." Whether the Soviet Union would provide further nuclear aid to China or not depended on the status of Sino-Soviet relations. If the situation did not improve, "then the Soviet stance on Chinese mastery of atomic energy technology is 'the later the better.'"¹⁰⁸ According to Roland Timerbaev, "Khrushchev decided to stop assisting China in developing nuclear weapons for fear that China's leadership would drag the Soviet Union into a conflict with the United States and the entire West."¹⁰⁹

In view of Khrushchev's intentions, the Soviet Union procrastinated in providing an atomic bomb teaching model and other technical materials to China on a number of pretexts. The Soviets first asked the Chinese to build a special storeroom to secure the teaching model. After the storeroom was built, the Soviets claimed that the storeroom did not meet the necessary security standards. After the Chinese implemented much more rigorous security measures, Soviet security specialists gave their approval. In October 1958, the Soviet Union replied to a Chinese query, stating, "An atomic bomb teaching model and technical materials will be delivered to" China. When the promised deadline passed, Moscow still had not given the order to complete the delivery.¹¹⁰ An oral history document from the Russian journal *Itogi* (no. 10, 1996) showed that an atomic bomb teaching model and technical materials had been loaded into two or

¹⁰⁷ Letter from Khrushchev to Zhou Enlai, 24 April 1958, *PRCFMA*, No. 109-00838-03, p. 9.

¹⁰⁸ Sergei Khrushchev, *Nikita Khrushchev and the Creation of a Superpower* (University Park, PA: Pennsylvania State University, 2000), p. 271.

¹⁰⁹ Timerbaev, "How the Soviet Union Helped China," p. 48.

¹¹⁰ Li, *Dangdai Zhongguo de hegongye*, p. 32.

three sealed railcars about half a year earlier. The rail cars were guarded by Soviet security personnel day and night, but no order was ever given on whether or how to proceed. After repeated requests from the Chinese side and from Soviet specialists in China, by 1959, Aleksandr Churin, the first deputy minister of the Medium Machine-building called the CPSU CC directly to ask for a resolution to the shipment problem.¹¹¹

Finally, Khrushchev called a special meeting at which he decided not to ship an atomic bomb teaching model to China, and to temporarily suspend the offer entirely.¹¹² On 20 June 1959, when the Chinese delegation was about to depart for Moscow for negotiations, the CPSU CC approved a letter for delivery to the CCP CC. The letter explained that, in order not to interfere with the Soviet-American-British negotiations on a nuclear test ban in Geneva and to relax international tensions, the Soviet Union would temporarily halt the delivery of an atomic bomb teaching model and technical materials to China. Because “if the Western countries should learn that the Soviet Union is giving a sample nuclear weapon and design technical data to China, they may seriously wreck all the efforts undertaken by the socialist countries to strive for peace and to relax the tense international situation.” In two years, after thoroughly clarifying “the attitude of the Western countries on the issue of prohibiting nuclear testing and relaxing the international situation... it will be possible to make a decision on how we should jointly act.” The Soviets argued that this would not hamper the development of China’s nuclear program because “it will still take China at least two years to produce fissionable material, since it is necessary to complete a great deal of work to mine uranium ore and establish an atomic industry. Only at that time will a whole tranche of nuclear weapons technical data be necessary.”¹¹³

[Document 10] On 26 June, the Soviet Embassy counselor handed the letter to Zhou Enlai.¹¹⁴ In his memoir, Soviet embassy secretary Aleksei Brezhnev considered “the decision to renege on

¹¹¹ Negin and Smirnov, “Did the USSR Share Atomic Secrets with the Chinese?”

¹¹² *Khrushchev Remembers -- The Last Testament*, p. 269.

¹¹³ “Letter from the Communist Party of the Soviet Union Central Committee to the Chinese Communist Party Central Committee on the Temporary Halt in Nuclear Assistance,” 20 June 1959, *PRCFMA*, no. 109-02563-01 **[Document 10]**, pp. 1-3.

¹¹⁴ Dong Fanghe, *Zhang Aiping zhuan*, pp. 741-42; *Nie Rongzhen nianpu*, vol. 2, p. 680.

the promised model atomic bomb delivery a ‘blunder’ since it came too late to stop China’s nuclear weapons project and left the Soviet Union without any leverage.”¹¹⁵

It should be pointed out that initially Soviet suspension of the offer of an atomic bomb teaching model to the Chinese was only meant as a warning. The Soviet Union did not intend to cut off nuclear or conventional military aid to China completely. Even while Khrushchev was still angry with the Chinese over the Sidewinder air-to-air missile incident, the Soviet government signed an “Accord on the Soviet government’s offer of new technical aid to the Chinese Navy in producing naval vessels” on 2 February 1959. In accordance with the agreement, the Soviet government agreed to sell five types of naval vessels, two types of missiles, and technical blueprints and devices for 51 types of equipment including electronic devices, radar, sonar, radio navigation stations, and even transferred the permits for manufacturing this equipment to China. The leadership of the Chinese Navy was especially pleased.¹¹⁶ Alongside the discussion on suspending the delivery of an atomic bomb teaching model and technical materials to China, the CPSU CC Secretariat discussed and approved a proposal to send Soviet specialists and university professors specializing in national defense technology to China. The Soviet Union continued to provide missile and other new defense related technology to China. Khrushchev personally signed the Soviet Council of Ministers’ Resolution, instructing the Ministry of Higher Education and the Ministry of National Defense to send six Soviet specialists and university professors specializing in defense technology to work at China’s defense related science and research institutes in September 1959. These Soviet specialists would work in China for a term of one-to-two years to help train Chinese technical personnel in military-electronic-optical instruments, design of multi-stage rockets, hydro-acoustic equipment, missile guidance computers, and infrared ray technology, among other topics.¹¹⁷

Nonetheless, Khrushchev’s decision to renege on the Sino-Soviet nuclear agreement indeed angered the Chinese leadership, and led to China’s determination to develop nuclear

¹¹⁵ Cited from Luthi, *The Sino-Soviet Split*, p. 104.

¹¹⁶ *Nie Rongzhen nianpu*, vol.,2, p. 665; *Xiao Jingguang huiyilu*, vol.2, pp. 181-82.

¹¹⁷ RGANI, f.4, op.16, d.653, 1.51-54, cited from Zazerskaia, *Sovetskie spetsialisty i formirovanie voenno-promyshlennogo kompleksa Kitaia*, pp.104-105.

weapons on its own. Later China code-named the project to develop its first atomic bomb “596” as “a reminder of the ‘shameful’ date”—in June 1959—when the Soviet Union withdrew support for China’s nuclear program.¹¹⁸ During the Lushan Conference in July 1959, Zhou Enlai told Song Renqiong and Liu Jie of the CCP CC’s decision “to use our own hands and start from the very beginning! [We] plan to spend eight years in developing the atomic bomb.”¹¹⁹ Zhou also proposed the policy of “acting independently and with the initiative in our own hand, relying on our own efforts, and keeping our own foothold at home.” He asked the Second Ministry of Machine-building to down-size some programs in order to concentrate on resolving the most urgent issues. He also called on all sectors of the economy to support the nuclear weapons program. In accordance with this policy, the Second Ministry of Machine-building thus drew up new target dates, proposing “to make a breakthrough in three years, to master the technical know-how in five years and to have atomic bombs in stock in eight years.”¹²⁰ On 11 November, Nie Rongzhen submitted a report, titled “Relying on our own Efforts to Solve the Issue of Materials for New Technology” to the Central Military Commission and the CCP CC. The report explained that “to develop our new technological materials, [we should] rely primarily on our own efforts and [should attempt to] win over foreign aid secondarily.”¹²¹

After heated quarrelling between the leaders of the two countries in October 1959, Soviet policy toward China’s nuclear program was finally clarified. According to a Chinese embassy report of February 1960, the Soviet Union showed indifference, procrastinated or declined any request from the Chinese on their nuclear weapons program.¹²² Moscow slowed down the pace at which it offered equipment and technical materials, and tightened its grip on the Soviet specialists in China, prohibiting them from offering the Chinese key data and suggestions. On 21 December 1959, a report to the KGB described a visit by the Soviet academician Yu N. Rabotnov to the Beijing Institute of Mechanics. It said that during the visit, “Chinese scientists

¹¹⁸ Liu Bailuo, *Cong shouliudan dao yuanzidan—wo de jungong shengya* [From Hand-grenade to the Atomic Bomb—My Career in Military Industry] (Beijing: Guofang Gongye Chubanshe, 1999), p. 11; Lin, *China’s Nuclear Weapons Strategy*, p. 132.

¹¹⁹ Song Renqiong, “Reminiscences of Zhou Enlai,” in *Wumen de Zhou Zongli* [Our Premier Zhou] (Beijing: Zhongyang Wenxian Chubanshe, 1990), p. 69.

¹²⁰ Jin Chongji, chief eds. *Zhou Enlai zhuan* [A Biography of Zhou Enlai] (Beijing: Renmin Chubanshe and Zhongyang Wenxian Chubanshe, 1998), pp. 1743-1744; Li, *Zai Zhou Enlai shenbian de rizi*, p. 663.

¹²¹ *Nie Rongzhen zhuan*, vol. 2, p. 693.

¹²² *Ibid.*, p. 712.

attempted to acquire information on a series of classified issues from Rabotnov, but the Chinese failed to provide opportunities for Rabotnov to get basic information about their laboratories.” The report raised the issue of secret research areas in Sino-Soviet scientific and technological exchanges, arguing that “those scientists and staff involved in classified work, after being dispatched to foreign countries” often violated Soviet security regulations. In accordance with Khrushchev’s instruction, on 25 February 1960, Yuri Andropov, then the head of the CPSU CC’s Department for Liaison with Socialist Countries, V. A. Kirilin, director of the CPSU CC Department of Science, Universities and Secondary Schools, and Ivan D. Serbin, the head of the CPSU CC Department of National Defense, drafted a resolution, entitled, “On the Issue of Soviet Scientists Safeguarding State Secrets in International Academic Exchanges.” The resolution, which was approved by the CPSU CC Secretariat on 16 March, required Soviet specialists working abroad, “To strictly observe procedures in getting to know secret and top-secret materials. Do not allow foreign experts to get acquainted with secret materials beyond agreement. To strictly observe the existing rules on accessing classified information.”¹²³ Its purpose was to prevent foreign scientists from obtaining Soviet nuclear secrets.

Nie Rongzhen once summarized the changing Soviet policies toward China’s nuclear program, stating that “prior to the second half of 1958, the Soviet attitude was positive. They acted according to the Sino-Soviet agreements... After the second half of 1958, the Soviet Union enforced more control...”¹²⁴ In June 1960, all Soviet experts at the Institute of Atomic Energy were recalled. The Soviets ceased providing research equipment entirely.¹²⁵ On 6 July 1960, eight Soviet specialists at the Beijing Institute of Nuclear Engineering Design received orders to return to the Soviet Union ahead of schedule. On 8 July, five specialists in charge of the installation of equipment at the Lanzhou Enriched Uranium Plant left China. By 23 August, all Soviet specialists working for the Chinese nuclear industry had returned to the Soviet Union, taking important blueprints and materials with them.¹²⁶

¹²³ RGANI, f.4, op.16, d.767, l.12-20, cited from Zazerskaia, *Sovetskie spetsialisty i formirovanie voenno-promyshlennogo kompleksa Kitaia*, gody, pp.106-107, 122-23.

¹²⁴ *Nie Rongzhen nianpu*, vol. 2, p. 742.

¹²⁵ *Zhongguo yuanzileng kexue yanjiuyuan jianshi*, p. 109.

¹²⁶ Li, *Dangdai Zhongguo de he gongye*, p. 33. Some Soviet experts did leave important documents to their Chinese colleagues. See Song Renqiong, *Song Renqiong huiyilu* [Memoirs of Song Renqiong] (Beijing: Jiefangjun

Conclusion

Khrushchev's decision to rescind the Sino-Soviet agreements and withdraw Soviet nuclear specialists was a blow for China's nuclear weapons program. Many projects were postponed or not put into production because the Chinese did not have the technological expertise, because essential equipment had failed to arrive, or because designs were not yet complete. According to the Sino-Soviet agreements, the Soviet Union promised to assist China in building 30 nuclear industrial projects. Statistics show that as of September 1960 only nine projects were complete. In mechanical design, sixteen projects were complete or near completion, while fourteen had not been completed. Since Chinese engineers had not yet mastered key technology, following the Soviet withdrawal they frequently had to restart projects from the beginning. In equipment supply, thirteen projects were complete or near completion. Nine projects were forced to shut down entirely for lack of Soviet equipment and materials after the withdrawal of the Soviet experts.¹²⁷ Liu Yangqiong and Liu Jifeng's study shows that "China had to solve a range of design, process, technology, and equipment production and installation problems to build the nuclear-fuel-element plant on its own."¹²⁸ This obviously created immense difficulties and obstacles for Chinese scientists and engineers and may have postponed the successful detonation of China's first atomic bomb.

Nonetheless, the Soviet Union helped China to establish a comprehensive industrial system in nuclear science and technology. From July 1955 to the end of 1959, the Soviet Union sent 233 experts to China to participate in initial design and construction for China's nuclear industrial engineering enterprise, and provided opportunities for some 260 Chinese to receive training and experience in both China and the USSR in nuclear engineering and design.¹²⁹ Soviet technical experts assisted the Chinese in uranium mining, nuclear research, uranium enrichment, and the development of nuclear warheads and delivery vehicles. Soviet military specialists

Chubanshe, 1994), p. 356; Shen Zhihua, *Sulian zhuanjia zai Zhongguo, 1948-1960* [Soviet Experts in China, 1948-1960] (Beijing: Shehui Kexue Chubanshe, 2003), pp. 271-403.

¹²⁷ Letter from Li Yingxiang to Shen Zhihua; General Office, Ministry of Defense of the PRC: "On the Issue of the Soviet Military Advisors," May 1963; Li, *Dangdai Zhongguo de he gongye*, pp. 33-34.

¹²⁸ Liu and Liu, "Analysis of Soviet Technology Transfer," p. 88.

¹²⁹ Liu Jifeng, Liu Yangqiong and Xie Haiyan, *Liangdan yixing gongcheng yu dakexue* [The Project of "Two Bombs and One Satellite": A Model of Big Science] (Jinan: Shandong Jiaoyu Chubanshe, 2004); Liu and Liu, "Analysis of Soviet Technology Transfer," p. 95.

helped the Chinese establish new regiments for nuclear-capable SS-1 (8A11) and SS-2 (8Zh38) tactical missiles.¹³⁰ It is clear that China could not have gotten this aid from any other country. China's atomic bomb could not have been successfully tested in 1964 if the Soviet Union had not signed the six agreements to provide aid to China's nuclear industry. Further, the Chinese would not have been able to prevent Taiwanese air incursions over mainland China during the 1958 Taiwan Straits Crisis if the Soviet Union had not provided the surface-to-air missiles and training to the Chinese.

How should we evaluate the extent and impact of Soviet nuclear aid to China? We can conclude that the Soviet Union's 1960 decision to stop providing technology and equipment—in addition to the earlier decision to withdraw specialists—hampered progress, but did not prevent China from successfully detonating its first atomic bomb. The Soviets were aware of this. Twenty days before China's successful nuclear test, which was carried out on 23 October 1964, Khrushchev met with a delegation from the Japanese Diet. During the conversation, Japanese politician Aiichiro Fujiyama inquired whether the Chinese had the capability to conduct an atomic bomb test. Khrushchev said frankly that the Chinese were able to detonate atomic bombs because the Soviet Union had already provided a lot of nuclear technology and equipment and had taught them how to build the bomb. In this interview, Khrushchev claimed that “[b]efore the Soviet-Sino relationship breakdown, the Soviet Union had offered all of what China had asked for. We kept no secrets.”¹³¹ While this may not be completely true, Khrushchev's frank acknowledgement to a foreign government official of the extent Soviet nuclear aid to China is significant.

The Soviet Union adopted a policy of both giving aid to and enforcing restrictions on China's nuclear weapons program. With the existence of the Sino-Soviet alliance, especially in the time of the highest degree of cooperation, it seemed reasonable for the Soviet Union to provide China with nuclear aid. This aid could have been either in the form of providing a

¹³⁰ Mark Kramer, “The Soviet Foreign Ministry Appraisal of Sino-Soviet Relations on the Eve of the Split,” *CWHP Bulletin*, Issue 6/7 (1995/1996), p. 175.

¹³¹ Minutes of Khrushchev's Conversation with the Japanese Diet Delegation, 3 October 1964, *RGANI* (Russian State Archive of Contemporary History), f. 52, op.1, d.597, l.151-151ob, in Artizov A.N. et al. eds., *Nikita Khrushchev, 1964: Stenogrammy plenuma TsK KPSS i druge dokumenty* (Moskva: MFD, 2007), p. 174. Also see Negin and Smirnov, “Did the USSR Share Atomic Secrets?”

nuclear umbrella or in assisting China in developing its own nuclear weapons program. A U.S. National Intelligence Estimate completed in May 1958 predicted that, “Unless barred by an effective international agreement, the USSR may introduce nuclear weapons into Communist China by 1962, although they will almost certainly remain under Soviet control.”¹³² Mao was not interested in the Soviet nuclear umbrella, but wanted to have his own nuclear weapons.

Why did the Soviet Union assist China in building its nuclear weapons program? First, China was an important member of the socialist bloc whose influence had been on the rise since the mid-1950s. Because China played an increasingly important role in the socialist bloc, the Soviets made every effort to meet Chinese needs in order to avoid a breach in the Sino-Soviet alliance. Second, and most importantly, from 1954 to 1958, Khrushchev was in a delicate political position at home and needed Mao’s support. Therefore, in 1954-1955, Khrushchev agreed to assist China with peaceful use of atomic energy as a way of shoring-up his position. In February 1956, Khrushchev added to the existing turmoil with his sweeping and unexpected denunciation of Stalin at the 20th Congress of the CPSU. This dramatic policy shift resonated throughout the socialist camp as well as the international Communist movement, and led to the subsequent crises within the Soviet bloc, in particular, the Polish-Hungarian Crises of October 1956.

Domestically, Khrushchev was challenged by his powerful colleagues. Although he survived the anti-Party incident of June 1957 unscathed and unceremoniously dismissed his powerful defense minister Marshal Georgi Zhukov in October 1957, Khrushchev badly needed support from fraternal parties and their leaders, especially the CCP and Mao. The CCP and Mao lent Khrushchev tacit support during and after these crises, and Khrushchev drew upon this support to burnish his image at home and abroad. To reward the Chinese political support, by late October 1957, Khrushchev decided to assist China in the development of nuclear weapons program. This phenomenon demonstrated the basic orientation of Sino-Soviet cooperation in the 1950s: the Soviet Union offered China economic and technical aid while China supported

¹³² NIE 13-58, Communist China, 13 May 1958, National Intelligence Council, *Tracking the Dragon: National Intelligence Estimates on China during the Era of Mao, 1948-1976* (NIC 2004-05, Washington D.C., October 2004), pp.103-104, 120-21.

Khrushchev politically.¹³³ We agree with Liu Yangqiong and Liu Jifeng's observation that "the Soviet Union's brief experiment in transferring nuclear technology to China was in essence an unwilling concession Khrushchev used to strengthen his own international prestige and domestic position during a difficult period."¹³⁴

It is understandable that both Stalin and Khrushchev were reluctant to share Soviet nuclear secrets with the Chinese. But to consolidate his leadership role within the CPSU and the socialist bloc after Stalin's death, Khrushchev needed support from the CCP. He decided to trade nuclear technology for this support, but once Khrushchev's domestic and international position was on a firmer footing, the conditions for nuclear aid had disappeared. By 1958, it seemed that the Soviet Union was making headway in defense technology and overall national power. Khrushchev's position of leadership within the CPSU and the socialist bloc was consolidated.

Within context, the Chinese bombardment of Jinmen island in 1958 shocked Khrushchev, and led him to realize that there were serious divergences between Chinese and Soviet foreign policies. It was the straw that broke the camel's back. This incident contributed to the decision to reduce nuclear aid to China, which was primarily Khrushchev's personal decision. Because of the important role of nuclear weapons in national security and their immense power, Soviet leaders carefully monitored changes to Sino-Soviet relations. Once the first sign of disagreement emerged in Sino-Soviet relations, the first step Moscow took was to shut down nuclear aid to China. But it was also because of the increased level of Soviet nuclear aid during the good times that China was able to possess the basic infrastructure for producing its first atomic bomb in a shorter period of time.

¹³³ See Shen Zhihua ed., chief ed., *Zhongsu guanxi shigang, 1917-1991* [Survey of the History of Sino-Soviet Relations, 1917-1991] (Beijing: Xinhua Chubanshe, 2007), pp.158-61, 172-76. For analyses of this point in English literature, see Zhihua Shen and Yafeng Xia. "New Evidence for China's Role in the Hungarian Crisis"; "'Whirlwind' of China: Zhou Enlai's Shuttle Diplomacy in 1957 and Its Effect," *Cold War History*, 10:4 (November 2010), pp. 513-35; "Hidden Currents during the Honeymoon."

¹³⁴ Liu and Liu, "Analysis of Soviet Technology Transfer," p. 69.

Appendix A: Documents

Document 1

Address by Zhou Enlai at the Fourth Plenary Meeting of the State Council (Excerpt)
31 January 1955

You all have seen the statement released by the Soviet Council of Ministers on the issue of Soviet assistance concerning Chinese peaceful use of atomic energy published in the press on January 18. This issue has previously been discussed internally many times, and now just recently the Soviet government has issued a statement making this public. Until now, we had not reported to the State Council plenary, since we had wanted to firm up this issue.

This is a very good thing. In the past we had no foundation in this area. The Academy of Sciences had some understanding, but we had none. We invited Minister Li Siguang and Institute Director Qian Sanqiang to discuss this with us several times, only being able to recognize terms in documents. Now, we have a fair understanding from the Soviet Council of Ministers' statement and academician [D. K.] Skobel'styn's replies to reporters. This is a new issue for China. We are now in the atomic age. We have to understand atomic energy whether used for peace or war. We have to master atomic energy. We are far behind in this area, but, with Soviet help, we have the confidence and determination that we can catch up. Minister Li Siguang and Institute Director Qian Sanqiang tell us that it is possible to catch up, especially with the enthusiastic support of the Soviet Union. The Soviet Council of Ministers has already made its statement public and this kind of publicity is essential. Atomic energy now is already general knowledge and is being discussed all over the world. Imperialism is clamoring about atomic war; we have to expose this. We have to make the world's people understand that if atomic energy is used to serve peaceful construction, it can benefit mankind, but, if used to serve of war, it will destroy mankind. The Soviet Council of Ministers' statement includes its decision to provide scientific, technical and industrial help to other countries and [notes] that it is now considering the scope of the countries to which it can provide assistance. This focuses the attention of all the people of world on the issue of atomic energy and forces them to pay the same level of attention as they once did to the steam engine. If even knowledge about atomic energy is lacking, how will there be the will and the courage to prevent atomic war and spur the peaceful use of atomic energy? What after all is the power of atomic weapons? Many people are not clear. As a consequence, this has given rise to two types of attitudes in the world: one is ignorance and the other is terror. Our Chinese people believe there is nothing special about the atomic bomb and ignore it, looking down at it with derision. [But] It is incorrect to ignore it, and most of the world's people are terrified by it. The United States produces atomic weapons and hydrogen

weapons, but itself is extremely terrified [of them]. American imperialism clamors about atomic war, but the first to be scared was not us, but they themselves. When Secretary of Defense Forrestal, who was in charge of this issue, heard in 1949 that the Soviets had mastered atomic weapons, he was distraught, committing suicide by leaping from a building. In Western countries, most are terrified of atomic weapons. Last Friday, when Chairman Mao received a foreign ambassador, that ambassador said that atomic weapons were very fearsome, and that if several hydrogen bombs were dropped on China, China would be almost completely wiped out. I said, just think about it, the very greatest harm would come to countries with concentrated industry and populations. Mao said that the very greatest harm would merely be that a hole would be blown clean through the earth, and, if there was a hole blown through the earth, and one entered from China, the other side would be none other than the United States. In all, fewer than 100 million people were killed and wounded during the Second World War. If there were another war, and, let us say that China suffered casualties equivalent to the number of people killed and wounded in the Second World War, we would still have 500 million people. America is trying to use terror to scare us, but it cannot scare us. On the Taiwan issue, it is trying to employ the threat of war to scare us, but it hasn't scared us.

Speaking positively, we have to make the broad masses of the people understand atomic energy, and [to that end] carry out extensive education and serious work. Last year a friend said to me: Why don't we announce that we have also mastered atomic weapons? I said: Why should we do this? We have to be practical and realistic, if we haven't mastered [them], then we haven't mastered [them]. It is not very hard to master atomic weapons. We have Soviet help, and if only we apply ourselves seriously, we will be able to master atomic weapons.

...

Speaking positively, we have to openly carry out education, seriously engage in work, and actively pursue the peaceful use of atomic energy. From the negative point of view, we have to appeal to the [world's] people to oppose the use of atomic weapons and oppose the carrying out of atomic warfare. Combining these positive and negative aspects, now we need to implement work on the following several fronts.

- (1) Open a campaign. The Standing Committee of the World Peace Council, meeting in Vienna on the 19th [of January 1955], approved a letter to the people of the world calling on them to rise up to prevent the use of atomic weapons, and to prevent the production of atomic weapons. At the time, [Irene] Joliot-Curie, Guo Moruo and others signed [the letter], deciding to initiate a signature drive throughout the world. Our country must support this signature campaign. In two previous signature campaigns, there was a very good response from the people of our country, and in this signature campaign there will be an even greater response. The people demand peace and oppose atomic war. The people of the West are still

oppressed, [but] in the Soviet Union and among the already liberated people in the people's democracies, this campaign will be pushed forward. We have a lot of people in our country, and there is always a large number of signees. They all hope that we will promote this campaign. Preparations are underway to hold the World Peace Conference this May in Helsinki. We plan to start a signature campaign from this February. Signatures can be gathered collectively. In villages, we can employ the procedure of voting by a show of hands at mass meetings, on the one hand supporting Soviet assistance to China's peaceful use of atomic energy and, on the other hand, opposing the production and use of atomic weapons. This signature campaign can be carried out together with other work. Now the Taiwan question is under fierce discussion on the agenda of the United Nations. We must liberate Taiwan and oppose U.S. armed intervention. We need to mobilize the people throughout the country on this. Furthermore, the work of recruiting new soldiers in the villages starts in February, and there needs to be a mobilization. This work can be combined and carried out together. The signature drive should be led by the China Peace Assembly.

- (2) Carry out atomic energy education. We have not done this in the past, and many of our leadership cadres don't understand [this issue]. We have asked the Academy of Sciences to take charge of this work. First, the Academy of Sciences is meeting to unify its own understanding. It has already held small group meetings, and it will be holding a large meeting. Second, we are organizing a course of lectures on the peaceful use of atomic energy. Starting with [the lectures] organized for high-level cadres, in the distributed documents, we don't understand some of the terminology and how can we peacefully use atomic energy. We will invite Qian Sanqiang, Zhou Peiyuan, Qian Weichang, and Zhao Zhongrao to speak, record what they say and carry out this kind of education all over the country. Third, compile some pamphlets for popular consumption. Some Soviet books have been translated, but we may not be able to use them all, since [the Russian] cultural level is high. A comrade just asked me whether at the time of compilation we should divide them into high-level and elementary-level [material]. I think we should not make this distinction. With the present state of knowledge of atomic energy, there can be no distinction made between high-level and elementary-level [material]. Fourth, write some articles for publication in newspapers welcoming Soviet assistance for our country's peaceful use of atomic energy and opposing American clamoring about the use of nuclear weapons. There is a lot of material to make a comparison. The Soviet Union uses atomic piles to generate electricity, and the United States does not do this, because American capitalists do not agree. They have a lot of electric power stations. If they use atomic energy to generate electricity, the profits of the capitalists will be severely affected. So they use [atomic power] on the military side and, in this way, military-industrial capitalists can reap great profits. Recently, in a report to Congress, [President] Eisenhower said that he wanted to use atomic power for small-scale submersible aircraft

carriers. Is this not a good comparison? Fifth, we need to put together a group of students and direct them towards the study of physics. By international standards, the level of our experts cannot be considered as high. But, with even a few, things are not easy. There are just too few people to do this kind of research in China. In the past not enough attention has been paid to this in assigning students. Now we are paying attention and will undertake reforms. Yang Xiufeng and Gong Zirong should assign some good students in the future. In the past students assigned to study physics were of neither good scientific nor good political quality. Although we will openly publicize the peaceful use of atomic energy, work [on nuclear energy] will remain secret, so both scientific and political quality must both be good. When the students sent abroad for study by various ministries return to China, if the Academy of Sciences wants them, it has priority. We must assign good ones to university physics, chemistry and mathematics departments. We didn't promote this in the past, but now we must promote this; it just won't do not to have enough [talented] people. The Soviet statement says that it will help in our development and broadly assist us. For this, we will need at least 300 to 500 specialized personnel; the present number is insufficient, and we must train [more]. Though it will take four or five years from the time they start school, this will be alright. We also need to increase [the number of] college engineering departments. The Ministry of Higher Education should approve the establishment of an applied physics department at Tsinghua University. Minister Yang Xiufeng, do you understand atomic energy (Minister Yang Xiufeng replied: I don't). If you don't, you should go and audit courses. Without understanding atomic energy, you won't enjoy [your work]. Sixth, we must gradually extract the current experts in atomic physics from administrative work. Only then can we strengthen the organization of physics experts. Qian Sanqiang is Secretary General at the Academy of Sciences and also Vice Chairman of the Youth Federation; Qian Weichang is Dean of Studies at Tsinghua University; Zhou Peiyuan is Dean of Studies at Peking University; at Zhejiang University there is a specialist in physics named Hu Qiming who is serving as Deputy Dean of Studies, and who we have tried to transfer [to Beijing] for a long time without success; now we must issue an order to transfer him; we must "liberate" them from administrative units. If no one suitable can be found to be dean of students, just let there be an honorary dean of students. In sum, we need to call experts back to the ranks. If any of you know of specialists, recommend them, don't hide them.

- (3) Carry out work conscientiously. In promoting the peaceful use of atomic energy, we must work seriously and conscientiously, and must protect secrecy, as the country is presently doing. If we do not carry out broad-based education, we will not be able to achieve results. Uranium mines must remain secret, but, what exactly a uranium mine is something that everyone needs to know, and must gradually learn. It just won't do if miners see a uranium mine and don't know it. The Ministry of Geology has more than 20,000 people working on

drilling teams; the Ministry of Fuel Industry has 40,000; and the Ministry of Heavy Industry has 20,000. They all must know when they see uranium-bearing rock. This is common knowledge. We must promote education among the people. We must enlarge and enlighten everyone's vision, [but] after discovery [of uranium], of course, secrecy must be protected, and we must distinguish between general [knowledge] and secrets. The job of serious research is the work of a small number of people, but opposition to the use of atomic weapons is something for hundreds of millions, and the expansion of education in atomic energy is something for millions.

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 16-19. Translated for NPIHP by Neil Silver.

Document 2

Chinese Communist Party Central Committee Circular Concerning the Transfer of Cadres and Workers to Participate in Atomic Energy Development Work (extract)

23 April 1956

1. Over the past decade, countries around the world have been making rapid progress in the research and use of atomic energy. On the military front, in succession, the atomic bomb, hydrogen bomb, atomic energy-propelled submarines, and so forth have appeared. On the peaceful use of atomic energy front, the successful construction of atomic energy electric generation plants has opened for humanity an immense new and yet difficult to assess source of power. The large-scale use of radioisotopes and radiation in industry, agriculture, medicine, scientific research, and so forth will immeasurably raise the standards of science and technology. In view of the situation described here, the Central Committee has decided to adopt a proactive policy with respect to the task of atomic energy research and development, and, moreover, with the help of the Soviet Union, to strive to close in on and catch up to the global advanced level within a relatively short period. Therefore, it is necessary to rapidly and comprehensively develop prospecting, mining and smelting work with respect to uranium and various types of specialty metals; and move forward on the production of various chemical materials, the production of various special machines and instruments, the planning and construction of an atomic piles and accelerators, and a whole string of new work in atomic energy research and the development of cadres.
2. At present, the most pressing need is for departments nationwide and at the center to transfer a batch of outstanding technical cadres and administrative cadres, as well as a certain quantity

of technical workers and ordinary workers, to start immediately to study and work under the guidance of Soviet experts. To this end, the Central Committee has decided that, in addition to the need in 1956 for the State Planning Commission to assign 2,462 graduates of institutions of higher learning and 760 graduates of middle-level technical schools, it must also transfer from departments nationwide and at the center 1,895 cadres (including 819 technical cadres) and 5,055 workers to join in this work. The transferees referred to above must be in place in two tranches by this May and July.

3. (redacted)

The Central Committee believes that though at present there is a sense that there is a lack of sufficient cadres in many areas, and transferring such a large number of cadres will bring certain hardships, nevertheless, in order to quickly develop our nation's atomic energy work, it is convinced that provincial and municipal party committee and party units in various departments will surely be able to overcome difficulties and accomplish this task.

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 20-21. Translated for NPIHP by Neil Silver.

Document 3

Talk by Mao Zedong at an Enlarged Meeting of the Chinese Communist Party Central Committee Politburo (excerpt)
25 April 1956

We still don't have the atomic bomb. But in the past we didn't have airplanes or artillery either. We relied on millet and rifles to defeat the Japanese imperialists and Chiang Kai-shek. Now we're already stronger than we were in the past, and in the future we'll be even stronger than now. Not only are we going to have more airplanes and artillery, but also the atomic bomb. In today's world, if we don't want to be bullied, we have to have this thing. What should we do? The reliable way would be to cut military expenditures by an appropriate amount and increase economic development spending. Only if the pace of economic development increases can there be greater strides in defense construction.

In 1950, at the Third Plenum of the Seventh Party Congress, we already raised the issue of retrenching state organizations and cutting military expenditures, believing that this is one of the three conditions [necessary] to achieve a fundamental turnaround in our country's financial and

economic condition. During the first five year plan, military spending constituted thirty percent of our total state budget. This proportion is too large. During the second five year plan, we need to reduce this to about twenty percent, so we can squeeze out more funds, open more factories, and produce more machinery. In time, not only will we have more airplanes and artillery, but we'll also probably have our own atomic bomb.

This leads to a question. Do you really want an atomic bomb, are you totally committed to wanting it, or are you only partially committed to wanting it, and not totally committed to wanting it? If you really want it, if you are totally committed to wanting it, you'll cut the proportion of military expenditures and concentrate more on economic development. If you really don't want it, if you are not totally committed to wanting it, you'll just continue along the same path, doing things as usual. This is an issue of strategic policy. I hope the [Central] Military Commission will discuss it.

Source: Mao Zedong wenji [A Collection of Mao Zedong's Papers], vol. 7, p. 27. Translated for NPIHP by Neil Silver.

Document 4

Memorandum from the Soviet Government to the Chinese Government on the Arms Reduction Issue
22 March 1957

Based on the resolution of the Eleventh Regular Session of the United Nations General Assembly, a subcommittee of the United Nations Arms Reduction Committee convened in London on 18 March. Soviet Deputy Foreign Minister [Valerian] Zorin has been designated as the Soviet representative to the subcommittee.

The Soviet delegation will strive in the meetings of the subcommittee to create an atmosphere conducive to carrying on serious discussion of important arms reduction issues embodied in the proposals of countries participating in the subcommittee and, moreover, will ensure that Western countries will not have the possibility of introducing mutual recriminations into discussions in the subcommittee or discussing those issues of no particular importance in resolving arms reduction issues.

The Soviet delegation will strive to discuss in the subcommittee the Soviet proposal of 17 November 1956 regarding the arms reduction issue and the United Nations General Assembly

draft resolution which we proposed on 14 January 1957 regarding the issue of prohibiting the testing of atomic weapons and hydrogen weapons. The Soviet delegation has circulated a new proposal for the consideration of the subcommittee regarding the reduction of armed forces strength and armaments and the prohibition of atomic weapons and hydrogen weapons. These proposals are a comprehensive arms reduction plan envisioning a two-stage implementation, including the measures below:

The Soviet proposal stipulates the implementation of large reductions in the armed forces strength and armaments of each country. In the first period (1957-1958), it would reduce United States, Soviet and Chinese armed forces strength to 2,500,000 men, and British and French armed forces strength to 750,000 men. In the next period (1959), the armed forces strength of these countries should be reduced to between 1,000,000 to 1,500,000 men and 650,000 men [respectively]. We propose that, by the end of the second period, the armed forces strength of other nations would be reduced to the level of 150,000 to 200,000 men.

On atomic weapons and hydrogen weapons, we propose that each country undertake several commitments at the beginning of the arms reduction plan: [they must] end the use of atomic weapons and hydrogen weapons, including rocket armaments containing atomic and hydrogen warheads, and, moreover, they must not station atomic forces or store any kind of atomic weapons or hydrogen weapons outside their national borders.

In the second period, the Soviet proposal stipulates measures to implement the total prohibition of atomic weapons and hydrogen weapons: [they must] halt the production of these kinds of weapons, and, moreover, exclude these kinds of weapons from their armaments, and destroy presently stockpiled atomic bombs and hydrogen bombs along with other types of these weapons.

The Soviet government has taken note of the U.S. proposal regarding rocket weapons made at the most recent United Nations General Assembly session. The U.S. proposal separates the issue of rocket weapons from the general issue of prohibiting atomic weapons and hydrogen weapons, and, moreover, merely touches on one aspect of rocket weapons, namely the issue of inter-continental missiles. Our proposal and the U.S. proposal are different. It [i.e., the Soviet proposal] closely links examination of the issue of rocket weapons to the overall issue of the prohibition of atomic weapons and hydrogen weapons (including the prohibition of various kinds of rockets that are suited to the use of atomic weapons and hydrogen weapons, and the prohibition of atomic guns).

Besides the measures outlined above, the Soviet proposal also stipulates measures to abolish military bases established on other countries' territories.

In accordance with the measures described above, we also stipulate a reduction in military expenditures.

In addition, the Soviet proposal stipulates that measures should be undertaken to reduce American, British, French and Soviet armed forces stationed in Germany and, moreover, to reduce the armed forces of the three Western countries stationed on the territory of countries participating in the North Atlantic Treaty Organization as well as the armed forces of the Soviet Union stationed on the territory of countries participating in the Warsaw Treaty Organization. This was also proposed in the Soviet government statement of 17 November 1956.

In order to implement the supervision of the conditions under which these countries carry out their various obligations in accord with the arms reduction agreement, we have also proposed the establishment of effective international supervision which possesses necessary rights and functions. The Soviet proposal includes the provisions contained in the November 11 statement concerning aerial photography of exercises in Europe. These provisions stipulate the scope of photography as 800 kilometers in depth beyond the eastern boundary of encampment of the armed forces of the North Atlantic [Treaty] Organization and the western boundary of encampment of the armed forces of countries participating in the Warsaw Treaty. The Soviet delegation will be instructed to oppose turning discussion in the subcommittee to the issue of supervision, something the Western countries have all along desired.

Our proposal stipulates that obligations to be undertaken by China under the arms reduction treaty must be studied with the participation of the People's Republic of China.

Whether or not agreement can be reached on the complete arms reduction issue, we propose in Europe to establish an area of restricted and inspected armaments including the territory of both parts of Germany and the territory of various neighboring countries, [thereby] achieving an important step in the resolution of the arms reduction issue.

Concerning the countries in this agreement, we must stipulate [the following]:

1. Fix the upper limit of U.S., Soviet, British and French armed forces stationed on the territories of other countries in this region.
2. Not permit the stationing of atomic forces or any types of atomic weapons or hydrogen weapons on the above-stated region.
3. Countries located in this region are obligated to abandon the use of armed force in their mutual relations and, furthermore, to use peaceful means to resolve all disputed issues.

4. In order to implement the obligations to limit armaments on the territories in this region, establish a unified inspection mechanism with respect to the armed forces and armaments of countries participating in the agreement.
5. [There is] a hope that before reaching agreement on the issue of the above-stated region, the four great powers with armed forces stationed in Germany will swiftly carry out measures to reduce their armed forces stationed in Germany, with the size of the reductions to be determined individually by the above-mentioned countries.

One cannot be satisfied with the present members of the subcommittee, since, among the five members of the subcommittee, four are participants in the aggressive North Atlantic [Treaty] Organization. The Soviet delegation, focusing on this point, will strive to expand the members of the subcommittee and of the United Nations Arms Reduction Committee, and this [question] has already been raised in the Soviet proposal at the Eleventh Regular Session of the United Nations General Assembly.

Source: PRCFMA (People Republic of China Foreign Ministry Archives): 109-00786-09, pp. 59-63. Obtained for NPIHP by Shen Zhihua, translated for NPIHP by Neil Silver.

Document 5

Letter from Nie Rongzhen to Zhou Enlai on the Development of the Atomic Energy Industry
(handwritten manuscript)

11 July 1957

Premier:

The atomic energy industrial development plan has yet to be decided, and especially unclear is the issue of the what to do after manufacturing enriched uranium. As a result, it is necessary to make a great number of revisions in the atomic energy agreement concluded and signed by Comrade [Li] Fuchun in Moscow on 17 August of last year. The Soviet side, however, is still moving forward in accordance with the agreement. Based on [my] discussion with [Soviet economic adviser to China] Comrade [Ivan] Arkhipov, to avoid pointless losses, our government needs to propose postponement in implementation [of the agreement] to the Soviet government before the Soviet side will consider [the matter]. I have now drafted a letter which I am forwarding to you. After you have carefully read and revised it, I ask that you instruct the Foreign Ministry to send it. Respectfully

Comment/Instruction [by Zhou Enlai]: Promptly send to the Chairman, Liu [Shaoqi], Deng [Xiaoping], and Peng Dehuai to read. I propose to agree and have the Foreign Ministry handle this.

Zhou Enlai

Source: PRCMFA (People's Republic of China Foreign Ministry Archives), 109-00792-02, pp. 15-16. Obtained for NPIHP by Shen Zhihua, translated for NPIHP by Neil Silver.

Document 6

Letter from [First Vice Minister of Foreign Affairs] Zhang Wentian to the Soviet Chargé
Concerning the Development of the Atomic Energy Industry

12 August 1957

Chargé of the Union of Soviet Socialist Republics to the People's Republic of China
Comrade Abrasimov:

It is my honor to inform you that since our government is currently considering and formulating the second five-year economic development plan, how to arrange the next step in the industrial plan after the production of enriched uranium and plutonium must be considered in the context of the second five-year plan. Thus, it may be necessary to make some revisions in the "Agreement on the Provision of Technical Assistance from the Union of Soviet Socialist Republics to the People's Republic of China in Establishing an Atomic Energy Industry" that was concluded and signed on 17 August 1956 in Moscow. We hope to consult on this issue at an appropriate time. Before the original agreement is revised, please hold off on the handover of equipment. Please convey this to your esteemed government for appropriate handling.

Source: PRCFMA (People Republic of China Foreign Ministry Archives), 109-00792-02, p. 17. Obtained for NPIHP by Shen Zhihua, translated for NPIHP by Neil Silver.

Document 7

Conversation of Mao Zedong with Soviet Ambassador [Pavel] Yudin (extract)
28 February 1958

In my opinion, the issues of arms reduction and atomic weapons sooner or later will have to be resolved, since it is inconceivable to think that anything can come out of fighting an atomic war. For instance, a country like Western Germany would probably be totally destroyed by only four hydrogen bombs, and it would take only a few hydrogen bombs to deal with Britain. The capitalist world also fears fighting this kind of war, so, in the end, an accommodation will be reached. The socialist system and the capitalist system will compromise on this issue. Just like the prohibition of the use of chemical weapons in earlier times, an accommodation will be reached to prohibit the use of hydrogen weapons. In this way, the issue of standing armies will be left over. Imperialism cannot match us in this area. As the British say, if the hydrogen bomb and the atom bomb were prohibited, and the Soviet Union used airplanes and artillery to fight us, we (sic) would surely be defeated. So they want to resolve together the issue of the prohibition of atomic weapons and the issue of standing armies. As I see it, these issues can be resolved. The British know that we don't want to fight a war. Therefore, they want to first arm and then negotiate, doing this as if we may attack them any day. The capitalist world is caught in a contradiction. On the one hand, to better support its economy, it wants to continually expand its military and carry out war propaganda. But, on the other hand, it fears war.

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994) pp. 16-19. Translated for NPIHP by Neil Silver.

Document 8

Letter from [Nikita] Khrushchev to Zhou Enlai on the Prohibition of Nuclear Testing
4 April 1958

Comrade Zhou Enlai, Premier of the People's Republic of China
Esteemed Comrade Premier:

In contemporary international relations, the most urgent issue and the issue that has attracted the special concern of hundreds of millions of people in countries around the world is the need to immediately halt the testing of various types of atomic weapons and hydrogen weapons. It is easy to understand the feelings of profound concern among various strata of residents, from

political activists and scholarly experts to common people, ordinary village workers and mothers, toward the continued carrying out of nuclear weapons explosive testing. Since these tests exacerbate the arms race and promote research on new, more destructive and more lethal nuclear weapons, they increasingly deepen the threat of atomic war that is facing by mankind.

Not only is this the case, but the frequent explosive testing of atomic weapons and hydrogen weapons in the present period of peace is already harming the health of good, honest and innocent people of all countries. As pointed out in the letter of appeal that was signed by 9,235 academics in 44 countries and sent in January of this year to the Secretary General of the United Nations, every test of a nuclear explosive warhead increases radioactive dust, and therefore harms the health of the world's people and, moreover, threatens the normal development of future generations.

Based on this, the Soviet government has concluded that the issue of halting nuclear weapons testing cannot be put off further, since we cannot allow the health of mankind to suffer irreparable harm.

Now, still only three countries, the Soviet Union, the United States and Britain, possess nuclear weapons, so it is relatively easy to reach an agreement on halting the testing of nuclear weapons. If we do not halt nuclear testing now, with the passing of time, other countries may also possess nuclear weapons. In that situation, it will naturally become more complicated to reach an agreement on halting testing.

Over the past three years, the Soviet government has repeatedly proposed halting the testing of atomic weapons and hydrogen weapons to the governments of the United States and Britain. Since the American and British governments were not willing to halt nuclear testing indefinitely, the Soviet government also proposed halting this kind of testing perhaps at the outset for a limited period, for instance, for two or three years. The Soviet government's proposal on this issue stipulated the establishment of required international supervision of the testing halt.

Despite all these efforts, regrettably, until now it has not been possible to reach an agreement on the indefinite halting of nuclear testing, or even on a temporary halt.

To make a concrete start [toward] a general halt in testing of atomic weapons and hydrogen weapons, and therefore allow mankind to take a step toward the complete elimination of the threat of atomic warfare, the Supreme Soviet of the Soviet Union has decided that the Soviet Union will halt testing of all types of atomic weapons and hydrogen weapons.

To implement the Supreme Soviet resolution, the Soviet government has taken the decision to halt unilaterally all types of atomic weapons and hydrogen weapons [testing] as of 31 March 1958.

The Soviet government has proposed that the U.S. and British governments join in this step. In the common interest of all humankind, the Soviet government urges the government of the People's Republic of China to support this initiative.

If the governments of countries that presently possess nuclear weapons support the Soviet proposal, and, moreover, take the decision to refrain from testing again, then this question which deeply concerns all the people of the world will finally be resolved, and, as a result, we will take a big step toward establishing real trust among countries and strengthening peace.

However, if countries that possess nuclear weapons do not wish to respond to this decision by the Soviet government, but would rather keep on doing as they have been doing, and continue to carry out atomic bomb and hydrogen bomb testing, then, in this situation, the Soviet government, to guarantee its own security, will naturally have no other means than to conclude that it can no longer be bound by its undertaking to halt nuclear testing. But the Soviet government does not want this situation to arise.

In its letter of appeal to the governments of the United States and Britain, the Soviet government has made clear its hope that these governments will join in the Soviet initiative and make possible a permanent and universal halt in the testing of nuclear weapons.

This practical step to allow people to avoid the present threat of nuclear disaster will, to a great degree, advance the task of people of all countries to free themselves totally from threat of atomic war. No one can deny that halting testing of atomic weapons and hydrogen weapons indisputably will improve greatly the overall international political atmosphere and, moreover, will create even more favorable conditions for the resolution of other outstanding international questions.

Comrade Premier, I hope the above proposal of the Soviet government will be treated positively by the government of the People's Republic of China.

I convey my sincerest respect.

N. Khrushchev
4 April 1958

Source: PRCFMA (People Republic of China Foreign Ministry Archives), 109-00830-01, pp. 1-4. Obtained for NPIHP by Shen Zhihua, translated for NPIHP by Neil Silver.

Document 9

Address by Mao Zedong to the Enlarged Meeting of the Central Military Commission (excerpt)

21 June 1958

In five years we can produce sixty million tons of steel [annually], closing in on the Soviet Union and overtaking Britain, Germany, France and Italy, all of them. In closing in on the Soviet Union, we are talking five years. In seven years we can overtake the Soviet Union, but not the United States. In ten years we will certainly overtake the United States. We need to make a navy. Comrade Xiao Jinguang, you want to make a bit of a navy, right? Then this will be possible. I want to make a bit of a navy too, and an air force. Comrade Liu Yalou, air force prospects will be good at that time. And then there is the atom bomb. The atom bomb is not really a big deal. Without it, some people say you count for nothing. Well then, good. We'll make some. We'll make some atom bombs, hydrogen bombs and inter-continental missiles. With ten years of effort, this is entirely possible.

Source: Jilin Provincial Archive, 1/1-14/126, pp. 13-14. Obtained for NPIHP by Shen Zhihua, translated for NPIHP by Neil Silver.

Document 10

Letter from the Communist Party of the Soviet Union Central Committee to the Chinese Communist Party Central Committee on the Temporary Halt in Nuclear Assistance
20 June 1959

Dear Comrades!

We think it necessary to inform you about the situation in the Geneva talks regarding a universal and permanent prohibition of the testing of nuclear warheads and, moreover, to exchange some ideas with you regarding how the Soviet Union will henceforth assist technically the plan of People's Republic of China to produce nuclear weapons.

As you know, in the struggle to attain peace, reduce arms, and prohibit the testing and use of nuclear weapons, the initiative for many years has been in the hands of the socialist countries.

We have attained this result: Under the pressure of world opinion, the United States and Britain have been forced to engage with us in talks on halting the testing of nuclear warheads.

Prior to this meeting [i.e., the ongoing Geneva talks], an experts meeting that was held in Geneva in 1958 drafted a joint proposal on how to supervise implementation of an accord.

In the talks now in Geneva on prohibiting the testing of nuclear warheads, we have already reached agreement on most of the articles of an accord.

In the past there have been great differences on the issue of supervising underground nuclear testing, since instruments are still not able to reliably detect these kinds of explosions.

When [British Prime Minister Harold] Macmillan was in Moscow, he put forward a compromise proposal, namely that it be stipulated that, based on the request of the concerned parties, a set "number" of inspections be carried out in each country every year. We agreed to this proposal.

[President] Eisenhower at first refused to accept this proposal, but after a time he was forced to announce that the United States was willing to study this proposal.

During the Geneva foreign ministers' conference, the Soviet, U.S. and British foreign ministers met several times, discussing the negotiation process with respect to the prohibition of nuclear testing. In these meetings, [U.S. Secretary of State Christian] Herter and [British Secretary of

State for Foreign Affairs Selwyn] Lloyd both hoped that experts from the three countries could meet in the near future to exchange views, study ways to detect high atmospheric testing, and formulate standard rules with respect to how to dispatch monitors.

We agreed to convene this type of meeting of specialists in Geneva.

As a result, it is now all the more difficult for the Western countries to avoid reaching an accord on the prohibition of the testing of nuclear warheads.

As you can see, we are now doing all we can to achieve success in our efforts to prohibit nuclear testing and, moreover, the situation is now developing toward the possible signing of an accord on the universal and permanent prohibition of nuclear testing. This will be a great victory for the socialist camp and the cause of peace.

Therefore, we believe it is necessary for us to convey our thinking to you with respect to measures regarding present Soviet assistance to China in producing nuclear weapons.

China's Minister of the Second Machine Building Ministry has now requested that we turn over a sample atomic bomb and bomb design technical data to China.

This request has been raised just as the Geneva Conference is drafting an accord prohibiting nuclear testing and just as a summit meeting is about to be convened. At the summit meeting, the issue of prohibiting nuclear testing will certainly be studied, if this issue has not already been resolved before the [summit] meeting.

We must consider that if the Western countries should learn that the Soviet Union is giving a sample nuclear weapon and design technical data to China, they may seriously wreck all the efforts undertaken by the socialist countries to strive for peace and to relax the tense international situation.

Therefore, we believe it is necessary to convey the following several points to you:

Under present conditions, we believe that we should concentrate the efforts of Soviet experts on helping China to establish a nuclear industry (including the production of fissionable material), [since] this will become the basis for producing nuclear weapons. At the same time, based on the opinion of Soviet experts carrying out technical assistance in China, it will still take China at least two years to produce fissionable material, since it is necessary to complete a great deal of

work to mine uranium ore and establish an atomic industry. Only at that time will a whole tranche of nuclear weapons technical data be necessary.

We hope during this period of time to thoroughly clarify the attitude of the Western countries on the issue of prohibiting nuclear testing and relaxing the international situation. After that, it will be possible to make a decision on how we should jointly act.

If, we are finally able to sign an accord on the universal and permanent prohibition of the testing of nuclear warheads, then, under these conditions, the implementation of nuclear weapons testing by the People's Republic of China or other socialist countries is likely to give Western countries grounds to abrogate the testing accord and declare that the Soviet Union has destroyed this accord.

Of course, based on the fraternal relations among us, should war break out, the nuclear weapons in the possession of the Soviet Union will be used to counterattack the encroachment of any aggressor and protect all countries in the entire socialist camp.

Source: PRCFMA (People's Republic of China Foreign Ministry Archives), 109-02563-01, pp. 1-3. Obtained for NPIHP by Shen Zhihua, translated for NPIHP by Neil Silver.

Document 11

Report by Nie Rongzhen to Mao Zedong Regarding Science and Technology (abbreviated version)

3 July 1960

Central Committee and Chairman:

Under the new circumstances in Chinese-Soviet relations, there needs to be new policies and practices with respect to several scientific and technical issues. Over the last year and more, Soviet assistance and cooperation in our country's science and technology [endeavors] has tightened across-the-board, especially in defense science and technology, where the door has already been shut. It has also already done all it can to control new technology in the [Chinese] economy. Though there are a lot of bilateral signed agreements, the Soviet Union, has adopted the tactic of 1) delaying, 2) putting off, and 3) ignoring, that is, withholding. It goes without saying that there is no use discussing unfinished agreements or [in cases] where we have made

new requests. Quite clearly, before we resolve Chinese-Soviet political ideological differences, we should not suppose that we can achieve assistance in this area.

1) The Soviet side's stranglehold on us on the crucial issue of key technology is really infuriating. But indignation is useless. We are just going to have to show them. Maybe this kind of pressure will instead become the impetus for developing our science and technology so we strive even more resolutely for independence and autonomy and self-reliance in science and technology, rather than counting on foreign assistance. [Nationalist Defense Minister] He Yingqin held back 300,000 yuan in military funds from us, not even giving us one fen, trying to starve us to death. As a consequence, we organized a great production movement, and both our troops and people were well-fed and well-clothed. Though these two things cannot be entirely compared, what is the same is that we must bring credit on ourselves and rely on ourselves. During the first five-year plan, important [infrastructure] construction was all basically Soviet-designed, and most equipment and technology was imported in sets. This period was very helpful for us, allowing us to quickly master technology. But, on the other hand, it also entailed a certain psychology of scientific and technological dependence, of blindly holding out our hands. Since proposing a general line on constructing scientific socialism in 1958, the Central Committee and Chairman Mao have repeatedly directed that in science and technology we must liberate our minds and eradicate superstitions. For the past two years and more we have started to do this, to great effect. For the most part, we are now able to resolve ourselves common technological issues affecting the national economy. There are still some important sectors [where there are issues that] await resolution, but, if we work hard, these can also be resolved. Though we are still behind in advanced technology, we have come from zero to having some level of achievement, and have put down a foundation. In science and technology we have already found our own approaches. Consequently, it is now possible to propose independence, autonomy and self-reliance.

A big country like ours, which has its own general line for building socialism, and a whole set of policies for walking on our own two legs, must have science and technology that is appropriate to our political and economic needs and natural resources. In resolving scientific and technological issues, we must depend on our own domestic [resources], and, only in this way, can we then keep total initiative and not wind up under the control of others in defense and economic development. We need ambition and tenacity, and on any difficult scientific and technological questions, we need go all out to mobilize the masses to experiment and research, do things ourselves and never to rely on others. In this respect, we may have to spend some more money, and in some cases we may have to spend some more time, but this will bring a reward. We can cultivate our own strength and train up real abilities. Man-made satellites were launched into the sky forty years after the Soviet revolution. If we start from now, and are able to quietly

put our shoulder to the wheel for ten years and then get into space, we'll make it in half the time they did and more quickly than they did.

2) We need to adopt a new way of doing things in our future scientific and technological dealings with the Soviet Union. When the time comes to do so, we should inquire about and still request all assistance that is set out in agreement. But if the other side won't give [us the assistance], we certainly won't press [the issue]; we'll just keep account. In the last few months, staff members of our office in the Soviet Union have repeatedly pressed their inquiries, encountering many rebuffs, leaving the impression that we are in a desperate situation without Soviet assistance and, in this way, making the other side even more cocky and more controlling. We have already told these comrades that they should only ask lightly and just forget it if assistance is not forthcoming. Don't raise any new requests now not covered by agreements. It is also best not to raise scheduled annual Chinese-Soviet technical cooperation. As for responsibilities that our side has signed and taken on, such as the provision of technical data to the Soviet side, the reception of study teams to China, etc., we should carry out commitments in our agreements to the letter.

Of the Soviet experts working in China, some have good attitudes, others are not quite up to the mark, and a few individuals are quite bad. We must implement the policy of upholding principles, upholding unity and working harder as outlined by the Central Committee. Since we have invited them, we must fully exploit their strong points and, to the extent possible, attain something [useful], and help them politically and unite with them. As for experts who have finished their term [of assignment], it will be very hard to hire [back] the good ones, and we don't need to keep average ones. As for newly hired experts, the Soviets have been unwilling to send [experts] in important technical fields, or new arrivals are only [in China] in the role of "observers." In addition, since there are also numerous limitations, it is very hard [for them] to be of any help to us, rather they cause a lot of difficulties for us. Therefore, to the extent possible, make few if any demands [on them].

Recently, we also have had to reconsider our policy regarding sending of students to the Soviet Union. First, the other side does not admit them or places lots of limitations on them, so they don't study any new technology. Second, given their insufficient political maturity, young people are exposed to the corrupting influence of revisionist thought. As a consequence, now we should send very few. Of course, we should not have a complete cutoff. We will send them when there is a need and it's possible to study something. After [further] study, we will issue another report about what we ought to do.

3) Independence and self-reliance does not at all imply that we will isolate ourselves. On the contrary, we have to study and master all internationally advanced science and technology based on our country's particular conditions. To be self-reliant, we need to strengthen scientific and technical intelligence work. We should study as much as we can from the Soviet Union. But the Soviet road in the period ahead will be narrower and narrower. Therefore, we must vigorously pursue scientific and technical intelligence work toward the capitalist countries. American imperialism is also now deeply engaged in scientific and technical intelligence. Although the number of countries with which we have established diplomatic relations is fewer than that of the Soviet Union, it is entirely possible that if we are serious, through various means, we can abundantly collect the results and directions of international advanced science and technology.

I am awaiting your comment on the appropriateness of the ideas expressed above.

Nie Rongzhen
3 July 1960

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 16-19. Translated for NPIHP by Neil Silver.

Document 12

Some Remarks by Zhou Enlai on a Report by Nie Rongzhen
11 July 1960

Base ourselves on independence, self-reliance and autarky.

Technical cooperation: 1. Hold on to what has been agreed upon, but don't press further. 2. Don't ask for too many new items or new requests, but don't make none at all; otherwise we may bring on unintended consequences. 3. It is better not to raise very often [the topic of] routine technical cooperation.

The issue of [Soviet] specialists: 1. Generally do not retain [but] warmly send off those whose contracts have expired; when absolutely necessary and specialists are also [of] good [character], we can propose an extension, but if they don't agree, then don't [try to] retain [them]. 2. As a general rule, we won't send back those whose contract terms have not expired, we will help them to do their work well, and if they want to withdraw them, we will [try] to retain them once. And

if they don't ask our agreement and withdraw them, we should express our regret. 3. Don't ask or don't ask very often about new [Soviet experts], but, when absolutely necessary, and they don't agree after we raise [the issue], then just drop it.

Let's decide the issue of [Chinese] students studying abroad after further study. Let's separately decide the issue of technical exchanges and the protection of secrets.

Regarding science and technology: 1. Yes. We should still propose what is absolutely necessary. If they can't do [what we propose], we should not press [further]. 2. Study. Overseas students, graduate students, trainees, and research fellows who have already gone [to the Soviet Union] should study diligently, [but] if they are not allowed to study, then they [can't] study; [as for Soviet] experts who have come to our country, we should assign people to study diligently with them, but if they don't teach, then [our assignees can't] study. 3. Purchasing. All essential technical material that can be purchased must be purchased from Western countries; what cannot be purchased should be acquired through other means. 4. Intensive study. Regardless of what we acquire, what we study, and what we purchase, or how much [is involved], we must principally rely on our own intensive study. If we don't engage in intensive study, not only will we not be able to create our own unique inventions, but, furthermore, we also will not be able to make practical use and develop what we have acquired, studied and purchased.

Source: Dangde wenxian [Party Documents], vol. 3 (1994), pp. 16-19. Translated for NPIHP by Neil Silver.

Document 13

Mao Zedong's Talk at the Beidaihe Central Committee Work Conference (Extract)
18 July 1960

From 1917 until 1945, the Soviet Union pulled itself up by its own bootstraps, building socialism in one country. This is the Leninist way. We also have to go down this road.

Over the past decade the Soviet people have helped us in [our] development, and we cannot forget this.

We must resolve to work on [pursuing] advanced technology. Khrushchev won't give us advanced technology. Fine! If he had given it to us, it would have been a difficult debt to repay.

Source: Jiangguo yilai Mao Zedong junshi wengao [Mao Zedong's Manuscripts on Military Affairs since the Foundation of the PRC] (Beijing: Zhongyang wenxian chubanshe, 2010), vol. 3, p. 100. Translated for NPIHP by Neil Silver.

Document 14

Chinese Communist Party Central Committee Decision with respect to Several Issues
Concerning Strengthening Atomic Energy Industrial Infrastructure
16 July 1961

Central Committee Bureaus, the [Central] Military Commission, the Central Committee Organization Department, the [State] Planning Commission, the [State] Economic Commission, the [State] Science and Technology Commission, the National Defense Industrial Commission, the Party Committee of the National Defense Commission for Science and Technology [of the PLA], the leading party member's group in concerned ministries, and the leading party member's group in the [All-China] Federation of Trade Unions:

In order to stand on our own feet, make a breakthrough on atomic energy technology, and speed up the development of our country's atomic energy industry, the Central Committee believes it is essential to further narrow the scope of activity, concentrate our strength, and increase support in various related areas for the development of the atomic energy industry. To this end, it has made the following decisions, asking the concerned departments, together with the National Defense

Science and Technology Commission and the Second Machine Building Ministry, to study and seriously implement them.

(1) Increase the technical strength and leadership strength of the Second Machine Building Ministry:

1. Transfer [in] 86 core cadres in high-level scientific investigation and industrial technology.
2. Transfer [in] 14 factory and mine directors and party committee secretaries, 60 department-level cadres, and 18 section-level cadres. The Central Committee Organization Bureau will be responsible for the transfer of the cadres above, [who will] all be in place before October of this year.
3. With the consideration and determination of the Education Ministry, designate departments and sections in Xi'an Jiaotong University and Shanghai Huadong [East China] Industrial Institute to specially train professional cadres required for atomic energy [work], and, above all, guarantee the needs of the Second Machine Building Ministry in student recruitment and placement, student quality and out-placement of graduates.
4. Transfer a technical industrial school from the Third Machine Building Ministry and remove a middle-level technical school from the Electric Power Ministry, giving [them to] the Second Machine Building Ministry.
5. Transfer an experienced shaft team with fairly good technical skills from the Coal Ministry to the Second Machine Building Ministry.

(2) Concerning equipment and instrumentation production, testing and systems questions.

1. With the consideration and determination of the State Planning Commission in coordination with the First Machine Building Ministry, assign to the Second Machine Building Ministry several fairly well-established equipment and instrumentation factories to serve as experimental factories for specialized atomic energy-use equipment and instrumentation; simultaneously, designate a number of factories which, in setting their tasks, will give priority to satisfying the needs of the Second Machine Building Ministry, with the Second Machine Building Ministry having the ability to establish direct professional working relations with these factories.
2. The Second Machine Building Ministry should start drawing up plans for preparing to expand and newly build needed specialized factories to make it possible in the future to manufacture in a relatively centralized way the specialized equipment and instrumentation required by the atomic energy industry.

(3) Concerning industrial hygiene and medical protection questions:

1. Approve the establishment of an administration bureau for radiological hygiene, health and protection in the Health Ministry.

2. Transfer a group of core medical cadres [public health officials] from the Health Ministry to the Second Machinery Building Ministry, including about twenty scientific research core cadres, and about thirty chief physicians or physicians-in-charge.
 3. Pending the construction of the Second Machine Building Ministry's own special hospital, assign a Beijing hospital from the Health Ministry to receive patients from the Second Machine Building Ministry.
 4. Transfer a fairly large sanitarium from the [All-China] Federation of Trade Unions to the Second Machine Building Ministry.
 5. To guarantee the supply of medicine and medical material required by the Second Machine Building Ministry, the Second Machine Building Ministry can open a special account directly in the Health Ministry allotment plan, and paid directly by the Health Ministry and the Commerce Ministry.
- (4) To protect secrecy and on-time delivery, all Second Machine Building Ministry materiel without exception [will be] classified for military transport.
- The Second Machine Building Ministry must redouble its efforts, strengthen its coordination, overcome difficulties, and complete the task of establishing a nuclear industry.

Central Committee
16 July 1961

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 19-20. Translated for NPIHP by Neil Silver.

Document 15

Zhou Enlai's Discussion with a Kenyan African National Federation Delegation (excerpt)
5 September 1963

Now, the United States is again using the Three-Nation [Limited Test Ban] Treaty together with the Soviet Union, and some large countries are monopolizing nuclear weapons. Atmospheric nuclear testing, of course, has already ended, since people around the world oppose it, and, in fact, they already don't need atmospheric nuclear testing. Why? Because they have already gotten the essential data. Besides this, everything else remains as it was. That is to say, use of nuclear weapons is permitted, underground nuclear testing is permitted, continued production is permitted, massive stockpiling is permitted, transport abroad and proliferation is permitted, and provision by the United States of nuclear weapons data to its allies and countries under its

control is permitted. Of course, people all over the world oppose these things, and demand the total end to nuclear testing and the complete destruction of nuclear weapons. [But] by signing the Three-Nation Treaty, except for a temporary halt in atmospheric nuclear testing, everything else has been legitimized. All the countries that signed onto the treaty are restrained by the treaty, that means that all peace-loving countries that signed have no right to possess nuclear weapons, even while they still have to face nuclear blackmail and the danger of annihilation by nuclear weapons. This is one-sided.

On the other hand, countries allied with American imperialism can still obtain nuclear weapons and data necessary to produce nuclear weapons. As the United States has said to France, you don't need to test in the atmosphere, [since] we can give you the data and you can become a nuclear great power. The three countries have all agreed to this. The countries of the North Atlantic Treaty Organization are all American allies, [and] the United States has said that it will establish a multilateral nuclear force in these countries and allow every country to get nuclear weapons. The Three-Nation Treaty does not prohibit this, but merely binds the hands and feet of our peace-loving countries and peoples, [while] they can even more unscrupulously carry out nuclear blackmail. But the socialist countries do not have this right, since the Soviet Union has undertaken this obligation. The United States and Britain only signed once they attained this enormous concession. Isn't this simply the height of deception! After signing, the United States spoke up immediately, issuing a series of pronouncements, from [President] Kennedy, [Secretary of State] Rusk, [Undersecretary of State] Harriman, [Secretary of Defense] McNamara, the Deputy Secretary of Defense, and the chiefs of all the armed services, all the way to the Chairman of the Joint Chiefs of Staff. The essence of it all was that this treaty assuredly does not prohibit the United States from using nuclear weapons, continuing to produce nuclear weapons, stockpiling nuclear weapons, and conveying nuclear weapons to its allies and countries under its control, and, moreover, that it will expand underground nuclear testing. Sure enough, after signing on August 5th, it carried out three underground nuclear tests. The U.S. Deputy Secretary of Defense said that [they] intend to expand the scope of underground nuclear testing, that all prohibited nuclear testing to the extent possible will be carried out underground; that [they] will expand defense expenditures, in order to establish more nuclear sites to produce nuclear weapons; and that [they] are prepared when necessary to resume atmospheric nuclear testing; and, moreover, publicly designated the establishment of an atmospheric nuclear testing site in the Pacific Ocean. Everybody knows this. How can this not increase the threat of nuclear war? Not only has world peace not been assured, but it has now been placed under even greater threat. In the past, people all over the world opposed this, and now it's turned into a situation where all the signatory countries cannot oppose this. First of all, the Soviet Union can't say a word, since it is a signatory country. Only a month after signing, the United States was even more aggressive, to an extent never before seen. Britain said nothing, since it is a follower of the United States. But

the Soviet Union is a country in opposition [to the United States], and it didn't utter a word either. The United States is even freer to continue to implement nuclear blackmail and bind the hands and feet of our peace-loving countries. So we oppose this.

Why is there no complete prohibition on nuclear testing? They say they want to take a step at a time. This sounds good, but this is duplicitous. With the United States so aggressive after signing, where is there any intention of a total prohibition [of nuclear weapons]? If there is no intention to fight, and no willingness to prohibit [nuclear weapons], what is the purpose? The purpose is to use this [situation] to carry out nuclear blackmail. Towards whom? Towards countries that do not have nuclear weapons, especially small, weak countries, Asian, African and Latin American countries. There are two ways to accomplish this: One is to listen, to sign and to bind up one's own hands and feet; the other is not to listen, [and] then they will use nuclear weapons to carry out nuclear blackmail toward you, since you don't have any. If you don't sign, they will say you love war, that you are a "warmonger." Take a look around. Where in China is there any atmosphere in favor of war? There are still some people in the world who speak on the basis of facts. Even some Western capitalist newspapers tell the truth, saying that they find no articles or discussions by Chinese indicating China wants to launch a nuclear war and cause the annihilation of half the population of the world. Not only France, Japan, northern Europe, and Britain have people who speak the truth, even the United States has some. This is really interesting. The Soviet Union says we are this type of war-lover, but the West says this is not so. Can it be that the West is especially good to us? No. The West exploits the contradiction between China and the Soviet Union. We will not fall for Western tricks, and will not be manipulated. We have come to a conclusion. The Three-Nation Treaty is a huge swindle. It is not the first step in prohibiting nuclear weapons, but an extremely dangerous step.

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 15-16. Translated for NPIHP by Neil Silver.

Document 16

Letter from Zhou Enlai to Mao Zedong on the Nuclear Explosion
21 September 1964

Chairman:

I think you have already read this report sent by Comrade [Luo] Ruiqing.

A Central Committee 15-member special commission held two meetings this month on the 16th and the 17th, discussing the nuclear explosion and other related issues. They are urgently waiting until the Chairman's return to report in person, so the Central Committee can make an early decision, hoping [to meet with you] no later than the 24th. If the decision is for an explosion this year, the best time would be between the middle ten days of October and the first ten days of November, with preparations taking at least twenty days. If the decision is for a test explosion next year in April or May together with continuous aerial bombing practice, winter preparations will be also needed in October. If the nuclear explosion is put off based on strategic considerations, and is linked with the second round of new base construction and the production of missiles and nuclear warheads, a policy decision is also needed.

At the same time, Comrade [Luo] Ruiqing plans to travel outside [Beijing] on inspection tomorrow (the 22nd), returning after National Day [October 1st]. If the Chairman is able to meet us tomorrow, we can tell him to leave a day later. If you cannot spare the time tomorrow, after he leaves, Zhang Aiping, Li Xiyao, Liu Jie and other comrades can give you a report. In [your] meeting, besides the [Politburo] Standing Committee members, also ask Comrades Peng Zhen, He [Long] and Chen [Yi] to participate.

After you have decided what to do, please have Lin Ke or Xu Yefu tell [Luo] Ruiqing and me by phone.

Zhou Enlai
21 September, 7 p.m.

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 16-19 Translated for NPIHP by Neil Silver.

Document 17

Letter from Zhou Enlai to Mao Zedong, *et al.* on the Nuclear Explosion
11 October 1964

Chairman, Comrades Liu [Shaoqi], Lin [Biao], Deng [Xiaoping], Peng [Zhen], He [Long], Nie [Rongzhen] and Luo [Ruiqing]:

I am forwarding the 10 October three o'clock report sent via airplane by comrades Zhang Aiping and Liu Xiyao. Please read it carefully. Everything has now been prepared. I intend to preserve secrecy by telling him [Zhang Aiping] using code words over a wired telephone line that we agree with all the arrangements described in their letter, and that between 15 and 20 October they should decide the date and time of the explosion based on weather conditions on site, and report to us.

Separately, please read Liu Jie's report of the same day. Chief [of the PLA General Staff] Luo [Ruiqing], please tell the General Staff Headquarters to undertake the responsibility for checking up, coordinating and directing air defense, shifting to Liu Jie the responsibility for supervising and carrying out the work related to data, equipment and instrumentation, and the protection of secrecy.

Preparations are now under way with respect to publicity and political struggle in the wake of a successful explosion, and will be reported on separately.

Zhou Enlai
11 October, 1:30 a.m.

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 16-19. Translated for NPIHP by Neil Silver.

Document 18

Record of Zhou Enlai's Discussion with British Minister [President of the Board of Trade]
[Douglas] Jay
3 November 1964

You have conveyed His Excellency the Prime Minister's wish to hear the views of the Chinese government. I want to candidly tell Your Excellency so your new government may understand the views and attitudes of the Chinese government with regard to the prohibition of nuclear weapons and the issue of disarmament. Of course, should Your Excellency wish to raise some ideas for discussion, I am also willing to do that. First, on the issue of the prohibition of nuclear weapons, the Chinese government view has already been stated completely and clearly in the Chinese government's 16 October statement and in the letter addressed the next day to the heads of government of all the nations of the world. Our objective in carrying out nuclear testing is to bring about the total prohibition and complete elimination of nuclear weapons and to break the nuclear monopoly of the big nuclear powers. Our proposal in calling for a summit meeting of heads of world governments is designed to satisfy the desire of the peoples of the world for the prohibition of nuclear weapons and the achievement of world peace. With respect to [the fact that] the government statement regarding our atomic bomb explosion and the Chinese government's letter addressed to the heads of world governments were [issued] on virtually the same day as our first successful nuclear test, this shows that our purpose is to break the nuclear monopoly and eliminate nuclear weapons, and, for this very reason, we have stated that China at no time and under no circumstance will be the first to use nuclear weapons.

Why not only this time, but also last year, did we propose to convene a summit meeting of world heads of government to discuss the total prohibition and complete elimination of nuclear weapons? First, we believe that since world opinion holds the destructive power of nuclear weapons to be quite large and threatening to the safety of the world's people, we should allow all countries to participate and should not distinguish between large and small countries. Small and large countries both have the right to express their views. Second, to break the nuclear monopoly, we should allow countries that do not have nuclear weapons an opportunity to express their views. Third, only by restraining nuclear weapons countries, and guaranteeing the non-use of nuclear weapons, can we achieve our goal of the total prohibition and complete elimination of nuclear weapons. Only by having non-nuclear countries join in a summit meeting of the world heads of government can we spur countries possessing large quantities of nuclear weapons to accept their responsibility and guarantee not to use nuclear weapons.

Of course, some will say why can't the world heads of government discuss this in the United Nations, rather than by convening a separate meeting? As Your Excellency understands, not only has the People's Republic of China been deprived of its legal rights in the United Nations, but even if the legal rights of the People's Republic of China were restored in the United Nations, there are still some other countries that for the time being cannot be admitted by the United Nations. The prohibition of nuclear weapons is an issue affecting the interests of all the peoples of the world; we should give all countries in the world the right to participate in a meeting and discuss this issue; and we should convene a meeting outside the United Nations. Your Excellency says it would be very difficult to convene a meeting with so many countries participating, and perhaps [it would be better to] first convene a limited meeting, a meeting with a small number of countries participating, and hold consultations in a meeting like the Geneva Conference? Your Excellency is much more knowledgeable than I am about the experience of the Geneva Disarmament Conference. A small number of countries have convened for many years, each time without result. The Disarmament Conference has passed the ball to the United Nations General Assembly and the General Assembly has handed it back to the Disarmament Conference, with the agenda going back and forth. This shows that issues affecting the interests of all the world's peoples should be discussed with all the world's countries participating in and spurring the determination of policy, first of all the non-use of nuclear weapons. Another kind of Geneva Conference, such as those that discussed the Indochina or the Laotian issues, only discussed partial and local issues and only with the participation of concerned countries. It is easy to reach agreement in these kinds of meetings with the great effort of participating countries. These kinds of meetings are also convened outside the United Nations.

Another of Your Excellency's arguments is that without the end to war, whether world war, local wars, or wars such as the United States calls a special kind of war, it is very difficult to prohibit the use of nuclear weapons. If this is the view of Your Excellency's government, I believe this kind of thinking is very dangerous, since this is the same as the thinking of the United States. After both the signing in draft and the official signing of the Three-Nation Limited Nuclear Test Ban Treaty in Moscow, American leaders and officials repeatedly stated that the signing of the Three-Nation Treaty would not diminish the threat of nuclear war, and would not prohibit the production, storage, proliferation and underground testing of nuclear weapons. In this way, of what use is the Three-Nation Treaty? U.S. Secretary of State [Dean] Rusk announced publicly after going to Moscow to sign that the multilateral nuclear force would continue to be implemented. We believe that the foundation of the Three-Nation Treaty is faulty. The issue involves all the peoples of the world and can only be decided after allowing all the peoples of the world to participate in the discussion. The signing of the Three-Nation Treaty puts a *fait accompli* before everyone, forcing them to sign. In international politics, this is unequal. It is power politics, not international equality.

Not only will the Three-Nation Treaty not achieve its publicized effect, but it will be just the opposite of what is wished. As I just said, this is proved by the lengthy and tedious statements made by U.S. officials after signing the Three-Nation Treaty. Regarding the issue of environmental pollution, the United States has carried out almost four hundred atmospheric nuclear tests. It should bear great responsibility for polluting the world's atmosphere. Only when the time came that the United States did not need atmospheric nuclear testing, did it then work out an agreement. Only after it had enough atmospheric nuclear testing, did it then turn to underground testing. It goes without saying that the draft of the Three-Nation Treaty basically was proposed several years ago by the United States, and then passed almost without any changes. China now has tested once and people are screaming. What a joke! If China had not tested, no one would be talking about the prohibition of nuclear testing, but as soon as we tested, people want China to participate in disarmament conferences saying that China has joined the nuclear club. Of course, the United States says that China is not qualified to participate. The United States needs underground nuclear tests and it carries out underground nuclear testing to the maximum extent possible, especially to improve strategic nuclear weapons. Its goal is very clear. The Three-Nation Treaty is aimed at binding the hands and feet of the socialist countries, and binding the hands and feet of the independent countries, while allowing the United States to test and proliferate. The multilateral nuclear force is precisely nuclear proliferation. Underground testing is the kind of testing it requires. If it should ever need atmospheric testing, it will be able to resume [atmospheric testing].

Source: Dangde wenxian [Party Historical Documents] vol. 3 (1994), pp. 16-19. Translated for NPIHP by Neil Silver.

Document 19

Letter from Zhang Aiping *et al.* to Zhou Enlai and Luo Ruiqing on the Nuclear Test
10 May 1965

Report to the Prime Minister, the Chief of the General Staff, the Special Commission, the [Central] Military Commission and the Central Committee:

Cold weather has now decisively settled over southern Xinjiang. It is projected that the weather (tangerine) will gradually improve from 1400 hours [two o'clock p.m.] on 11 May, and conditions will be right to detonate (the melons have ripened) on 12 May and 13 May.

This afternoon we held a meeting of the Testing Party Committee and of the Testing Commission members, studying various items of work in the wake of the [May] 8th live fire exercise and also again checking and arranging various preparatory work. Now the test site (the market) is prepared and is awaiting the order; detonation can occur eight hours after the order is given (the melons have ripened). The meeting unanimously agreed that, as a standard [against which to judge the] implementation of various kinds of [preparatory] work, detonation (the melons have ripened) should be fixed for 0800 hours [eight o'clock a.m.] on 12 May. The specific time will be reported on 11 May at 2000 hours [eight o'clock p.m.] {Boom Six (the Old Unit Six)} will hang the bomb (throw the apple) between the 0800 hours [eight o'clock a.m.] and 1500 hours [three o'clock p.m.] on the 11th; there will be no special influence on the accuracy).

Zhang Aiping, Liu Xiyao, Cheng Jun, Zhang Zhenhuan, Zhang Yunyu
10 May 1965 at 2300 hours

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 16-19 Translated for NPIHP by Neil Silver.

Document 20

Letter from Zhou Enlai to Mao Zedong on the Nuclear Test
11 May 1965

Chairman:

The aerial test this time was originally scheduled to be carried out on the morning of 8 May. At that time, owing to a sudden change in meteorological conditions, winds in the upper atmosphere shifted from the west toward the northeast, unfavorable to an aerial test, and thus an order was issued on the spot to halt [the aerial test].

After two days of observation, the weather this afternoon gradually turned favorable. There will likely be more than twenty hours of good weather between the 12th and the 13th. After consulting yesterday evening with [Luo] Ruiqing, [Yang] Cheng Wu, Liu Jie and other comrades, we have already told the front to prepare to proceed. I have just now received a telegram from the front (attached); the action is already set for tomorrow.

An after-action press communique (attached) has already been carefully scrutinized by comrades on the [Politburo] Standing Committee, and I now send it for your approval. If it's all right, please tell Xu Yefu to reply to me by telephone.

Zhou Enlai
11 May

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994), pp. 16-19. Translated for NPIHP by Neil Silver.

Document 21

Politburo Talk by Zhou Enlai on Receiving a Group of [Central] Military Commission
Operational Meeting Comrades
21 May 1965

The present international situation is one of development, especially with regard to the national democratic revolutionary movements in Asia, Africa and Latin America. Take a look at Asia, take a look at Africa, take a look at Latin America, things are bubbling everywhere, and they all directly stem from American imperialism. It has stirred things up everywhere, with the masses rising in rebellion and its friends deserting it. The best proof is our atomic bomb test this time. This year we have decided that since our second atomic bomb explosion will be by air-drop, the time fixed [for the explosion] will be in May or June, too early is not good, so the time chosen will be during the two months of May and June. If we choose May, won't there be even more opposed to us than last year? Exactly the opposite. We have chosen a time during the Asian-African Unity Conference, and this will be a test. The Chairman [Mao] has decided to explode [a device] since whatever we do there will be the criticism. Of course, in setting which day, we have given the power to the Special Commission and, concretely, to the front-line to decide, with consultations in the rear-area between Comrade Luo Ruiqing and me. This time, viewed politically, we are running into a meeting of the Asian-African Unity Conference in Ghana. There is an historical precedent. When the First Non-Aligned Conference convened in 1961 in Yugoslavia, Khrushchev, seeking to play his hand, and motivated purely by a desire to intimidate and scare, wanted to test a large one [nuclear weapon], with the result that he stirred up universal opposition. Sending a delegation to the United States, the Soviet Union begged forgiveness and halted testing. Last year, even before we exploded [a bomb], India proposed a motion, urging that China not carry out the nuclear test, but, with only two votes. It failed to pass by only two votes, and we then exploded [a bomb]. Last year we chose to explode [a bomb] after the Second

Non-Aligned Conference. This time we have chosen [to do so] before the Second Asian-African Unity Conference, and even considered [doing so] during the Asian-African Unity Conference; the situation now may have changed. We have met many people in Asia and Africa who outwardly express regret, stating that it would be best to halt testing, but behind our backs congratulate us. This illustrates nationalist ambivalence. Owing to their opposition to imperialism, they support us. Our possession of the atomic bomb inspires them and also strengthens [their] power. On the other hand, under imperialist pressure and under Soviet cajoling and coercion, there is still a measure [of support for] the treaty to prohibit nuclear testing, and this is why they express regret. Wherever we go in these places, we run into this situation. But we never foresaw that so many people would cheer us on this time. This year only the response in the United States has been limited, since they want to downplay our role. Outwardly, they don't say much, but in their heart of hearts they are worried. This time the people of the world, including the Japanese, whose response has been the greatest, acclaim and congratulate us, and are happy.

I even performed this kind of test. We were right in the middle of carrying out our nuclear explosive test when two Japanese art troupes were in China. Japan endured two atomic bombs. They sacrificed and they oppose atomic bomb testing. But these people were all middle-of-the-roads, some middle-of-the-road leaning left, and some middle-of-the-road leaning right. I spoke twice to them, saying that if we possess the atomic bombs this is the same as the Japanese possessing the atomic bomb, and we both oppose the atomic bomb. You had two atomic bombs fall on your heads, and you made a contribution to the whole world, since everybody in the whole world opposes atomic warfare. If there had not been the sacrifices [caused by] those two atomic bombs, how could the world's attention have been focused? If there had been no harm wrought by poison gas, how could there have been opposition to poison gas warfare? There is always a price to be paid. As Chairman Mao has said, once a price was paid, no one will dare use the bomb. Now there is the atomic bomb, and later there will be the hydrogen bomb, and there will also be long-range missiles. The United States may use strategic atomic weapons in Vietnam, and later use them on China. We Chinese have this type of lofty aspiration. No matter how many people we may sacrifice in a nuclear war, we will in the end attain world peace. Just as Chairman Mao has said, we will gain progress, peace and victory in an anti-imperialist war. If they attack us, that means we will face the inevitable destruction of nuclear war, since, if atomic bombs are exploded over our heads, naturally we will suffer some losses, but that will stir up all the people of the world, even including Americans among them. If the Soviet Union sits back without getting involved, it will [constitute] watching in safety while others fight, then reaping the rewards when both sides are exhausted. The Americans and the Japanese need to realize that if atomic bombs fall on their heads, their losses will be greater than ours. Japan has a population of 100,000,000 concentrated on those not so large islands, and with so much industrial

infrastructure. Now Japan is in an opposite position from us. It is not constructing subways, but [rather] constructing an over-ground railway from Tokyo to Osaka. We can't do that. If we do that, and there is a nuclear war, we don't know how great the losses will be. Therefore, we have to prepare to pay some price and, in that way, gain world sympathy to support for us. Most of these people from Japanese artistic circles still fear war, but when I say this, they have confidence if they stand with China. Moreover, some of them speak frankly, saying that we hear you are still not satisfied after your test, and, on hearing this, on the contrary we feel that [we] should cheer you on and stand together with you. We can work on this. From this point of view, our international prestige has now been raised.

Now the Soviet Union is purposely underestimating us, [but] actually it also fears [us]. [Soviet Premier Alexei] Kosygin told [Indian Prime Minister [Lal Bahadur] Shastri that the second Chinese atomic bomb was a small toy, [but] in fact he is also fearful. Now the United States is afraid. Britain is also concerned. France also thinks it's falling behind, and knows that it cannot replicate our production method. Despite the fact that they've been at it for so many years, they have only exploded a couple devices; they cannot air-drop; and their Uranium-235 plant will only be in production in 1969. Since this is the situation, if the United States decides on a massive strike [on Chinese nuclear facilities], and the Soviet Union joins in, this will necessarily entail a number of steps, and will not be that easy. We must prepare for this. The more prepared we are, the more they will back off. This is [the law of] dialectics.

Source: Dangde wenxian [Party Historical Documents], vol. 3 (1994) pp.27-28. Translated for NPIHP by Neil Silver.

Appendix B: Timeline of Sino-Soviet Nuclear Cooperation

Compiled for NPIHP by David Najmi.

14 June 1946- The U.S. delegation to the U.N. Atomic Energy Commission presents the Baruch plan—named after delegation head Bernard Baruch—for a new international organization to control research on and production of nuclear weapons, as well as the accumulation of fissile materials.

August 1946- Mao Zedong famously states that “The atomic bomb is a paper tiger,” in part to reassure the CCP’s rank-and-file that China was not threatened by the American nuclear monopoly. Simultaneously the Chinese Communist Party’s (CCP) Secret Service begins looking for Chinese scientists overseas with expertise in rocketry and nuclear energy who will eventually support China’s indigenous bomb project.

29 August 1949- The Soviet Union successfully tests RDS-1, its first atomic device.

December 1949-January 1950- Mao Zedong visits the USSR. In a draft of the Sino-Soviet Treaty of Friendship Stalin promises, at Mao’s insistence, that “[i]n the event of an invasion of one of the signatory countries by a third country, the other signatory country shall render assistance *with all means at its disposal.*”

5 March 1953- Stalin dies near Moscow.

1 April 1954- New Soviet leader Nikita Khrushchev receives a report from the father of the Soviet nuclear program, Igor Kurchatov, on the threat that super powerful thermonuclear weapons pose to the human race, causing Moscow to begin reevaluating Soviet military strategy.

11 August 1954- The First Taiwan Straits Crisis starts when China begins shelling Taiwanese troops on the island of Quemoy. For the Soviets, who are seeking to improve relations with the West after Stalin’s death, the Taiwan Straits Crisis precludes any immediate assistance for China’s nuclear weapons program.

3 September 1954- Mao initiates heavy artillery bombardment of Quemoy, alarming both the United States and the Soviet Union.

12 September 1954- US Joint Chiefs recommend nuclear attack against mainland China. President Eisenhower refuses to consider this option.

30 September 1954- The Soviet Union submits a draft resolution to the UN Disarmament Commission, which concedes that 50 percent of the agreed reduction in armed forces and

conventional armaments might take place before any action to prohibit nuclear weapons. This was the first significant Soviet movement in nuclear arms control negotiation since the Baruch Plan discussions of 1946.

October 1954- Soviet Premier Khrushchev visits China where Mao conveys his interest in receiving Soviet assistance in developing a Chinese nuclear program. Khrushchev denies full assistance but promises to help build a small research reactor.

January 1955- The Soviet Union decides to offer assistance to China and several East European countries for the development of atomic energy programs.

15 January 1955- At a CCP Central Committee Secretariat meeting to discuss nuclear issues, Mao proclaims “Now, [because] the Soviet Union is giving us assistance, we must achieve success! We can also achieve success even if we do it ourselves. As long as we have people and resources, we can create miracles!” The CC also approves a plan for the Chinese nuclear weapons program, code name 02.

29 January 1955- The United States Congress passes the Formosa Resolution authorizing President Eisenhower to use American military force to defend the island of Taiwan.

18 February 1955- Chinese Defense Minister Peng Dehuai formally proposes a detailed plan for the research and development of nuclear weapons in a report to Mao Zedong.

31 March 1955- Mao announces that “China has entered a new historical epoch of research on atomic energy.” Mao takes the first critical step toward nuclear power.

23 April 1955- At the Afro-Asian Conference in Bandung Chinese Foreign Minister Zhou Enlai states that China is willing to negotiate with the United States to end the Taiwan Straits Crisis.

23 October 1955- Mao informs visiting Indian Prime Minister Jawaharlal Nehru that China has “just started scientific research” on the atomic bomb.

14 March 1956- The Aviation Industry Commission under the Ministry of National Defense is established with the goal of developing missiles and other delivery systems for Chinese atomic weapons.

26 March 1956- The Eastern Atomic Energy Institute is established in Moscow, where many leading Chinese nuclear physicists receive training and conduct research. The Dubna Institute is created which also helps develop the theoretical and personnel foundation for the Chinese nuclear weapons program.

16 July 1956- Soviet Foreign Minister Dmitri Shepilov asserts at a Supreme Soviet meeting that the experimental detonation of atomic weapons should be suspended without delay.

23 October 1956- A nationwide revolt against Soviet imposed policies take place in Hungary. The revolt lasts until 10 November 1956 when it is bloodily suppressed by Soviet troops. The Chinese voice support for the Soviets—a fact which is credited for a change in Soviet atomic policy regarding China.

16 November 1956- The Third Ministry of Machine-building is established (renamed the Second Ministry of Machine-building in February 1958), which is responsible for building and developing China's nuclear industry.

14 January 1957- The Soviet Union presents a motion at the UN to ban nuclear testing.

March 1957- In developing the Second Five-Year Plan, the Third Ministry of Machine-building stipulates that China will establish a small but comprehensive nuclear industry system before 1962.

22 March 1957- The Soviet Embassy in Berlin passes a memorandum to the Chinese government explaining the USSR's motions at the UN to ban nuclear testing, and to prohibit nuclear weapons and their delivery systems, including missiles, along with the establishment of an international control mechanism.

30 March 1957- The Soviets and Chinese sign the "Accord on Assisting the People's Republic of China on Special Technology." The accord provides for increased support for the Chinese nuclear program although the PRC does not view the support as adequate.

May 1957- The Soviet Union sends Evgeny D. Vorobyev, a close aide of Kurchatov, and a team of dozen specialists to China to train Chinese specialists in studying enriched uranium and plutonium. They also compiled teaching plans and course materials, and supervised experiments on the Chinese nuclear reactor.

June 1957- Attempting to consolidate power domestically, Khrushchev leads the passage of the "Resolution on the Malenkov, Kaganovich, and Molotov Anti-Party Group," expelling them from the CC. Khrushchev was the victor, but still he had many political enemies within and outside the party.

5 July 1957- Soviet Vice Premier Anastas Mikoyan meets with Mao to get his support for Khrushchev's struggle to consolidate power within the Soviet government. Mao quickly voices support for Khrushchev.

24 August 1957- The Soviet government agrees that the Chinese government should send a delegation to the Soviet Union to negotiate “on issues of the establishment of atomic, missile and aviation industries.”

27 September 1957- The Soviet-assisted 7,000 kilowatt heavy-water reactor and 1.2 meter diameter research cyclotron are delivered to China. In the words of Marshal Nie Rongzhen, head of the Chinese nuclear program, China truly was “making a leap-forward toward the era of atomic energy.”

15 October 1957- The New Technology for National Defense Agreement is signed between the USSR and the PRC. The USSR will assist China in building a comprehensive atomic industry, including research and production for the atomic bomb. The Soviets will provide China with a teaching model of an atomic bomb with blueprints. As a key link to the production of the atomic bomb, the Soviet Union will also sell industrial equipment for producing enriched uranium, and would provide sufficient uranium hexafluoride to begin enrichment operations when the plant came online.

November 1957- Mao proclaims, “if worst came to the worst and half of mankind died [in a nuclear war], the other half would remain while imperialism would be razed to the ground and the whole world would become socialist. In a number of years there will be 2.7 billion people or more.” The statement shocks Soviet leadership, but in the short-term causes no change in Soviet policy.

1958- The Soviet Union asks China to support its proposal for a ban on nuclear weapons production and testing. China does not reply.

June 1958- A heavy-water reactor and cyclotron are successfully constructed with Soviet assistance. Their construction greatly improves the technical basis and research conditions for China’s nuclear physics program.

August 1958- Chinese Premier Zhou Enlai approves a plan by the Second Ministry of Machine-building to develop an atomic program whose primary focus was military and whose secondary focus was peaceful.

23 August - 6 October 1958- The Second Taiwan Straits Crisis begins on August 23rd. Offshore military action by China causes an embarrassment for the USSR which was not consulted in advance. The Chinese also acquire a US made Sidewinder missile that had landed in China and failed to explode, but refuse to turn it over to the Soviets for study. When the missile is finally given to the Soviets months later it was poorly put back together and missing key parts. By the

end of the crisis in October the cumulative effects of these episodes indicates a general decline in Sino-Soviet relations.


29 September 1958- The Soviet Union and China signed an “Additional Agreement on Soviet Technical Aid to China’s Atomic Energy Industry.” It specified more detailed and concrete regulations for individual projects. It also set 1959 or 1960 as the time frame for project completion.

20 June 1959- The Soviets back out of an earlier agreement to provide China with a prototype atomic bomb. The USSR claims their decision was made so as to not jeopardize negotiations over the Soviet-American-British nuclear test ban treaty.

June 1960- All Soviet experts in China are recalled.

August 1960- Any remaining Soviet experts assisting the PRC leave China.

16 October 1964- China successfully tests its first atomic bomb.



NPIHP is a global network of individuals and institutions engaged in the study of international nuclear history through archival documents, oral history interviews and other empirical sources. Recognizing that today's toughest nuclear challenges have deep roots in the past, NPIHP seeks to transcend the East vs. West paradigm to assemble an integrated international history of nuclear proliferation. NPIHP's research aims to fill in the blank and blurry pages of nuclear history in order to contribute to robust scholarship and effective policy decisions.

Within the Wilson Center, NPIHP is part of the History and Public Policy Program. NPIHP is co-directed by Christian Ostermann and Leopoldo Nuti, and coordinated by Tim McDonnell.

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