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Iran: Arms and Technology Acquisitions

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Summary

Successive U.S. administrations since Iran's 1979 Islamic revolution have viewed Iran as a potential threat to U.S. allies and forces in the Persian Gulf and in the broader Middle East, and have sought to limit its military capabilities. The apparent rise of moderate elements inside Iran led the Clinton Administration to seek to engage Iran in a formal governmental dialogue, and to state that Iran has legitimate defense needs. At the same time, the Clinton Administration and Congress were wary that Iran's political evolution could stop or reverse course, and they did not ease U.S. efforts to deny Iran the arms and technology with which it could dominate or intimidate pro-U.S. countries in the region. Available data indicate the United States has had mixed success in achieving these goals.

Iran has generally lacked the indigenous skills to manufacture sophisticated conventional arms or independently develop weapons of mass destruction (WMD), and one of Iran's objectives has been to obtain the technology and skills to become self-sufficient. Iran has come a long way toward that objective in certain areas, including ballistic missiles and chemical weapons. However, in the aggregate, Iran remains reliant on foreign suppliers. This dependence has given the United States some opportunity to work with potential suppliers to contain Iran's WMD capabilities. European allies of the United States have agreed not to sell conventional weaponry to Iran, and the United States has persuaded its European allies not to sell any technology that could have military applications ("dual use items") to Iranian military or security entities.

To try to thwart U.S. efforts, Iran has cultivated close relationships with foreign suppliers that are not allied to the United States, especially Russia, China, and North Korea. Curtailing arms and technology supplies to Iran has formed an important part of the U.S. agenda with all three of these countries, but more pressing U.S. objectives with each of them have sometimes hampered the U.S. ability to dissuade them from assisting Iran. Iran apparently continues to receive critical technology from all three, but U.S. efforts appear to be bearing some fruit in limiting their arms and technology supply relationships with Iran.

U.S. attempts to prevent foreign arms and technology assistance to Iran has prompted a debate over U.S. policy toward supplier states. Congress and successive Administrations have enacted several laws and executive orders, many of which are similar to each other, that impose sanctions on countries and firms that sell WMD technology to Iran. The most recent measure enacted is the Iran Nonproliferation Act (P.L. 106-178), signed in March 2000. The Clinton Administration generally preferred diplomacy and engagement with supplier states, and it used the threat of sanctions to obtain supplier cooperation. Some in Congress maintain that U.S. efforts to halt technology flows to Iran would be more effective if there were a broader and sustained U.S. willingness to sanction supplier states.

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Iran's experiences during its war with Iraq (1980-1988) apparently convinced the Iranian leadership to enhance Iran's ability to develop and deliver weapons of mass destruction (WMD). Iran attributed its loss in that war partly to Iraq's superior WMD capabilities. Iran fired North Korean-supplied Scud missiles on Baghdad during the Iran-Iraq war, but Iraq's retaliation demonstrated that Baghdad's missile technology capabilities far exceeded those of Iran during that war. Iraq, with some foreign assistance, was able to extend the range of Soviet-supplied missiles to reach Tehran, some 400 miles from the Iraq-Iran border. Iraq used chemical weapons to a far greater extent, and to greater effect, against Iran than Iran used chemical weapons in retaliation. After the 1991 Persian Gulf war, when U.N. inspections of Iraq's WMD programs began, Iran learned along with the rest of the world that Iraq might have been within one year of achieving a nuclear weapons capability. Iran's nuclear program was, and to a large extent still is, embryonic by comparison.

According to U.S. statements and proliferation reports, Iran intensified its drive to acquire WMD after the war with Iraq. Iran has tried to build up its indigenous WMD technology expertise in order to eventually become self-sufficient. However, Iran has had to compensate for its technological deficiencies through a sustained and broad effort to obtain outside assistance for its WMD efforts. Most U.S. allies have refused to supply Iran with technology that can be used for WMD, although an August 2000 U.S. government nonproliferation report noted that Iran increasingly is seeking to procure WMD-capable technology from Western Europe.[1] Iran has primarily had to approach countries, and entities within those countries, that are willing or able to resist or evade U.S. pressure to curb their dealings with Iran. The main arms and WMD-related technology suppliers to Iran remain Russia, China, and North Korea. The sections below discuss the evolution and scope of the arms and technology supply relationships between Iran and these countries. A separate section discusses other countries that have supplied arms or WMD technology to Iran, although on a much smaller scale than Russia, China, or North Korea.

One point of debate among experts is whether political change in Iran will affect its WMD efforts in the future. Iran's military establishment remains under the control of revolutionary purists linked to Iran's Supreme Leader, Ali Khamene'i, who constitutionally holds the position of Commander-in-Chief of the Armed Forces. The May 1997 landslide popular election of a relative moderate, Mohammad Khatemi, as Iran's President, led some observers to believe that Khatemi would extend his reformist agenda into military affairs. However, it is not certain that Khatemi wants to curb Iran's WMD programs, even if he were to acquire additional national security decisionmaking authority. There has been no suggestion that he disagrees with other

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[1]CIA Nonproliferation Center. *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 July Through 31 December 1999*. August 2000.

leaders on Iran's threat perceptions or fundamental security needs. U.S. officials testified to Congress during 2000 that the there has been no observable slowdown of Iran's WMD programs since Khatemi took office in August 1997.

On the other hand, Khatemi's thus far successful efforts to end Iran's international isolation depend on at least the appearance of cooperation with international nonproliferation regimes. Some Iranian officials, particularly those in the foreign ministry, assert that Iran's security is better protected through cooperation with international nonproliferation regimes and diplomatic efforts to dampen regional arms races than through WMD development. Whatever Iran's motivations, the International Atomic Energy Agency (IAEA) has said on several occasions that Iran is substantially in compliance with its obligations under the Nuclear Non-Proliferation Treaty, and Iran has complied, to a significant extent, with the organization (Organization for the Prohibition of Chemical Weapons, OPCW) established to implement the 1993 Chemical Weapons Convention. Nonetheless, Iran's cooperation with these regimes has not diminished U.S. suspicions that Iran is covertly circumventing, or could quickly circumvent, the restrictions imposed by these conventions.

Russia

Iran has sought Russian assistance partly because of the limited alternatives and not necessarily because of strategic or ideological affinity between the two countries. Iran's relationship with Russia is tempered by a lingering fear of Russian power and intentions. In 1907, Russia concluded a treaty with Britain dividing Iran into spheres of control. Russian troops occupied northern Iran during World War I. Soviet troops invaded again in 1941, in concert with Britain, when Iran appeared to become sympathetic to Nazi Germany. After World War II, the Soviet Union refused to withdraw completely from Iran and it set up two autonomous zones in northern Iran, which lasted until 1946, when U.S. pressure forced the Soviets to withdraw completely. Iran's Islamic revolution, which triumphed in February 1979, considered anathema Soviet ideology and its suppression of Islam and other religious expression. The December 1979 Soviet invasion of Afghanistan revived Iranian fears that Moscow might have territorial designs on Iran. The Soviet Union also backed Iraq with arms sales, financial credits, diplomatic support, and military advice, throughout the Iran-Iraq war.

The Iran-Iraq war, which ended in August 1988, left Iran's conventional arsenal devastated, and the need for rearmament provided Iran and the Soviet Union an opportunity to pursue mutual interests. A U.S. military buildup in the Gulf during the Iran-Iraq war – designed to protect the free flow of oil in the Gulf – had created concern in Moscow that the United States was attempting to establish hegemony in that strategic body. Iran, partly because of U.S. efforts during the Iran-Iraq war to shut off worldwide arms sales to Iran, lacked a wide choice of willing suppliers, and the Soviet Union saw arms sales to Iran as one way to broaden its influence in the Gulf. A February 1989 visit to Tehran by then Soviet Foreign Minister Edouard Shevardnadze, and his meeting with the ailing Ayatollah Khomeini, signaled the beginning of a thaw in Iran's relations with the Soviet Union.

Iran established an arms and technology relationship with the Soviet Union during a visit to Moscow by then parliament speaker Ali Akbar Hashemi-Rafsanjani in June 1989, two weeks after the death of Ayatollah Khomeini. A joint communique at the conclusion of the visit said that the two countries would collaborate in the "peaceful use of nuclear energy," and that the Soviet Union "agreed to bolster the military capacity of the Islamic Republic."[2]

The subsequent breakup of the Soviet Union in late 1991 raised Iran's importance in the strategic calculations of Russia, the successor to the Soviet Union in international affairs. Russia perceived an arms and technology relationship with Iran as a key part of an effort to moderate Iranian behavior on Russia's southern flank. After the dissolution of the Soviet Union in 1991, Russia and the former Communist leaders left in charge in the six Muslim states of the former Soviet Union (Azerbaijan, Turkmenistan, Tajikistan, Uzbekistan, Kyrgyzstan, and Kazakhstan) were concerned that Iran might try to spread revolutionary Islam into these new states. According to observers, Russia tacitly linked arms and technology sales to Iran's refraining from political meddling in these states.

An additional factor in Russian planning was the aftereffects of the 1990-1991 Persian Gulf crisis, which left the United States pre-eminent in the Gulf and demonstrated the effectiveness of U.S. military technology. The war cemented the U.S. position as the primary arms supplier to the Persian Gulf monarchy states. U.N. sanctions imposed on Iraq after its August 1990 invasion of Kuwait included a worldwide arms embargo, removing one of the key Soviet arms clients from the international market. Russian officials viewed Iran as a key source of needed new sales to compensate for the closure of these and other arms markets.

Attempting to curb Russia's arms and technology relationships with Iran, U.S. officials have consistently impressed upon their Russian counterparts the possibility that Iran's historic resentment of past Russian actions in Iran might some day make Russia itself a target of Iranian WMD. Iran and Russia are also wary of each others' ambitions and claims on Caspian Sea energy resources, even though their positions on the division of resources in the sea have not differed substantially to date. (The two countries, along with Kazakhstan, Azerbaijan, and Turkmenistan, border the sea.) These arguments have not dissuaded Russia from selling arms and technology to Iran, and the Clinton Administration and Congress tried to use the threat of sanctions in efforts to achieve nonproliferation goals.

In some cases, the Clinton Administration took the step of imposing sanctions on the Russian government and Russian entities dealing with Iran. However, the Administration often stated its reluctance to impose sanctions on the grounds that the United States has broad objectives in Russia, including promoting economic and political reform, mutual arms control and reduction, safeguarding nuclear material, and limiting the effects of the war in Chechnya. During 1999 and 2000, the Clinton Administration worked constructively with Russia to try to contain the Islamist threat posed by the Taliban regime of Afghanistan and its protected "guest," Saudi-born

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[2]Islamic Republic of Iran News Agency [IRNA] on Communique. *Foreign Broadcast Information Service*, FBIS-NES-89-121, June 26, 1989. P. 31-33.

terrorist financier Usama bin Ladin. These objectives, according to some observers, sometimes overrode calls within and outside the Administration to closely link U.S. relations with Russia to the abandonment of its arms and technology relationship with Iran.

Advanced Conventional Weaponry

In 1991, Soviet arms ordered by Iran in 1989 began flowing to the Islamic Republic. Possibly because of fluctuations in Iranian oil revenues and its large debt burden, it appears that Russia delivered fewer arms than Iran had originally ordered, and deliveries seem to have tapered off by the mid 1990s. Total deliveries to Iran by Russia include about 30 MiG-29 and 30 Su-24 combat aircraft,[3] about 300 T-72 tanks,[4] SA-5 and SA-7 surface-to-air missile systems, and three Kilo-class diesel submarines, the last of which arrived in January 1997. The submarine purchases represented the first deployment of the vessels by a country in the Gulf and raised concerns among U.S. naval officials of a heightened threat to U.S. naval and international commercial shipping in the strategic waterway.

The purchases and their strategic implications drew considerable attention in early 1992, when then CIA Director Robert Gates testified before the House Armed Services Committee that Iran was planning to spend $2 billion per year to rebuild its conventional arsenal and try to become the pre-eminent Persian Gulf power.[5] In response to these assessments and to reports of Iran's attempts to acquire WMD and delivery means, Congress passed the Iran-Iraq Arms Non-Proliferation Act of 1992 (Title XVI of the National Defense Authorization Act for FY1993, P.L. 102-484). That law requires sanctions against foreign firms (a ban on U.S. government procurement from and technology export licenses to the entity) and foreign countries (a suspension of U.S. economic assistance, and of U.S. technical exchanges and assistance) that "contribute knowingly and materially to the efforts by Iran or Iraq ... to acquire chemical, biological, and nuclear weapons[6] or to acquire *destabilizing numbers and types* of advanced conventional weapons." As discussed below (see section on China), the law did not precisely define "destabilizing numbers and types" of advanced conventional weapons, thereby giving the President discretion to interpret the Act's requirements and to decide whether or not to impose sanctions under the Act.

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[3]Figures provided by the International Institute of Strategic Studies, *The Military Balance, 2000-2001*. Aircraft figures include small numbers of Russian-made aircraft flown to Iran by Iraq at the start of the 1991 Persian Gulf war. Iraq has asked that its aircraft be returned.

[4]*The Military Balance 2000-2001* assesses Iran's arsenal of T-72 tanks at 480, of which 100 were provided by Poland, according to press reports. Iran might have also received small numbers of T-72's from other Eastern European sources, but it is widely believed that the large majority of Iran's T-72's, as well as its 75 T-62 tanks and 400 older model T-54's and T-55's, were provided by Russia.

[5]Gates Warns of Iranian Arms Drive. *Washington Post*, March 28, 1992. P. A1.

[6]The language on chemical, biological, and nuclear weapons was added in 1996 by Section 1408 of P.L. 104-106, the National Defense Authorization Act of 1996.

U.S. officials have argued that the threat of imposing sanctions under the Act helped the United States extract a formal pledge from Russia in June 1995 not to enter any *new* arms contracts with Iran. That pledge was required for the United States to accede to Russia's membership in a multilateral export control regime known as the Waasenaar Arrangement, a successor to the Cold War era Coordinating Committee for Multilateral Export Controls (COCOM). The pledge was obtained after numerous U.S.-Russian discussions on the issue, including at the Clinton-Yeltsin summits in Vancouver, Canada (April 1993), Washington (September 1994), and Moscow (May 1995). Delivering a summary of the achievements of the 1995 Moscow summit, an Administration briefer stated that "The two Presidents have resolved some outstanding issues associated with arms sales to Iran, and as soon as those are recorded and in agreement, it'll be possible to welcome Russia's participation as a founding member of the new post-COCOM regime."[7] Remaining issues were resolved to the Administration's satisfaction in June 1995, and Russia subsequently provided the Administration with a list of military items delivered, or yet to be delivered, under existing contracts with Iran.[8]

The *New York Times* reported on October 13, 2000 that, under the understanding reached with Russia, all deliveries to Iran were to end by December 31, 1999, and that Russia did not honor that element of the arrangement.[9] A partial text of a classified "Aide Memoire" setting out some elements of the U.S.-Russian understandings reached in 1995 regarding Russia's arms sales to Iran was printed in the *Washington Times* on October17, 2000.[10] The printed Aide Memoire notes that "Russia's obligation not to conclude new contracts and other agreements on transfers of arms and associated items to Iran will enter into force upon Russia's invitation to participate in the development of the new regime." The reference to the "new regime"

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[7]White House Briefing. *Reuters*, May 10, 1995.

[8] National Security Adviser Samuel Berger speaking on NBC's "Meet the Press" program on October 15, 2000, said that, although disappointed that Russia did not honor the [December 31, 1999] date for completion of deliveries, sanctions could not be imposed on Russia for arms transfer agreements concluded with Iran prior to the enactment of the Iran-Iraq Arms Nonproliferation Act. Further, Mr. Berger stated that the list of items Russia planned to deliver to Iran, based on prior contracts, was " reviewed at the time by the Pentagon which said that it would not upset the balance of power or balance of forces in the region." Transcript. Meet the Press. October 15, 2000.

[9]*New York Times*, October 13, 2000, p. A24.

[10]*Washington Times*, October 17, 2000, p. A11.The portion of this "Secret" Aide Memoire printed in the paper is not dated, but the newspaper's caption states that it was a 1995 agreement between Vice President Al Gore and Russian Prime Minister Victor Chernomyrdin. The first sentence of the printed item states that the document represents "additional understandings with respect to the Moscow Joint Statement of May 10, 1995" between the United States and the Russian Federation, thus indicating that it was not dated before that time. The *New York Times*, reporting on the same document in an October 13, 2000 article states that it was signed on June 30, 1995, and consisted of "12 paragraphs."The *New York Times* did not print the text, but its report was based in part on a "copy of the aide-memoire and related classified documents" provided to it by a "government official." *New York Times*, October 13, 2000, p.A24.

seems a clear reference to the soon to be established Wassenaar Arrangement.[11] Another point in the Aide Memoire of 1995 states that the Russians were precluded from "the renegotiation or modification of existing contracts so as to increase the type or quantity of arms-related transfers for which Russia is currently obligated." The Aide Memoire makes reference to an Annex (not published), which is part of the overall understanding, that sets out "planned Russian transfers to Iran" and is to represent "the totality of the existing obligations that Russia reserves the right to fulfill pursuant to its undertakings." The Russians, according to the Aide Memoire, are to "terminate all arms-related transfers to Iran not later than 31 December 1999."[12] The *New York Times*, in a October 13, 2000 story, reported that a "classified annex" specified weapons Russia "was committed to supply to Iran: one Kilo-class diesel-powered submarine, 160 T-72 tanks, 600 armored personnel carriers, numerous anti-ship mines, cluster bombs and a variety of long-range guided torpedoes and other munitions for the submarine and the tanks." This story also noted that "Russia had already provided Iran with fighter aircraft, surface-to-air missiles, and other armored vehicles."[13]

The 1995 Aide Memoire also states that in view of the undertakings contained in the "Joint Statement[14] and this Aide Memoire, the United States is prepared to take appropriate steps to avoid any penalties to Russia that might otherwise arise under domestic law with respect to the completion of the transfers disclosed in the Annex for so long as the Russian Federation acts in accordance with these commitments." The Aide Memoire also adds that, "This assurance is premised on the assumption that the Russian disclosures in the Annex are complete and fully accurate." The United States added that it wished "to make clear that while noting Russia's interest in fulfilling its preexisting obligations, it in no way endorses such transfers."[15]

In early November 2000, following the spate of U.S. press articles about the Aide Memoire, Russia informed the United States that, as of December 1, 2000, Russia would no longer consider itself bound by the pledge not to enter into new arms deals with Iran. In response to U.S. criticism of Russia's shift, Russia assured the United States it would sell only "defensive" weapons to Iran, a characterization that was unsatisfactory to the Clinton Administration. A late December 2000 visit to Iran by Russia's Defense Minister resulted in an agreement for Russia to train Iranian military personnel. New sales of Russian arms reportedly were discussed but none were announced. The Clinton Administration criticized the Iran-Russia military

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[11]Russia and 32 other states met in Vienna in July 11-12, 1996 and approved the "Initial Elements" to govern the Wassenaar Arrangement. It thus appears that Russia was "invited" to join the "new regime" sometime prior to that date. Under this formulation, the triggering date for Russia's obligations under the Aide Memoire of 1995 would appear to be no later than the July 11-12, 1996 Vienna meeting of the Wassenaar Arrangement states.

[12]*Washington Times*, October 17, 2000, p. A11.

[13]*New York Times*, October 13, 2000, p. A24.

[14]It is not immediately clear what "Joint Statement" is referred to, as it is not published in the *Washington Times* with the Aide Memoire on October 17, 2000.

[15]*Washington Times*, October 17, 2000, p. A11.

discussions and said the United States would continue negotiations with Russia to reinstate the pledged freeze on new sales to Iran.

Additional legislation, passed by Congress in 1996, attempts to punish suppliers of conventional arms to Iran and other countries on the U.S. "terrorism list." The Anti-Terrorism and Effective Death Penalty Act of 1996 (P.L. 104-132) attempted to build on the Iran-Iraq Arms Non-Proliferation Act by requiring a cutoff of U.S. aid to countries that aid or sell arms to countries on the terrorism list, of which Iran is one. This law, which added a new section 620H to the Foreign Assistance Act, imposes sanctions for any arms sales, not only those considered "destabilizing in number and type." The sanctions apply only to "lethal military equipment provided under a contract entered into after the date of enactment" (April 24, 1996). However, because the Clinton Administration considered subsequent Russian arms sales to Iran as part of a contract signed before the April 1996 law was enacted, no penalties for sales to Iran were imposed. Nor did the Clinton Administration issue a waiver to the provision in order to avoid sanctioning Russia for the Iran sales. (In April 1999, three Russian entities were sanctioned under this provision for arms sales to Syria, but the Russian government and its entities have not been sanctioned for sales to Iran.)

Ballistic Missiles

The Iranian missile program of most immediate concern is the Shahab (Meteor) program. The Shahab-3 (800 to900 mile range, 1,650 lb. payload), which is based on North Korean No Dong missile technology, has been tested three times – in July 1998, July 2000, and September 2000. U.S. officials believe only the July 2000 test was completely successful, but that the program is sufficiently advanced that Iran "could deploy a limited number of the missiles in an operational mode during a perceived crisis.[16] In February 1999, Iran said that the Shahab-4 (1,200 mile range, 2,200 lb. payload), derived from Soviet SS-4 technology, was undergoing testing but would be used only for satellite launches. Iran's Defense Minister has publicly mentioned plans for an even longer range Shahab-5, and in February 2000 testimony before the Senate Intelligence Committee, Director of Central Intelligence George Tenet said that Iran would "probably" possess a ballistic missile capable of delivering a light payload to the United States within the next few years. This contrasted with his testimony the previous year in which he said it would likely take Iran "many" years to develop a missile capable of reaching the United States, although he noted then that foreign assistance could shorten that timetable.

Since late 1996, U.S. officials and published reports have cited Russia, which has been a formal member of the MTCR since August 8, 1995, as a primary supplier of Iran's ballistic missile programs. Press reports and U.S. official statements and reports since 1997 have indicated that Russian entities have provided Iran's missile programs with training, testing equipment, and components including specialty steels and alloys, tungsten coated graphite, gyroscopes and other guidance technology, rocket engine and fuel technology, laser equipment, machine tools, and maintenance manuals.

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[16]Department of Defense. *Proliferation: Threat and Response.* January 2001. P.38.

The Russian technology assistance to Iran has frustrated Clinton Administration and Congress. Through a combination of engagement and selected imposition of sanctions, the Clinton Administration and Congress sought to enlist greater Russian government cooperation in halting the technology flow, with mixed success. Critics in Congress took a different view, arguing for broad and sustained application of sanctions on Russia and its entities on the grounds that the Russian government has been insincere in its pledges to crack down on technology exports to Iran by its entities.

In the 105th Congress, H.R. 2709, the Iran Missile Proliferation Sanctions Act, passed both chambers by large margins. The bill required sanctions, including suspension of U.S. government assistance, on foreign entities (including governmental entities operating as businesses) that assist Iran's ballistic missile programs. However, the Administration vetoed the bill on June 23, 1998 on the grounds that doing so would likely make Russia more recalcitrant rather than promote cooperation to stop the transfers. As justification for the veto, the Administration cited a January 1998 Russian decree tightening technology export controls and a May 1998 implementing directive as evidence of improved Russian government cooperation. In an effort to at least appear cooperative, Russia also began an investigation of eight entities for criminal violations of Russian controls on exports to Iran.

Administration policy on the issue appeared to suffer a setback in July 1998 – only one month after vetoing H.R. 2709 – when Iran first tested its Shahab-3 missile. On July 28, 1998, one week after that test, the Clinton Administration took steps to forestall congressional action to override the veto of H.R. 2709 by issuing Executive Order 13094. The order expanded a previous executive order (12938 of November 14, 1994) to enable the President to ban U.S. trade with, aid to, and procurement from foreign entities assisting WMD programs in Iran or elsewhere. The sanctions contained in the executive orders were similar to those provided in the Iran-Iraq Arms Non-Proliferation Act (see above), although the executive orders focused on sanctioning supplier entities, not governments. Pursuant to the amended executive order, the Clinton Administration sanctioned seven Russian entities[17] believed to be assisting Iran's Shahab program. On January 12, 1999, the Administration sanctioned three additional Russian entities[18] believed helping Iran's missile and nuclear programs.

At the same time, the Clinton Administration tried to provide incentives for Russian cooperation and to prevent this issue from derailing progress on broader U.S.-Russian issues. Claiming that Russia had made progress on export controls, in July 1999 the Clinton Administration increased the quota of Russian launches of U.S. commercial satellites from 16 to 20 launches, with additional launches linked to further export control progress. The Administration praised Russia in April 2000 for

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[17]The entities sanctioned were INOR Scientific Center, Grafit, Polyus Scientific Production Associates, Glavkosmos, the MOSO company, Baltic State Technical University, and Europalace 2000.

[18]The three entities sanctioned were NIKIET (Scientific Research and Design Institute of Power Technology), the D. Mendeleyev University of Chemical Technology, and the Moscow Aviation Institute.

reprimanding the rector of Baltic State Technical University (BSTU) – one of the entities sanctioned by the United States – and cancelling the training of Iranian technical students there. That step was taken after the election of Vladimir Putin as President of Russia, and appeared to signal a U.S. hope and expectation that Putin would be more cooperative with the United States on this issue than was his predecessor, Boris Yeltsin. On April 24, 2000, the United States extended its sanctions on BSTU to the rector, Yuri Savelyev, and simultaneously dropped the sanctions on two other missile-related entities – the INOR Scientific Center and the Polyus Scientific Production Associates (guidance technology). Sanctions on the latter entities were dropped on the grounds that, according to the Clinton Administration, they had ended their technology relationships with Iran. In December 2000, although noting that individual Russian experts continued to sell their expertise to Iran, the Clinton Administration allowed the quota on U.S. commercial use of Russian space launches to expire at the end of 2000. U.S. officials justified the move on the grounds that Russia, in their view, had established better controls over exports by its aerospace firms. [19]

Although progress with Russia has ebbed and flowed, Congress has sought stronger steps to end the missile assistance to Iran. H.R. 2709, the bill vetoed in 1998, was revived in May 1999 with the introduction of H.R. 1883, the Iran Nonproliferation Act. In contrast to its predecessor and to the Iran-Iraq Arms Non-Proliferation Act, H.R. 1883 *authorized*, rather than mandated, the President to impose sanctions on Russian entities that assisted Iran's missile as well as other WMD programs. The bill passed both chambers unanimously, and was signed into law on March 14, 2000 (P.L. 106-178). The sanctions authorized by the new law include:

- a ban on U.S. government procurement from or contracts with the entity.
- a ban on U.S. assistance to the entity.[20]
- a prohibition of U.S. sales to the entity of any defense articles or services
- denial of U.S. licenses for exports to the entity of items that can have military applications ("dual use items").

The bill also included a provision, not contained in the earlier version, that banned U.S. extraordinary payments to the Russian Aviation and Space Agency in connection with the international space station unless the President can certify that the agency or entities under the Agency's control had not transferred any WMD or missile-related technology to Iran within the year prior. The provision contains certain exceptions to ensure the safety of astronauts who will use the space station and for certain space station hardware. In his statement upon signing the bill into law, the President noted that Russia "continues to be a valued partner in the International Space Station." On October 16, 2000, the National Aeronautics and Space

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[19]U.S. to End Quotas on Satellite Launches by Russia, Helping Lockheed's Business. *Wall Street Journal*, December 1, 2000.

[20]As specified in the legislation, the first two bullets are subsections b and c of section 4 of Executive Order 12938, as amended by Executive Order 13094 of July 28, 1998.

Administration (NASA) testified before a House International Relations Committee oversight hearing on implementation of the Iran Nonproliferation Act. The U.S. space agency indicated that it has continued extraordinary payments to Russian entities for work on the space station under an exemption in the Act allowing for payments to ensure space crew safety (Section 6F).

Nuclear Issues

Although apparently convinced that Iran is attempting to acquire a nuclear weapons capability, no U.S. official has claimed that Iran is now on the verge of achieving that capability. However, the degree of uncertainty about the status of Iran's effort was reflected in a January 2000 *New York Times* report , which said that the U.S. intelligence community is unable to accurately track Iran's efforts to acquire nuclear technology and materiel. As a result of that uncertainty, according to the *Times* report, the intelligence community believes Iran could possibly be closer to a nuclear weapons breakthrough than previously believed.[21] The January 2001 Defense Department proliferation report, cited above, said that "[the Defense Department believes] Iran also has an organized structure dedicated to developing nuclear weapons by trying to establish the capability to produce both plutonium and highly enriched uranium." Neither of these capabilities is needed if Iran seeks to produce only electricity from its nuclear plants. The report adds that Iran might try to acquire the fissile material for a nuclear weapon on the black market. On the other hand, many observers point out that Iran is a party in good standing to the Nuclear Non-Proliferation Treaty and has allowed inspections of declared nuclear facilities by the International Atomic Energy Agency.

Since January 1995, when Iran signed an $800 million contract with Russia for the completion of the 1,000 megawatt nuclear power reactor at Bushehr, the Clinton Administration and Congress have been concerned about the potential for Iran to use the project to advance a nuclear weapons program. Although the work on Bushehr is far behind its original schedule, Russia asserted in mid-January 2001 that the project is 90% complete and would begin operations by 2003. Russia simultaneously announced that it was starting preliminary work on a second power reactor at the site. Iranian technicians have begun nuclear plant operations training in Russia.

When the Bushehr contract was first signed, some in Congress said that sanctions should have been imposed on Russia under the Iran-Iraq Arms Non-Proliferation Act. However, the Clinton Administration asserted that the law did not specifically require sanctions for transfers of civilian nuclear technology permitted to be transferred under the NPT. In taking this position, the Clinton Administration signaled that it preferred to work with Russia to end, or at least limit, the scope of the project. The Clinton Administration also sought to separate the issue from broader U.S. - Russian relations by waiving – when possible – provisions of recent foreign aid laws making one half (or more) of U.S. aid to the Russian government contingent on ending assistance to Iran's nuclear and missile programs. The Clinton Administration limited the types of aid subject to cuts so that aid could still flow to local Russian

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[21]Risen, James and Judith Miller. C.I.A. Tells Clinton An Iranian A-Bomb Can't Be Ruled Out. *New York Times*, January 17, 2000.

governments and for humanitarian and nuclear dismantlement programs.[22] On the other hand, as noted above, the Administration did impose sanctions on two Russian entities – the Scientific Research and Design Institute of Power Technology (NKIET) and the D. Mendeleyev University of Chemical Technology – when there was firm evidence that these entities were continuing to help Iran in the nuclear field. (In March 1999, Russia formulated a proposal to halt assistance to Iran by NKIET and Mendeleyev University in exchange for the lifting of sanctions on those two entities. However, the cancellation of the visit to Washington of Russia's former Prime Minister Yevgeny Primakov in March 1999, a result of U.S.-Russian differences on Kosovo, forestalled action on the Russian plan.)

The Clinton Administration's decision to rely primarily on engagement rather than punishment of Russia yielded some benefits. The Administration obtained Russian pledges not to supply Iran with any technology that could contribute to a nuclear *weapons* program, including uranium enrichment equipment. Russia also promised not to allow Iran to reprocess spent nuclear reactor fuel. On the other hand, the January 2001 DoD proliferation report states that "a number of Russian entities are engaged in cooperation with Iran that goes beyond [the Bushehr] project," suggesting the Clinton Administration was not fully satisfied with Russia's implementation of its pledges. In September 2000, the Clinton Administration successfully persuaded Russia to block a sale to Iran by one of its research centers of a laser device that the United States believed Iran would only use for a nuclear weapons program. In regional diplomacy, the Clinton Administration dealt the Bushehr project a setback in March 1998 when visiting Secretary of State Albright initialed an agreement with Ukraine under which it pledged to drop the sale of the turbines for the reactor.

Some in Congress believe that the United States is indirectly helping the Bushehr project – a project the United States strongly opposes – and that such aid should cease. About $1.5 million of the budget of the International Atomic Energy Agency (IAEA), an organization to which the United States contributes, has gone toward technical assistance (primarily training in nuclear safety) to the Bushehr project during 1995-1999. Section 307 of the Foreign Assistance Act of 1961 exempts the IAEA (and UNICEF) from a ban on U.S. contributions to programs in countries named in that section. Ending this IAEA exemption was the subject of bills (H.R. 1477 and S. 834) in the 106th Congress, introduced April 20, 1999. H.R. 1477 passed the House on July 19, 1999 by a 383-1 vote, and was reported out by the Senate Foreign Relations Committee on November 3, 1999. On the other hand, some maintain that funding IAEA assistance to Bushehr ensures that the United States can obtain

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[22]The Clinton Administration formally waived (P.D. 96-24 of May 9, 1996, and P.D. 97-01 of November 8, 1996) the provisions of FY1996 and FY1997 foreign aid appropriations (P.L. 104-107 and P.L. 104-208) — which cut aid to Russia if it proceeds with the Bushehr deal — on the grounds that it was more important to support reformers in Russia. Provisions mandating the cutting of half the U.S. aid to the Russian government for assistance to Iran's nuclear *or missile* programs were included in the FY1998, FY1999, and FY2000 foreign aid appropriations laws (P.L. 105-118, P.L. 105-277, and P.L. 106-113, respectively). The FY2000 law cut U.S. aid to the Russian Federation government only, not to local governments within Russia. The FY2001 foreign aid appropriation (P.L. 106-429) contained a similar measure but increased the aid cut to 60%

information on the Bushehr project. The IAEA also is helping ensure the plant will be operated safely when it becomes operational.

Chemical and Biological Programs

According to the January 2001 DoD proliferation report, in 1998 Iran admitted that it had developed chemical weapons in the later stages of the 1980-1988 Iran-Iraq war but claimed that it unilaterally terminated the chemical weapons program after that war. According to the DoD report, Iran, "In the past, manufactured and stockpiled blister, blood, and choking agents, and weaponized some of these agents into artillery shells, mortars, rockets, and aerial bombs." The report notes that Iran has sought chemical weapons technology and chemical precursors from Russia (and China) in order to create a more advanced and self-sufficient chemical warfare infrastructure. On the other hand, Iran signed and ratified the 1993 Chemical Weapons Convention (CWC) and has allowed visits by the CWC monitoring body, the Organization for the Prohibition of Chemical Weapons.

On biological weapons, the DoD report says that "Iran is believed to be pursuing offensive biological warfare capabilities and its effort may have evolved beyond agent research and development to the capability to produce small quantities of agent." According to the DoD report, Iran has expanded its efforts to acquire "biotechnical" materials and expertise from entities in Russia and elsewhere. Press reports indicate Iran has recruited Russian scientists to work on its biological program.[23] Iran has ratified the Biological Weapons Convention.

U.S. official statements on efforts to dissuade Russian WMD-related technology sales generally omit discussion of chemical or biological technology. U.S. reports, including the August 2000 CIA proliferation report, note that outside assistance to Iran's chemical and biological program is "difficult to prevent, given the dual-use nature of the materials, the equipment being sought, and the many legitimate end uses for these items." The relative absence of public discussion could, alternately, suggest that the provision of Russian chemical or biological technology to Iran has not reached the level at which intense U.S. diplomatic pressure has been deemed warranted.

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[23]Miller, Judith, and Broad, William. Iranians, Bioweapons in Mind, Lure Needy Ex-Soviet Scientists. *New York Times*, December 8, 1998.

China[24]

Although relations between Iran and China have not always been close, Iran was never occupied or invaded by Chinese troops and Iran does not fear long term Chinese ambitions as Iran might fear those of Russia. Iran cut diplomatic relations with China after the People's Republic of China (PRC) was established in 1949. As PRC-Soviet relations worsened in the late 1960s and the 1970s, China saw a strong Iran – even though it was governed by the pro-U.S., anti-Communist Shah – as an obstacle to Soviet aims to expand its influence in the Persian Gulf, according to articles in China's press during that period. After the fall of the Shah in February 1979, Iran-China relations warmed further. In January 1980, China abstained on a U.N. Security Council vote to sanction Iran for the November 4, 1979 seizure of the U.S. Embassy in Tehran.

In an effort to bolster Iran against Iraq, which was backed by the Soviet Union, China established itself as a key arms supplier to Iran soon after the Iran-Iraq war broke out in September 1980. In June 1985, at the height of the Iran-Iraq war, then parliament speaker Ali Akbar Hashemi-Rafsanjani visited Beijing and signed missile technology agreements with China.[25] That visit apparently opened Iran to the supply of Chinese-made Silkworm surface-to-surface anti-ship missiles (55 mile range). During the latter stages of the Iran-Iraq war, which ended in August 1988, Iran fired Silkworms at U.S. Navy-escorted oil tankers in the Persian Gulf and at Kuwaiti oil terminals. During 1987-88, China reportedly built Iran's infrastructure to design, build, and test ballistic missiles and to extend their ranges.

In May 1989, then President (now Supreme Leader) Ali Khamene'i visited China to cement China-Iran defense and political relations. Since 1993, senior Iranian officials have said Iran should counter U.S. pressure on Iran by building new alliances with countries such as India and China. Some observers believe that China has continued to arm Iran, despite the collapse of the Soviet Union, in part to divert U.S. forces from areas near Taiwan and possibly as retribution for continued U.S. arms sales to Taiwan. Others note that China has not cultivated Iran exclusively, but has sought to expand its influence broadly within the Middle East. Those who hold this view point out that China maintains good relations with moderate Arab states including Saudi Arabia and Egypt. Some experts perceive China's interests in Iran as more narrow: China wants to guarantee itself supplies of oil to feed its growing economy, and to earn revenues from sales of weapons and technology to Iran.

As in the Russia case, the United States has a broad agenda with the PRC. Aside from nonproliferation issues, the high priority issues on the U.S.-China agenda include: encouraging a peaceful resolution of the dispute between the PRC and Taiwan, U.S.-PRC trade relations, and China's human rights record. The Clinton

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[24]For further information on China's technology transfers to Iran, see CRS Issue Brief IB92056, *Chinese Proliferation of Weapons of Mass Destruction: Current Policy Issues* by Shirley Kan. For additional background, see also: CRS Report 96-572, *Iran: Military Relations With China*, by Kenneth Katzman.

[25]Carus, Seth and Joseph Bermudez. Iran's Growing Missile Forces. *Jane's Defence Weekly*, July 23, 1988.

Administration maintained that it needed to keep the broader issues in mind when faced with a decision whether or not to impose sanctions on China for its relations with Iran. Some, particularly those who believe the United States should do more to contain the PRC's growing strategic power, argued that the Clinton Administration was too willing to accept China's nonproliferation pledges at face value. Some in Congress have taken this latter view and want to ensure that China is sanctioned if it provides WMD-related technology to Iran. One legislative effort in the 106th Congress was S. 2645 and a companion House bill H.R. 4829, which provided for the same sanctions as those that apply to Russian entities under P.L. 106-178 for any Chinese entities that provide WMD-related technology to Iran (or other countries). Neither bill came to a floor vote. The bill also provided for progressively strong sanctions against the Chinese government and progressively restricted U.S.-China contacts if China is determined by the President to continue to provide WMD-related technology to Iran or other countries.

As discussed below, Clinton Administration efforts slowed China's cooperation with Iranian WMD programs in some areas. However, in the aggregate, the United States continues to see China as a key WMD-related technology supplier to Iran. The visit to China by President Khatemi in June 2000 raised U.S. fears that new WMD or weapons cooperation would be agreed between Iran and China, but both countries strongly denied that the visit involved or resulted in new military cooperation agreements.

Anti-Ship Cruise Missiles And Other Advanced Conventional Weapons

Over the past five years, China has supplied Iran with artillery pieces , tanks, the Chinese version of the SA-2 surface-to-air missile, and 24 F-7 combat aircraft. It is China's past sales to Iran of anti-ship cruise missiles that have caused the most significant U.S. concern, because the missiles improve Iran's ability to strike at U.S. forces and installations or commercial shipping in the Gulf. According to the *Military Balance 1999-2000*, China has delivered to Iran 15 *Hudong* fast attack craft, as well as ten other French-made patrol boats. Of the 15 *Hudong*s, five were delivered to Iran's Revolutionary Guard, which is a bastion of Iran's hardline political elements, and ten went to its regular Navy. The ships are outfitted with about 150 C-802 anti-ship cruise missile (75 mile range), also supplied by China. (The C-802 is not covered under the Missile Technology Control Regime because its range and payload are under the regime's threshold.) Iran tested the Chinese-supplied air-launched C-801K missile (25 mile range) on one of its U.S.-made F-4 Phantom aircraft[26] in June 1997, prompting Secretary of Defense Cohen to assert that Iran posed a "360 degree threat" to U.S. forces. The January 2001 DoD proliferation report says that Iran "may try to develop its own [anti-ship] missiles using technology it already has as a basis for such development efforts." That assessment apparently was supported by an October

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[26]The United States was a major arms supplier Iran when the Shah was in power, and Iran has been able to keep some of its U.S.-supplied equipment operational even though the United States cut off supplies of spare parts and technical assistance to Iran's military after the Islamic revolution.

2000 test by Iran's Revolutionary Guard Navy of a "modified" version of a Chinese-made anti-ship missile, possibly indicating Iran had increased its range.[27]

Congressional debate about the Chinese anti-ship missile transfers centered on whether the transfers, which occurred in the early 1990s, should have triggered U.S. sanctions under the Iran-Iraq Arms Non-Proliferation Act of 1992.[28] In mid-1996, some in Congress pressed the Clinton Administration to impose sanctions on China for the C-802 transfers, and the Clinton Administration said it considered that step. In April 1997, electing to negotiate the issue with China rather than impose sanctions, the Administration determined that the C-802 and C-801 transfers to Iran were "not of a destabilizing number and type" to warrant U.S. sanctions. Some in Congress disagreed with the determination, and the disagreement sharpened after Secretary Cohen's June 1997 statement that the C-801K posed a new threat to U.S. forces in the Gulf.

The issue of sanctions for the C-802 and C-801 sales quieted when China pledged to Secretary of State Albright in September 1997, and again to Secretary of Defense Cohen in January 1998, that it would halt further sales of C-802's and C-801's to Iran. In what appeared to be a Clinton Administration success, U.S. officials say that China is upholding this pledge. However, the *Washington Times* reported on August 19, 1999, that China had agreed to modify Iran's FL-10 anti-ship cruise missiles (20-30 mile range) to enable them to be fired from helicopters or fast attack naval craft. U.S. officials said the reported deal would not violate China's pledges because those assurances applied only to the C-802 and C-801, although some in the Clinton Administration believed the FL-10 deal violated the spirit of those commitments.[29]

Ballistic Missiles

Recent CIA and DoD proliferation reports have said that entities in China supplied ballistic missile-related technology and advice to Iran's Shahab missile program. These assessment appeared to confirm press reports since 1995, such as a November 21, 1996 *Washington Times* report quoted U.S. intelligence sources as saying China had sold Iran guidance technology (gyroscopes and accelerometers) and components to test ballistic missiles, possibly for use in the Shahab program. Other press reports, some quoting U.S. intelligence sources, said China transferred to Iran special steel suited to missile fabrication and telemetry equipment for missile testing, and that it trained Iranian engineers on inertial guidance techniques.[30] There have

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[27]Iran to Test Modified Chinese Missiles Next Week. *Dow Jones Newswire*, October 23, 2000.

[28]This law was amended by Section 1408 the FY1996 defense authorization law (P.L. 104-106) to also sanction the provision to Iran or Iraq of equipment for chemical, biological, or nuclear weapons.

[29] Gertz, Bill. China Agrees to Deal With Iran on Missiles. *Washington Times*, August 19, 1999.

[30]Gertz, Bill. "China Assists Iran, Libya on Missiles." *Washington Times*, June 16, 1998, (continued...)

been no confirmed deliveries of entire M-9 or M-11 ballistic missiles to Iran, both of which are considered to have range/payload combinations that are covered by MTCR guidelines.

The Clinton Administration tried to limit China's missile assistance to Iran primarily through diplomatic engagement. On November 22, 1996, and again on September 10, 1997, the State Department said the United States had not determined that China had violated its March 1992 commitment to adhere to the terms of the MTCR. In March 1998, the Clinton Administration reportedly offered China expanded cooperation on commercial space ventures in return for an end to all Chinese assistance to Iran's ballistic missile programs and its joining the MTCR. In November 2000, the Clinton Administration negotiated an agreement with China under which China issued (November 21) a public statement that it would not assist other countries' efforts to develop ballistic missiles and that it would adopt a control regime for exports of technology that could be used for ballistic missiles. The U.S. insistence that China join the MTCR was dropped, and the Clinton Administration said it would not sanction China for past missile assistance to Iran or Pakistan and that U.S.-China commercial space cooperation would resume. Simultaneously, recipient entities in Pakistan and Iran (the Ministry of Defense and Armed Forces Logistics, the Armed Forces Logistics Command, and the Defense Industries Organization) were sanctioned, although the sanctions (a ban on U.S. trade with and exports to the sanctioned entities) were already in force under broader U.S. sanctions laws and regulations on Iran.

Some subsequent press reports seemed to support critics who urge the United States not to rely too heavily on bilateral anti-proliferation agreements with China. On January 26, 2001, the *Washington Times* quoted unnamed U.S. officials as saying that the Chinese firm Norinco (China North Industries Corporation) had recently shipped specialty metals and chemicals used in missile production to Iran's Shahid (Martyr Bakeri Industrial Group, a defense firm involved in Iran's missile program.[31] The January 2001 DoD proliferation report indicates that Chinese entities continue to provide assistance to Iran's Shahab program.

Nuclear Issues

It is in the nuclear field that the Clinton Administration had the clearest success in limiting China's relationship with Iran. In February 1993, China contracted to construct in Iran two 300 megawatt nuclear reactors and to provide related technology and training.[32] In mid-1997, Administration officials said they had blocked a deal between Iran and a Chinese government-owned firm for the sale to Iran of a "uranium conversion facility," although China reportedly gave Iran blueprints

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[30](...continued)
and "China Still Shipping Arms Despite Pledges," *Washington Times*, April 15, 1999.

[31]Gertz, Bill. Beijing Using Front Companies to Grab U.S. Arms Technology. *Washington Times*, January 26, 2001.

[32]During 1985-87, China supplied Iran with a small research nuclear reactor and an electromagnetic isotope separator (calutron).

for the facility.[33] In advance of the October 1997 U.S.-China summit, the Administration said it received a firm written assurance that China would end its nuclear relations with Iran (not build the reactors), although two small ongoing projects would be completed. One project is to supply Iran's civilian nuclear program with a zirconium production facility, for which IAEA safeguards are not required, and a small research reactor, which the United States judges does not pose a significant proliferation concern.

The Administration apparently extracted the PRC pledge by promising, in exchange, to certify to Congress that China is cooperating to end nuclear proliferation. This certification, required by P.L. 99-183 and issued in January 1998, opened China to nuclear cooperation with the United States under a 1985 bilateral agreement. Congress did not formally disapprove within the thirty legislative day period, and the certification took effect on March 18, 1998. The August 2000 CIA report and the January 2001 DoD proliferation report, cited above, both said that China is living up to that pledge. Some believe that the phaseout of China's nuclear relations with Iran was the result more of an Iranian decision to cooperate with Russia instead than of Administration intercession with China. In addition, there reportedly were technical and financial disagreements between the PRC and Iran over the construction of the reactors.

As noted above, during June 22-26, Iran's President Khatemi made a state visit to China, raising concerns that nuclear or other WMD cooperation might be revived or expanded. A few days after the visit ended, Khatemi issued a statement that nuclear cooperation was not discussed during his visit. The Clinton Administration did not publicly express proliferation concerns about the outcome of the visit. This could indicate that China probably did not enter into discussions or agreements with Khatemi that would potentially lead to violations of China's pledge to wind down nuclear assistance to Iran.

Chemical and Biological Programs

In the past, U.S. officials have identified Chinese firms as suppliers of Iran's chemical weapons program. On May 22, 1997, Secretary of State Albright imposed U.S. sanctions, under the Chemical and Biological Warfare Elimination Act of 1991 (P.L. 102- 182), on two PRC firms (Nanjing Chemical Industries Group and Jiangsu Yongli Chemical Engineering and Technology Import/Export Corp.) and one Hong Kong firm (Cheong Lee Ltd.) for knowingly and materially aiding Iran's chemical weapons programs. The Administration said there was no evidence the PRC government was aware of the transfers. On June 10, 1997, the State Department announced suspension of an Exim Bank loan for a U.S. firm's exports to the Nanjing firm above. The sanctions remain in effect, and in June 1998, China expanded chemical export controls to include ten chemicals not banned for export under the Chemical Weapons Convention but included in the more restrictive "Australia Group" chemical export control list. The January 2001 DoD proliferation report notes, however, that "...Iran has continued its efforts to seek production technology,

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[33]Pomfret, John. "U.S. May Certify China on Curbing Nuclear Exports." *Washington Post*, September 18, 1997. P.A28.

expertise, and precursor chemicals from entities in Russia and China that could be used to create a more advanced and self-sufficient chemical warfare infrastructure. The report did not clarify whether or not Iran had succeeded in obtaining CW materials from China, but additional PRC entities presumably would have been sanctioned had the United States learned of completed transactions.

North Korea

North Korea has tended to align itself with countries in the Middle East, such as Iran, Libya, and Syria, that have opposed U.S. policy in the region or have hosted terrorist organizations.[34] Pyongyang's motive, according to many observers, has been to serve its own interests by building alliances with countries that oppose U.S. global influence. North Korea supported the 1979 Islamic revolution in Iran, which overthrew a key U.S. ally, the Shah. In supporting Iran and its anti-U.S. ideology, North Korea sought to undermine the legitimacy of the U.S. military presence in South Korea. North Korea also has sought to earn hard currency from sales of arms and technology to Middle Eastern countries. Over the past decade, North Korea and Iran have been drawn together, in part, by U.S. references to both of them as "rogue states" and as targets of U.S. economic sanctions. It is not clear whether the Bush Administration will continue the engagement policy with North Korea that was followed during the later years of the Clinton Administration. Some disagree on whether the engagement policy yielded tangible benefits to U.S. efforts to curb North Korea's technology assistance to Iran.

Ballistic Missiles

North Korea's relationship with Iran appears mostly limited to ballistic missiles, building on a long-standing missile relationship with Iran.[35] During Iran's war with Iraq, North Korea provided Iran with about 100 Scud-B ballistic missiles, as well as facilities in which Iran could produce the Scud-B indigenously.[36] North Korea also reportedly sold Iran conventional weapons, including minisubmarines and mines, and provided training to Iran's Revolutionary Guard. Some reports suggest that North Korea helped Revolutionary Guard naval units track and target U.S. ships during their skirmishes with U.S. forces in the Gulf in 1987-88). In 1991, North Korea reportedly began to supply Scud-C missiles to Iran and, in 1992, the State Department sanctioned Iran's Ministry of Defense and Armed Forces Logistics, along with two North Korean firms, for alleged missile proliferation activities. In March 1992, U.S. Navy ships tracked – but did not attempt to intercept – a North Korean ship, believed

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[34]For further discussion of possible North Korean motives and interests in the Middle East, see CRS Report 94-754, North Korea: Military Relations With the Middle East. September 27, 1994, by Kenneth Katzman and Rinn-Sup Shinn.

[35]The core of Iran's current missile force consists of 200-300 North Korean-supplied Scud-B and Scud-C missiles, with ranges of 320 km and 500 km respectively. North Korea has also supplied ten to fifteen mobile launchers.

[36]Bermudez, Joseph. Ballistic Missiles in the Third World - Iran's Medium Range Missiles. *Jane's Intelligence Review*, April 1992.

to be carrying Scud-C missiles, that docked in Iran. (In August 2000, North Korean leader Kim Jong-Il publicly admitted that North Korea had sold complete missiles to Iran and Syria. Iran refuted Kim's assertion.)

In the early 1990s, Iran reportedly discussed with North Korea the purchase of North Korean-made Nodong 1 missiles (1,000 mile range). Iranian officials attended test launches of the Nodong 1 during its development in North Korea, according to a number of press reports. U.S. scrutiny of the Iran-North Korea relationship, U.S. sanctions on North Korean entities, and U.S.-North Korea talks on missile exports[37] apparently contributed to Iran's decision to build the Shahab missile indigenously, based on the Nodong design. In May 1996, one month after the first U.S.-North Korea talks on missile exports to Iran (and other Middle Eastern countries), the Administration issued another determination[38] that entities in Iran and North Korea had engaged in missile proliferation activities. On August 6, 1997, following another round of U.S.-North Korea missile talks, the United States imposed trade sanctions on two North Korean firms for missile-related activities believed to involve Iran and Pakistan.

The Clinton Administration's engagement of North Korea began gradually in 1994 with a U.S. effort to halt North Korea's nuclear program and, later, its development of missiles capable of hitting the United States. These are issues that the Clinton Administration considered vital to the national security of the United States and its troops in South Korea. A key additional U.S. aim was to curb North Korea's ballistic missile technology relationship with Iran and other countries, although the North Korean nuclear and missile program itself clearly took priority.

The engagement process included humanitarian relief and then progressively higher levels of diplomatic contact. In May 1999, U.S. envoy to North Korea, former Defense Secretary William Perry, reportedly offered a lifting of U.S. sanctions on North Korea in exchange for a halt to its testing of missiles and an end to its exports of missile technology to the Middle East and Pakistan. In September 1999, the United States partially lifted its economic sanctions on North Korea in response to a September 1999 North Korean conditional pledge to suspend testing of long range missiles. The sanctions easing was not linked to any North Korean pledge to suspend missile exports to the Middle East, although the Clinton Administration continued to discuss that issue with North Korea. In July 2000, U.S.-North Korea talks on missile exports faltered when the United States refused North Korea's demand that it receive $1 billion annually for three years to compensate for the halting of exports. The Clinton Administration appeared to be on the verge of a broad nonproliferation agreement with North Korea before President Clinton left office, but no agreement was finalized. Because some of the nonproliferation issues were not resolved by the end of his term, President Clinton did not go forward with a late-term visit to North Korea.

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[37]These talks are a by-product of the October 1994 "Agreed Framework" on limiting North Korea's nuclear program.

[38]See *Federal Register*, June 12, 1996. P. 29785. Bureau of Political-Military Affairs, Department of State. Public Notice 2404.

In the course of engaging North Korea, the Clinton Administration continued to sanction North Korean entities that were known to be assisting Iran. In February 2000, U.S. intelligence officials indirectly confirmed press reports that North Korea had delivered to Iran 12 engines that would be critical to Iran's efforts to build extended-range Shahab missiles.[39] Two months later, on April 6, 2000, the Department of State imposed sanctions on one North Korean and four Iranian entities for engaging in missile technology proliferation activities. The sanctions were imposed pursuant to the Arms Export Control Act and the Export Administration Act, as carried out under Executive Order 12924 of August 19, 1994. The North Korean entity sanctioned was the Changgwang Sinyong Corporation; the four Iranian entities sanctioned were: the Ministry of Defense and Armed Forces Logistics; the Aerospace Industries Organization; the Shahid Hemmat Industrial Group, and the Sannam Industrial Group. In practice, the sanctions (no U.S. licenses for exports to these entities, no U.S. government contracts with the entities, and no imports to the United States of products from these entities) will have little or no effect. The United States does not export to or contract with these entities, and no Iranian or North Korean products permitted to be imported to the United States are produced by these organizations.

Despite U.S. efforts to halt North Korean exports of technology to the Middle East, by all accounts North Korean assistance to Iranian weapons programs is continuing. The January 2001 DoD proliferation report says that "Iran's plans to develop long range missiles come "against the backdrop of sustained cooperation with Russian, North Korean, and Chinese entities..."

Anti-Ship Missiles

Some reports have appeared recently to suggest that Iran and North Korea have begun to cooperate on anti-ship missiles. According to press reports in early 2000, Iran sent to North Korea a few of the C-802 anti-ship missiles Iran bought from China.[40] Iran reportedly has asked North Korea to help upgrade the accuracy of the missiles. Iran might also be seeking to persuade North Korean to manufacture the missile – or provide Iran the technology to produce the missile itself – to compensate for China's cutoff of additional supplies of the C-802.

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[39]Gertz, Bill. 'Critical' N. Korea Missile Parts Seen Aiding Iran's Program. *Washington Times*, February 10, 2000.

[40]NK, Iran Jointly Developing Missile: Newspaper. *Kyodo News International*, February 16, 2000.

Other Suppliers

Information on Iranian efforts to acquire weapons and technology from other suppliers appears sketchy, and suggests that Iran is scouring the globe for suppliers of scarce technologies. Many press reports describe Iranian attempts to purchase these goods, or U.S. efforts to dissuade other countries from proceeding with sales to Iran. Major examples include the following:

- Poland sold Iran 100 T-72 tanks in 1994, and subsequently pledged to the United States not to sell Iran any additional tanks.

- In 1997, the U.S. Department of Defense purchased 21 Russian-made MiG-29's from Moldova after reportedly receiving information that Iran was seeking to buy the aircraft.

- As noted above, in 1998 the U.S. Administration successfully dissuaded Ukraine from supplying key turbines for the Bushehr nuclear reactor project.

- In 1999, a Czech firm, ZVVZ Milevesko, signed a contract to supply air conditioning technology for the Bushehr reactor. The Administration asked the Czech government to ban that sale, and the Czech government subsequently drafted legislation preventing Czech firms from supplying the plant. In April 2000, the lower house of the Czech parliament rebuffed objections from the upper Senate in passing the law, which is expected to be signed by President Vaclav Havel.

- The August 2000 CIA nonproliferation report notes that Tehran "expanded its efforts to seek considerable dual-use biotechnical materials, equipment, and expertise from abroad – primarily from entities in Russia *and Western Europe* – ostensibly for civilian uses. The report added that "entities in Western European countries in particular remain significant suppliers for [Iranian and Libyan] WMD programs. Past CIA nonproliferation reports have said that Indian firms had supplied Iran's chemical weapons program, although the 2000 and 2001 U.S. government proliferation reports do not mention India specifically as a supplier to Iran.