

# CRS Report for Congress

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## Disarming Libya: Weapons of Mass Destruction

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### Summary

On December 19, 2003, Libya announced it would dismantle its weapons of mass destruction (WMD) and ballistic missile programs. Since then, U.S., British, and international officials have inspected and removed or destroyed key components of those programs, and Libya has provided valuable information, particularly about foreign suppliers. Libya's WMD disarmament has been a critical step towards reintegration into the world community. This report will be updated as needed. See CRS Report RL33142, *Libya: Background and U.S. Relations*, by Christopher Blanchard.

### Background<sup>1</sup>

On December 19, 2003, Libya announced it would dismantle its weapons of mass destruction (WMD) programs and open the country to immediate and comprehensive verification inspections. Libya pledged to eliminate its chemical and nuclear weapons programs, subject to International Atomic Energy Agency (IAEA) verification; eliminate ballistic missiles with a 300 km range or greater and a payload of 500 kilograms; accept international inspections to fulfill Nuclear Nonproliferation Treaty (NPT) obligations; and sign the Additional Protocol.<sup>2</sup> Further, Libya would eliminate all chemical weapons stocks and munitions and accede to the Chemical Weapons Convention (CWC); and allow immediate inspections and monitoring to verify these actions.<sup>3</sup> Since December 2003, Libya has also agreed to abide by the Missile Technology Control Regime (MTCR) guidelines, and signed the Comprehensive Test Ban Treaty.

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<sup>1</sup> This update was prepared with the assistance of Andrew Demkee, research associate.

<sup>2</sup> The Additional Protocol, INFCIRC-540, gives the International Atomic Energy Agency (IAEA) additional access to information and sites within a country for nuclear safeguards purposes. The United States has signed but not yet ratified the protocol.

<sup>3</sup> The White House, "Fact Sheet: The President's National Security Strategy to Combat WMD, Libya's Announcement," December 19, 2003.

Libya's decision likely rested on several factors. The burden of 30 years of economic sanctions had significantly limited oil exports and stagnated the Libyan economy, making the prospect of renewed international investment that would follow a renunciation of WMD very attractive. Further, Libya's elimination of its WMD programs was a necessary condition for normalizing relations with the United States.<sup>4</sup> The Administration has attributed Libya's decision to abandon its WMD to President Bush's national security strategy. Some officials claim that Iraq's example convinced Libya to renounce WMD; others point specifically to the interdiction of centrifuge parts (used for uranium enrichment) in October 2003. Still other observers have suggested that Libya's WMD programs were not very successful, while ending Libya's pariah status became particularly important to Colonel Qadhafi. At least two accounts record Libyan offers to renounce its WMD programs dating back to 1992 and 1999.<sup>5</sup>

## Prior Assessments of WMD Programs

Despite Libya's membership in the NPT (from 1975) and the Biological and Toxin Weapons Convention, or BWC, (from 1982), most observers believed Libya was pursuing a range of WMD programs, albeit not entirely successfully. The Bush Administration noted in 2003 that "we have long been concerned about Libya's longstanding efforts to pursue nuclear, chemical and biological weapons and ballistic missiles."<sup>6</sup> Libya continues to deny any BW program, but its chemical weapons capability (including use of CW against Chad in the 1980s and facilities at Rabta and Tarhuna) was well known. Libya's ballistic missile arsenal was comprised of Scud Bs (300-km, 700 kg payload) acquired from the former Soviet Union, a handful of North Korean Scud-Cs (600-km, 700 kg payload), and a 500-700km-range missile under development, called Al Fatah. The Al Fatah program reportedly continued throughout the 1990s, although hampered by international sanctions. Israeli intelligence claimed also that Libya had received 1300-km-range *No Dong* missiles from North Korea, but U.S. intelligence disputed this notion.<sup>7</sup> A 2001 National Intelligence Council assessment stated that "Libya's missile program depends on foreign support, without which the program eventually would grind to a halt."<sup>8</sup> Libya signed the International Code of Conduct Against Ballistic Missile Proliferation (ICOC) in November 2002.

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<sup>4</sup> "In Giving Up Arms, Libya Hopes to Gain New Economic Life," *Wall Street Journal*, February 12, 2004.

<sup>5</sup> Gary Hart, "My Secret Talks with Libya, and Why They Went Nowhere," *Washington Post*, Jan. 18, 2004; and Martin Indyk, "Was Kadafi Scared Straight? The Record Says No," *Los Angeles Times*, Mar. 28, 2004.

<sup>6</sup> Under Secretary of State John Bolton, Testimony before House International Relations Committee, June 4, 2003.

<sup>7</sup> Joseph Bermudez, "Ballistic Missile Development in Libya," *Jane's Intelligence Review*, January 2003, pp 27-29.

<sup>8</sup> Central Intelligence Agency, National Intelligence Council, *Foreign Missile Developments and the Ballistic Missile Threat Through 2015*, December 2001. p. 12.

## New Evidence: Inspections

According to many reports, Libyan officials approached British officials in March 2003 with an offer to give up their WMD programs. After several months of secret negotiations, U.S. and British officials first inspected Libyan weapon sites, laboratories, and military factories in October 2003.<sup>9</sup> This coincided with the interdiction in the Italian port of Taranto of a shipment of uranium enrichment centrifuge equipment ultimately bound for Libya. Initial visits revealed more extensive Libyan nuclear activities than previously thought, and significant quantities of chemical agent. Thus far, U.S. and British officials apparently have found no evidence of an offensive biological weapons program. Some observers have suggested that each of Libya's programs suffered from shortages of parts and technical expertise as a result of years of sanctions.<sup>10</sup>

Libya has provided significant information about its nuclear, chemical, and missile programs, including data on foreign suppliers. In fact, Libya's revelations about Pakistani scientist A.Q. Khan's nuclear black market dealings have aided IAEA inspections of Iran's nuclear program and helped prompt Pakistan to investigate Khan.

**Nuclear Program.**<sup>11</sup> Many observers over the years discounted Libya's nuclear weapons program because of its failure to procure key components and lack of indigenous resources and expertise. Yet, Libya's declarations revealed that A.Q. Khan seemed to have solved the procurement problem, if not the problem of expertise.<sup>12</sup> In 1997, Libya acquired 20 pre-assembled P-1 centrifuges and the components for another 200. Libya constructed three different enrichment cascades, but only the smallest (using 9 centrifuges) was completely installed by 2002. In 2000, Libya received 2 centrifuges of a more advanced design (P-2 using maraging steel) and placed an order for 10,000 of those. Assistance on centrifuge enrichment reportedly came from A.Q. Khan, former head of Pakistan's enrichment facility. Khan reportedly also provided Libya with an actual nuclear weapons design, which was handed over to IAEA inspectors in December 2003 and sealed on-site. According to one source, the design closely resembles a 1960s-vintage Chinese nuclear warhead.<sup>13</sup> One report suggested that such a warhead would not fit on Libya's SCUD-C missiles and that key parts of the weapons design were missing.<sup>14</sup> Libya also dabbled in separating minute quantities of plutonium between 1984 and 1990.

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<sup>9</sup> "Secret Diplomacy Won Libyan Pledge on Arms," *New York Times*, December 21, 2003.

<sup>10</sup> *Ibid.*

<sup>11</sup> This section draws on a report by the International Atomic Energy Agency on Libya's nuclear program. See GOV/2004/12, "Implementation of the NPT Safeguards Agreement of the Socialist People's Libyan Arab Jamahiriya," February 20, 2004.

<sup>12</sup> Libyan officials claim they did not even assess the credibility of the nuclear weapons design they received because they had no national personnel competent to evaluate the data. GOV/2004/12, p. 6.

<sup>13</sup> "Warhead Blueprints Link Libya Project to Pakistan Figure," *New York Times*, February 4, 2004, p. 1.

<sup>14</sup> "Libya Was Far From Building Nuclear Bomb," *Wall Street Journal*, February 23, 2004.

**Chemical Weapons Program.** Libya declared to the Organization for the Prohibition of Chemical Weapons (OPCW) on March 5, 2004 that it had produced approximately 23 tons of mustard agent in one chemical weapons production facility (Rabta) between 1980 and 1990 and stored those materials in two storage sites. Libya also declared thousands of unfilled munitions.<sup>15</sup>

**Ballistic Missile Program.** Libya pledged to eliminate all ballistic missiles with a range of 300 kilometers and a payload of 500 kilograms or greater. In early 2004, Libya relinquished 5 North Korean Scud-C missiles, which U.S. officials described as an “emerging” Scud-C program.<sup>16</sup> Libya hoped to convert its Scud-B arsenal, estimated at between 80 and a few hundred, into shorter-range, defensive purpose missiles and end military trade with North Korea.<sup>17</sup> According to one source, in February 2005, Libya asked the United States to buy 417 Scuds for \$2 million each; the United States reportedly bought ten for testing.<sup>18</sup> There is no further information on the status of the Al Fatah program. Libya’s missile pledge will leave Libya primarily with shorter-range cruise missiles — SS-N-2c Styx, Otomat Mk2, and Exocet anti-ship cruise missiles.

## Eliminating Libyan WMD<sup>19</sup>

The United States eliminated the most sensitive aspects of Libya’s WMD and missile programs first. On January 22, 2004, nuclear weapons design information was sent to the United States and days later, U.S. officials airlifted about 55,000 pounds of documents and components from Libya’s nuclear and ballistic missile programs to Oak Ridge, Tennessee. Nuclear components included several containers of uranium hexafluoride (used as feedstock for enrichment); 2 P-2 centrifuges from Pakistan’s Khan Research Laboratories and additional centrifuge parts, equipment, and documentation. Beginning in December 2003, IAEA inspectors visited Libya to confirm its declarations. Since then, the IAEA has had unlimited access to requested locations and has verified the consistency of Libya’s declarations concerning its uranium conversion program, enrichment program, and other past nuclear-related activities. Libya has applied the Additional Protocol, which it ratified on August 8, 2006, on an interim basis since December 2003.

In March 2004, over 1,000 tons of additional centrifuge parts and MTCR-class missile parts reportedly were shipped from Libya, including five Scud-C missiles, partial missiles, missile launchers, and related equipment. Russia also removed 17 kg of fresh, 80% highly enriched uranium it had supplied in the 1980s to the 10-megawatt research

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<sup>15</sup> “Libya Submits Initial Chemical Weapons Declaration,” OPCW Press Release, Mar. 5, 2004, [[http://www.opcw.org/html/global/press\\_releases/2k4/PR8\\_2004prt.html](http://www.opcw.org/html/global/press_releases/2k4/PR8_2004prt.html)].

<sup>16</sup> Paula A. DeSutter, Assistant Secretary of State for Verification and Compliance, Testimony before Subcommittee on International Terrorism, Nonproliferation and Human Rights, House International Relations Committee, September 22, 2004, “Completion of Verification Work in Libya,” p. 2.

<sup>17</sup> “U.S. Says Libya Will Convert Missiles To Defensive Weapons,” *New York Times*, Apr. 11, 2004.

<sup>18</sup> See [[http://www.nti.org/e\\_research/profiles/Libya/Missile/3840\\_5214.html](http://www.nti.org/e_research/profiles/Libya/Missile/3840_5214.html)]

<sup>19</sup> Paula A. DeSutter, Assistant Secretary of State for Verification and Compliance, Testimony before House International Relations Committee, March 10, 2004.

reactor at Tajura, which the United States plans to help convert to use low-enriched uranium fuel.<sup>20</sup>

Libya continues the dismantlement of its chemical weapons program and has requested formal assistance from the United States for the destruction of its remaining chemical weapons stockpile. The OPCW visited Libya first in February 2004, after Libya acceded to the CWC. The OPCW has supervised the on-site destruction of more than 3,500 unfilled shells for CW. Destroying the mustard agent, however, is a bit more complicated, and will require a destruction plan and a special facility for destruction. In June 2006, Defense Threat Reduction Agency Director James Tegnalia estimated the cost of destruction at \$100 million, given the location of the chemicals in a remote desert area. Libya requested and received an extension of the CWC requirement to destroy all its chemical weapons and production capacity by April 29, 2007.<sup>21</sup> Libya also received permission from the OPCW to convert the Rabta facility to produce pharmaceuticals.<sup>22</sup>

In September 2004, Libya, the United States, and the UK established the Trilateral Steering and Cooperation Committee (TSCC) to oversee the final stages of elimination of Libya's WMD and MTCR-class missile programs and to promote cooperation.<sup>23</sup>

## Lifting Sanctions<sup>24</sup>

Libya had been subject to one of the strictest U.S. sanctions regimes as a result of its support of international terrorism.<sup>25</sup> Libya's cooperation in several areas has allowed sanctions to be lifted. In September 20, 2004, President Bush made three determinations about Libya that would allow lifting certain sanctions pursuant to the Arms Export Control Act (AECA) and the Export-Import Bank Act of 1945. First, he determined:

- that Libya received nuclear enrichment equipment, material or technology after August 1977;
- that the continued termination of assistance under Section 101 of the AECA would have a serious adverse effect on vital U.S. interests; and

<sup>20</sup> Fresh low-enriched uranium to fuel the reactor was sent in the summer of 2006; once the reactor is converted to use such fuel, the irradiated HEU will be removed.

<sup>21</sup> "Libya Submits Initial Chemical Weapons Declaration," Organization for the Prohibition of Chemical Weapons (OPCW) Press Release, The Hague, The Netherlands, March 5, 2004, [[http://www.opcw.org/html/global/press\\_releases/2k4/PR8\\_2004prt.html](http://www.opcw.org/html/global/press_releases/2k4/PR8_2004prt.html)].

<sup>22</sup> On November 30, 2004, State Parties to the CWC adopted a change to Part V of the Verification Annex of the CWC at the Ninth Session of the Conference of States Parties.

<sup>23</sup> Assistant Secretary of State for Verification and Compliance Paula A. DeSutter, testimony before Subcommittee on International Terrorism, Nonproliferation, and Human Rights, September 22, 2004. See [<http://www.state.gov/t/vc/rls/rm/2004/37220.htm>].

<sup>24</sup> See CRS Report RL32604, *Libya: Legislative Basis for U.S. Economic Sanctions*, by Dianne E. Rennack.

<sup>25</sup> Katzman, Kenneth. *U.S.-Libyan Relations: An Analytic Compendium of US Policies, Laws & Regulations*, The Atlantic Council, August 2003. The United States cut off military sales in 1979; banned travel and oil imports from Libya in 1982; and banned commercial and financial transactions in 1986. Also banned were direct or indirect foreign aid or aid to international organizations that might benefit Libya, Export-Import Bank transactions, third country transactions with Libya, and liquidating or transferring Libyan property in the United States.

- that he has received reliable assurances that Libya will not acquire or develop nuclear weapons or assist other nations in doing so.

Second, he determined that Libya sought and received design information intended for use in the development or manufacture of a nuclear explosive devices, and that the application of sanctions would have a serious adverse effect on vital U.S. interests, pursuant to Section 102 (b) of the AECA. Third, he determined that, pursuant to Section 2 (b) (4) of the Export-Import Bank Act of 1945, it is in the national interest for the Export Import Bank to guarantee, insure, or extend credit, or participate in the extension of credit in support of U.S. exports to Libya.<sup>26</sup> President Bush also rescinded the national emergency with respect to Libya and lifted trade, travel, and commercial restrictions. Further measures included releasing \$1.3 billion in frozen assets, providing OPIC guarantees, and removing restrictions on direct flights between Libya and the United States. Libya was finally removed from the list of state sponsors of terrorism on June 29, 2006.

## Issues for Congress

Prior to Libya's removal from the list of state sponsors of terrorism, U.S. assistance in WMD dismantlement was limited to funding provided by the State Department's Nonproliferation and Disarmament Fund (NDF), because such funds are not restricted by limits imposed by other laws. Since 2004, NDF has committed about \$34.2 million to the WMD disarmament process in Libya, including funds for:

- removal of equipment and material (\$5 million);
- retraining of former WMD scientists and personnel (\$2.5 million);
- export control assistance (\$1 million);
- securing radiological sources (\$ .7 million); and
- destroying chemical weapons and agents (\$25 million).

State Department officials estimate that about \$20 million more will be required to help Libya destroy the rest of its chemical stockpile.

Senator Lugar has stated that the NDF "does not have the size, scope, or experience to do dismantlement operations, to employ nuclear scientists, or undertake longer term nonproliferation efforts." One possibility is to use Cooperative Threat Reduction (CTR) funds for these activities, which became theoretically possible with the expansion of the application of CTR funds since FY2004,<sup>27</sup> but which was impossible in a practical sense before July 2006 because of Libya's status as a state sponsor of terrorism. CTR funds may also contain more restrictions than NDF funds, particularly in contractual requirements. Congress may wish to consider whether to provide additional assistance to Libyan disarmament, and if so, how.

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<sup>26</sup> President Determination No. 2004-44, September 10, 2004, 69 F.R. 56163

<sup>27</sup> The FY 2004 National Defense Authorization Act (P.L. 108-176) approved expansion of Nunn-Lugar programs to other nations outside the former Soviet Union, limiting expenditures to \$50 million of unobligated funds.