

# Libya Biological Chronology

Last update: May 2010

**As of May 2010, this chronology is no longer being updated.  
For current developments, please see the Libya Biological Overview.**

*This annotated chronology is based on the data sources that follow each entry. Public sources often provide conflicting information on classified military programs. In some cases we are unable to resolve these discrepancies, in others we have deliberately refrained from doing so to highlight the potential influence of false or misleading information as it appeared over time. In many cases, we are unable to independently verify claims. Hence in reviewing this chronology, readers should take into account the credibility of the sources employed here.*

*Inclusion in this chronology does not necessarily indicate that a particular development is of direct or indirect proliferation significance. Some entries provide international or domestic context for technological development and national policymaking. Moreover, some entries may refer to developments with positive consequences for nonproliferation.*

## 2007-1971

### 10-14 December 2007

A Libyan delegation of two attends the Biological Weapons Convention Meeting of Experts in Geneva, Switzerland. In his statement to the meeting the Libyan representative describes the efforts of his government in support of BWC implementation including "setting up the National Committee for Biological Morality," hosting a variety of seminars and introducing legislation to regulate the handling of biological materials.

— *List of Participants BWC/MSP/2007/INF 1*, 14 December 2007, p. 17, [www.opbw.org](http://www.opbw.org); *Transcript of the Statement by the Libyan Arab Jamahiriya to the 2007 Meeting of States Parties of the Biological Weapons Convention*, [www.opbw.org](http://www.opbw.org).

### 20-24 August 2007

A Libyan delegation of five attends the Biological Weapons Convention Meeting of Experts in Geneva, Switzerland.

— *List of Participants BWC/MSP/2007/MX/INF 3*, 24 August 2007, p. 15, [www.opbw.org](http://www.opbw.org).

### 20 November - 8 December 2006

Five Libyan representatives attend the Sixth Review Conference of the Biological and Toxin Weapons Convention (BWC) was in Geneva, Switzerland. In his speech to the plenary session Mr. Mohammed Mansour Elcherif expressed Libya's disappointment "that the States Parties have not yet reached a mechanism for the enforcement and implementation of Convention. We had said that we need to go back to the Additional Protocol as it being the best solution."

— *The CBW Conventions Bulletin*, No. 74 (December 2006), p. 13; *List of Participants BWC/CONF.VI/INF.8*, 24 August 2007, p. 22, [www.opbw.org](http://www.opbw.org).

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.

### **26 June 2006**

In Tripoli, Libyan Secretary for European Affairs Abdullati Obidi and UK Minister of State for the Foreign Office Kim Howells sign an agreement under which the UK pledges to seek UN Security Council action in the event that Libya is attacked with chemical or biological weapons. The agreement also sets out a joint pledge to fight the proliferation of weapons of mass destruction. "I believe that this mutual commitment will serve as an example to other states that there is a route back into the international community and the advantages of Libya's WMD decision," says Howells.

— *The CBW Conventions Bulletin*, No. 72+73 (September 2006), p. 38.

### **May 2006**

The US Central Intelligence Agency submits its *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions 1 January - 31 December 2004* in accordance with S.721 of the FY1997 Intelligence Authorization Act. In respect to Libyan BW efforts, the report states that: "Libya disclosed past intentions to acquire equipment and develop capabilities related to biological warfare, but it remained unclear if those activities were offensive or defensive in nature. At the expert teams' request, Libya provided access to a number of civilian medical-, bio-technical-, and agricultural-related research centers and scientists that had "dualuse" potential to support BW-related work."

— *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions 1 January - 31 December 2004* (Washington, DC: Office of the Director of Central Intelligence, 2006), p. 4, [www.dni.gov](http://www.dni.gov).

### **13-24 June 2005**

Libyan representatives attend the Biological Weapons Convention Meeting of Experts to consider "the content, promulgation, and adoption of codes of conduct for scientists".

— *The CBW Conventions Bulletin*, No. 68 (June 2005), p. 16-19.

### **13 June 2005**

Addressing the opening session of the Biological Weapons Convention Meeting of Experts Libya recalled the efforts that had been made to negotiate a legally binding instrument to implement all Articles of the Convention. Libya noted that without such an instrument it was difficult to verify that there was no non-compliance with the Convention and expressed the view that the best way to enhance the Convention was through a legally binding instrument. The statement went on to outline a number of measures that had been taken, frequently with the UK and the US, to show Libya's compliance with the Convention and its good intentions.

— *The CBW Conventions Bulletin*, No. 68 (June 2005), p. 16.

### **31 March 2005**

The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction presents its final report to the President. In regard to Libya's WMD efforts the report notes that the Commission "compared the Intelligence Community's judgments concerning Libya's weapons programs before Tripoli's decision to open them to international scrutiny with current assessments, thereby providing a rare 'before' and 'after' study of US intelligence assessments." The report concluded "that collection and analytic efforts with regard to Libya's

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.

weapons programs ... represent, for the most part, an Intelligence Community success story." It went on to note that "[s]ome discrepancies did exist between analysts' judgments prior to 2003 and the realities found in Libya." One of these discrepancies was that "no evidence of an expected small-scale Libyan biological weapons program has been uncovered." The report noted that "Libyan declarations have failed to shed light on Tripoli's plans and intentions for its biological program" and US – UK efforts to clarify past concerns about suspected Libyan BW efforts had not been entirely satisfactory. It by stating that: "As a result, it is not possible to measure with certainty the accuracy of the Intelligence Community's assessments of Libya's biological weapons program, and we cannot address further reasons why uncertainty continues in this unclassified report."

— *Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction* (Washington, DC: Government Printing Office, 2005), p. 255-256, [www.wmd.gov](http://www.wmd.gov).

#### **12 October 2004**

Following the European Union's decision to lift its arms embargo on Libya, British Foreign and Commonwealth Office Minister of State Baroness Symons travels to Tripoli for three days of meetings with the Libyan government.

— "In Brief," Financial Times Information/China News, 13 October 2004, [web.lexis-nexis.com](http://web.lexis-nexis.com).

#### **11 October 2004**

The Council of the European Union agrees to pursue "a policy of engagement with Libya." The Council decides to "repeal the restrictive measures adopted by the EU in application of UNSCR 748(1992) and 883(1993)" and lift the arms embargo against Libya. Arms transfers "will be subject to the EU Code of Conduct on Arms Exports," however, as well as to a post-embargo arms transfer regime currently being developed.

— *2609th Council Meeting: General Affairs and External Relations*, Press Release C/04/276, Council of the European Union, 11 October 2004, p. 6, [ue.eu.int/Newsroom](http://ue.eu.int/Newsroom).

#### **22 September 2004**

Both in New York for a special session of the UN General Assembly, U.S. Secretary of State Colin Powell and Libyan Foreign Minister Abdurahman Shalgam meet to discuss the two countries' continued rapprochement. U.S. officials note that the meeting "was on the highest level in decades."

— Barry Schweid, "Powell Holds Talks with Libyan Foreign Minister," Associated Press, 23 September 2004, [web.lexis-nexis.com](http://web.lexis-nexis.com).

#### **20 September 2004**

President Bush signs an executive order that "terminates the national emergency declared in 1986 under the International Emergency Economic Powers Act." This action makes possible the removal of the "remaining economic restrictions on aviation services with Libya [and]... unblocks approximately \$1.3 billion in assets frozen under the Libya sanctions program belonging to both Libyan and non-Libyan entities."

— Adam Ereli, U.S. State Department Deputy Spokesperson, Daily Press Briefing, 20 September 2004, [www.state.gov](http://www.state.gov); "Statement by the Press Secretary," Financial Times Information, 20 September 2004, [web.lexis-nexis.com](http://web.lexis-nexis.com).

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.

**17 September 2004**

High-level discussions between U.S. and Libyan officials are held in London regarding the final phase of Libya's disarmament pledges.

- "Bush Prepares to Lift Sanctions against Libya after confirming dismantling of weapons," *National Post*, 20 September 2004, p. A9, web.lexis-nexis.com.

**10 September 2004**

U.S. President George Bush eases minor sanctions on Libya. In a memorandum to Secretary of State Colin Powell, he writes, "I hereby determine and certify that the application of sanctions, as required by (the Arms Export Control Act), would have a serious adverse effect on vital United States interests." He encourages the Export-Import Bank to "guarantee, insure or extend credit, or participate in the extension of credit in support of United States exports to Libya."

- "Bush lifts minor sanctions on Libya," Associated Press, 10 September 2004, web.lexis-nexis.com.

**1 September 2004**

A State Department official announces that the United States hopes to conclude talks with the Libyan government and declare the country free of WMD by the end of September.

- "US Hopes to Conclude WMD Talks with Libya This Month," Agence France Presse, 1 September 2004, web.lexis-nexis.com.

**28 June 2004**

The United States restores formal diplomatic ties with Libya. Assistant Secretary of State William Burns inaugurates a U.S. liaison office in Tripoli and notes that Libya will be taking steps to establish diplomatic representation in the United States.

- "U.S. and Libya Restore Direct Diplomatic Relations After 24 Years," *Financial Times Information*, 29 June 2004, web.lexis-nexis.com.

**Early June 2004**

U.S. Assistant Secretary for Commerce William Lash, during a visit to Tripoli, states that shipments of Libyan oil to the United States have begun.

- Mmegi/The Reporter, "Libya Supplies U.S. With Oil Again," *AllAfrica, Inc.*, 6 June 2004, web.lexis-nexis.com.

**27 to 28 April 2004**

Colonel Mu'ammar al-Qadhdhafi travels to Brussels to meet with European Commission President Romano Prodi and Belgian Premier Guy Verhofstadt in pursuit of normalizing relations with European countries.

- "Qaddafi Visits Europe," *Facts on File, Inc.*, 29 April 2004, web.lexis-nexis.com.

**23 April 2004**

The United States lifts sanctions against Libya. The Iran and Libya Sanctions Act is no longer applicable to Libya and the Treasury Department modifies sanctions on U.S. firms and individuals to allow the resumption of most commercial and financial activities, though restrictions continue to apply to exports of dual-use items. In Libya, the state-owned National Oil Corporation confirms that its first shipment of oil to the United States will take place in

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.

May.

- "Statement by the Press Secretary," *Financial Times Information*, 23 April 2004, web.lexis-nexis.com; Edmund Blair, "Libya Ships First Crude to U.S. in 20 years," *Calgary Herald*, 24 April 2004, web.lexis-nexis.com.

#### **Early April 2004**

Responding to requests from U.S. and British officials, Libya publicly announces its intention to "convert hundreds of its Scud-B missiles into shorter-range, less powerful weapons for purely defensive purposes and end all military trade with North Korea."

- Judith Miller, "U.S. Says Libya Will Convert Missiles to Defensive Weapons," *New York Times*, 11 April 2004, web.lexis-nexis.com.

#### **25 March 2004**

British Prime Minister Tony Blair meets with Colonel Mu'ammar al-Qadhdhafi outside of Tripoli. Blair states publicly that Libya has "provided 'full and transparent cooperation' in the dismantling of its weapons of mass destruction programmes." He also announces that the Shell oil group has won a \$200 million contract to explore for natural gas in Libya and that a British aerospace company is likely to provide civil aviation services to Libya.

- "Roundup: Gaddafi Gains Breakthrough with Former British Enemy, Eds: Britain Hopes for Lucrative Contracts with Libya," Deutsche Presse-Agentur, 25 March 2004, web.lexis-nexis.com; Patrick E. Tyler, "Blair Visits Qaddafi, Ending Libya's Long Estrangement," *New York Times*, 26 March 2004, web.lexis-nexis.com.

#### **23 March 2004**

U.S. Assistant Secretary of State for Near Eastern Affairs William Burns meets with Colonel Mu'ammar al-Qadhdhafi and Libyan officials in Tripoli on the future of U.S.-Libyan relations. Secretary Burns reiterates U.S. willingness to continue assisting Libya in fulfilling its commitments to eliminate its weapons of mass destruction.

- "State Dept. Official Releases Statement Regarding U.S.-Libyan Relations," *States News Service*, 23 March 2004, web.lexis-nexis.com.

#### **3 January 2004**

The United States renews sanctions first imposed on Libya in 1989, calling for the Libyan government to pursue concrete actions to follow its pledge to renounce weapons of mass destruction.

- "How Khadafi Brought Libya Back Into the International Fold," Agence France Presse, 27 April 2004, web.lexis-nexis.com.

#### **28 December 2003**

Ahmad Ibrahim Mahmud of the state-run Al-Ahram Center for Political and Strategic Studies in Libya writes that even though "Libya certainly owns some 100 tons of Mustard gas," its BW capabilities are "extremely limited." He emphasizes, however, that in order to produce biological agents such as *Bacillus anthracis*, Libya would need to significantly improve its systems of "preservation, storage, validity and delivery."

- "Libyaian Writers View Implications, 'Motives' Behind Libyan Decision," FBIS Report, 28 December 2003, in Open Source Center Document GMP20031229000069.

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.

### **19 December 2003**

Colonel Mu'ammar al-Qadhafi pledges to rid Libya of all weapons of mass destruction, including biological, chemical, and nuclear weapons. Secretary of the General People's Committee for Foreign Liaison and International Cooperation Abd-al-Rahman [Muhammad] Shalqam states the following in a news conference, "...we confirm that Libya will abide by the Non-Proliferation Treaty, the IAEA Safeguards Agreement and the Biological Weapons convention, as well as accepting the Additional Protocol of the IAEA Safeguards Agreement and the Biological and Chemical Weapons Treaty."

— Patrick E. Tyler, "Qaddafi's New Tune Confounds," *New York Times*, 30 December 2003, [www.nytimes.com](http://www.nytimes.com); "Libya to Eliminate Weapons of Mass Destruction," JANA, 19 December 2003, in Open Source Center Document GMP20031219000267, 19 December 2003.

### **12 September 2003**

The United Nations Security Council lifts sanctions on Libya following the government's agreement to pay compensation to the families of victims of the 1988 Lockerbie terrorist attack.

— "How Khadafi Brought Libya Back Into the International Fold," Agence France Presse, 27 April 2004, [web.lexis-nexis.com](http://web.lexis-nexis.com).

### **June 2002**

U.S. Assistant Secretary of State Carl Ford claims that the United States possesses evidence that Cuba exports dual use biological weapons technology to Middle East "rogue" states including Iran, Iraq, Syria and Libya. [Note: Assistant Secretary Ford does not specify the nature of the evidence to which he refers.]

— "Cuba Supplies BW Technology to Libya, Syria," *Middle East Newsline* 4 (10 June 2002), [www.menewsline.com](http://www.menewsline.com).

### **8 May 2002**

Libyan Foreign ministry Spokesperson, Hassouna Shaoush refutes Under Secretary Bolton's allegations that it has been pursuing chemical, biological and nuclear weapons stating: "Everybody knows that Libya does not seek to acquire weapons of mass destruction."

— "Libya Denies Claims of Chemical Weapons," *BBC News*, 8 May 2002, [news.bbc.co.uk](http://news.bbc.co.uk).

### **6 May 2002**

U.S. officials suspect Libya of pursuing biological weapons technology from Cuba, although they cannot confirm the actual export of such technology from Cuba to Libya. Under Secretary of State for Arms Control and International Security John Bolton states that "rogue" countries beyond those cited by President George W. Bush as the "axis of evil" (North Korea, Iran and Iraq) such as Syria and Libya are particularly pursuing biological weapons from Cuba. He also notes that although Libya's BW program remains in the research and design stage, the United States suspects Libya of possessing small-scale biological agent production capabilities despite having ratified the Biological Weapons Convention. Libya has not been able to weaponize the small amount of biological agent it has produced, according to Bolton, due to the country's "poor technological base."

— "Cuba Markets WMD Technology to Iran, Libya," *Middle East Newsline* 4 (15 May 2002), [www.menewsline.com](http://www.menewsline.com); "U.S. Warns Libya, Syria to End WMD Programs," *Middle East Newsline* 4 (7 May 2002), [www.menewsline.com](http://www.menewsline.com)

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.

#### **19 November to 7 December 2001**

The 2001 session of the Fifth Biological Weapons Convention Review Conference takes place, during which the United States accuses Iran, Iraq, North Korea, Libya, Sudan and Syria of pursuing offensive BW capabilities. Iraq, Iran and Libya deny such accusations.

- John Hart, Frida Kuhlau and Jacqueline Simon, "Chemical and Biological Weapons Development and Arms Control," *SIPRI Yearbook 2003: Armaments, Disarmament and International Security* (Oxford, UK: Oxford UP, 2003), p. 676; Jean Pascal Zanders, John Hart and Frida Kuhlau, "Chemical and Biological Weapon Developments and Arms Control," *SIPRI Yearbook 2002: Armaments, Disarmament and International Security* (Oxford, UK: Oxford UP, 2002), p. 675.

#### **19 November 2001**

US Under Secretary of State for Arms Control and International Security John Bolton accuses Libya and five other states of violating the Biological Weapons Convention (BTWC) by running secret offensive BW programs.

- Jonathan B. Tucker, "A Farewell to Germs: The U.S. Renunciation of Biological and Toxin Warfare, 1969-1970," *International Security* 27 (Summer 2002), p. 144.

#### **November 1999**

The trial of Brigadier Wouter Basson, leader of Project Coast, exposes Project Coast as the coordinating organization responsible for South Africa's CBW development. In addition to allegations regarding chemical weapons, Basson also testifies to having received unspecified cultures from the University of Tripoli.

- Jean Pascal Zanders, John Hart, and Frida Kuhlau, "Chemical and Biological Weapon Developments and Arms Control," *SIPRI Yearbook 2002: Armaments, Disarmament and International Security* (Oxford, UK: Oxford UP, 2002), pp. 706-707.

#### **1999**

The U.S. CIA, and Arms Control and Disarmament Agency (ACDA) name Libya along with China, Libya, Iran, Iraq, Russia, and Syria as countries possessing or actively pursuing offensive BW capabilities.

- Jean Pascal Zanders and Maria Wahlberg, "Chemical and Biological Weapons and Arms Control," *SIPRI Yearbook 2000: Armaments, Disarmament and International Security* (Oxford, UK: Oxford UP, 2000), p. 526.

#### **July 1998**

According to the U.S. Arms Control and Disarmament Agency, Libya is capable of internally producing biological equipment in small quantities to be used to facilitate its BW capabilities transition from research and development to weaponization for offensive purposes.

- *Perspectives: Biological Weapons Proliferation. Report #2000/05*, Canadian Security Intelligence Service, 9 June 2000, [www.csis-scrs.gc.ca](http://www.csis-scrs.gc.ca).

#### **1996**

Due to an "inadequate biotechnical foundation," Libya's BW program remains at the research and development level. Shortcomings in Libya's technical capabilities and ability to "put agents into deliverable munitions" prevent Libya from being a sizeable biological warfare force in the near future, according to the U.S. Department of

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.

Defense.

— *Proliferation: Threat and Response*, U.S. Department of Defense, November 1997, [www.dod.mil](http://www.dod.mil).

#### **July 1995**

U.S. President Bill Clinton declares in his annual Report to Congress on Adherence to and Compliance with Arms Control Agreements that he doubts the compliance of Iraq, Iran, China, Libya, Russia, Syria, Taiwan and Libya with the Biological Weapons Convention (BTWC).

— Stock, Thomas, Maria Haug, and Patricia Radler, "Chemical and Biological Weapon Development and Arms Control," *SIPRI Yearbook 1996: Armaments, Disarmament and International Security* (Oxford, UK: Oxford UP, 1996).

#### **March 1995**

The U.S. Central Intelligence Agency (CIA) issues a public report implicating Libyan universities in housing basic research facilities for BW agents, although the offensive or defensive nature of this research is not explicit. It adds that although the research is underway, the low level of the country's technological capabilities cannot yet weaponize the agents.

— *Perspectives: Biological Weapons Proliferation. Report # 2000/05*, Canadian Security Intelligence Service, 9 June 2000, [www.csis-scrs.gc.ca](http://www.csis-scrs.gc.ca).

#### **February 1995**

Unidentified U.S. intelligence sources report suspicions that Libya may have received BW "information and material" from the former South African BW program under apartheid. South African President Nelson Mandela states that while South Africa no longer has a BW program, neither has it any "connection with any country, including Libya, in regard to chemical and biological weapons programmes."

— Thomas Stock, Maria Haug, and Patricia Radler, "Chemical and Biological Weapon Development and Arms Control," *SIPRI Yearbook 1996: Armaments, Disarmament and International Security* (Oxford, UK: Oxford UP, 1996), p. 687.

#### **February 1989**

In an attempt to reduce biological weapons proliferation threats, the U.S. Commerce Department carries out a ban of pathogen culture exports to Libya, Iran, Iraq, and Syria.

— Jessica Stern, "Dreaded Risks and the Control of Biological Weapons," *International Security* 27 (Winter 2002/03), p. 95.

#### **19 January 1982**

Libya ratifies the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (BWC) without reservations.

— Status of the Convention showing dates of signature, ratification and accession, The Biological and Toxin Weapons Convention (BTWC), 1995-2004, [www.opbw.org](http://www.opbw.org).

#### **29 December 1971**

Libya accedes to Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.

Bacteriological Methods of Warfare, known as the Geneva Protocol of 1925 with reservations stating that it will remain bound to the agreements set forth unless another signatory country poses a threat by failing to adhere to the prohibitions of the Protocol. In such a case, it reserves the right to retaliate in kind. [Note: similar reservations were made by nearly a third of signing parties.] Libya also refuses to recognize Israel or indicate establishment of diplomatic relations upon acceding to the Protocol.

— *SIPRI Yearbook 1980* (Taylor & Francis Ltd. and Crane, Russak & Company, 1980), pp. 376-78.

[Back to Top](#)

**Related content is available on the website for the Nuclear Threat Initiative, [www.nti.org](http://www.nti.org).**



This material is produced independently for NTI by the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies and does not necessarily reflect the opinions of and has not been independently verified by NTI or its directors, officers, employees, or agents. Copyright © 2011 by MIIS.