

Israel and weapons of mass destruction

From Wikipedia, the free encyclopedia

Israel is widely believed to possess a substantial arsenal of nuclear weapons,^[1] and maintains intercontinental-range ballistic missiles to deliver them. Officially Israel neither confirms nor denies possessing nuclear weapons. The U.S. Congress Office of Technology Assessment has recorded Israel as a country generally reported as having undeclared chemical warfare capabilities, and an offensive biological warfare program.^[2]

Weapons of mass destruction	
	
By type	
Biological warfare	
Chemical warfare	
Nuclear weapons	
Radiological weapons	
By country	
Albania	Algeria
Argentina	Australia
Brazil	Canada
China	France
Germany	India
Iran	Iraq
Israel	Japan
Netherlands	North Korea
Pakistan	Poland
Russia	South Africa
Syria	Taiwan
United Kingdom	United States

Contents

- 1 Nuclear weapons
 - 1.1 Development program
 - 1.2 Nuclear weapons capability
 - 1.3 Timetable of Estimates of the Israeli Nuclear Arsenal
- 2 Chemical weapons
- 3 Biological weapons
- 4 Delivery Systems
 - 4.1 Missiles
 - 4.2 Aircraft
 - 4.3 Marine
- 5 See also
- 6 External links
- 7 References

Nuclear weapons

The Israeli government refuses to officially confirm or deny whether it has a nuclear weapon program. It has an unofficial but rigidly enforced policy of deliberate ambiguity, saying only that it would not be the first to "introduce nuclear weapons in the Middle East".^[3]

In the late 1960s, Israeli Ambassador Yitzhak Rabin informed the United States State Department, that its understanding of "introducing" such weapons meant that they would be tested and publicly declared, while merely possessing the weapons did not constitute "introducing" them.^[4] Israel is widely believed to be one of four nuclear-armed countries not recognized as a Nuclear Weapons State by the Nuclear Non-Proliferation Treaty (NPT), the other three being India, Pakistan and North Korea.^[5] The International Atomic Energy Agency Director General Mohamed ElBaradei regards Israel as a state possessing nuclear weapons.^[6] In a December 2006 interview, Israeli Prime Minister Ehud Olmert said Iran aspires "to have a nuclear weapon as America, France, Israel and Russia."^[7]

Olmert's office later said that the quote was taken out of context; in other parts of the interview, Olmert refused to confirm or deny Israel's nuclear weapon status.^[8]

Development program

Israel first showed interest in procuring nuclear materials in 1949, when a unit of the IDF Science Corps carried out a two year geological survey of the Negev. One objective of this was to find sources of uranium.^[9] In June 1952, German-born chemist Ernst David Bergmann was appointed by Prime Minister David Ben-Gurion to be the first chairman of the Israel Atomic Energy Commission (IAEC). Also appointed head Division of Research and Infrastructure of the Ministry of Defense earlier that same year, Bergmann used the Defense unit as the "chief laboratory" of the IAEC, and during this time developed the capability to extract uranium from the Negev and produce indigenous heavy water.^[9]

At this point in the mid-1950s, Israel's nuclear weapons program began receiving aid from other countries. By the Suez crisis in 1956, according to the preliminary Protocol of Sèvres, France agreed to help Israel build a nuclear reactor and reprocessing plant near Dimona which used natural uranium moderated by heavy water. Plutonium production started in about 1964. Top secret

British documents obtained by BBC *Newsnight*

show that Britain made hundreds of secret shipments of restricted materials to Israel in the 1950s and 1960s. These included specialist chemicals for reprocessing and samples of fissile material—uranium-235 in 1959, and plutonium in 1966, as well as highly enriched lithium-6

which is used to boost fission bombs and fuel hydrogen bombs. The investigation also showed that Britain shipped 20 tons of heavy water directly to Israel in 1959 and 1960 to start up the Dimona

reactor. The transaction was made through a Norwegian front company called Noratom which took a 2% commission on the transaction. Britain was challenged about the heavy water deal at the International Atomic Energy Agency after it was exposed on *Newsnight* in 2005. British Foreign Minister Kim Howells hid behind the Noratom contract and claimed this was a sale to Norway. But a former British intelligence officer who investigated the deal at the time confirmed that this was really a sale to Israel and the Noratom contract was just a charade.^[10] The Foreign Office

finally admitted in March 2006 that Britain knew the destination was Israel all along.^[11]

In 1961, the Israeli Prime Minister David Ben-Gurion informed the Canadian Prime Minister John Diefenbaker that a pilot plutonium-separation plant would be built at Dimona. British intelligence concluded from this and other information that this "can only mean that Israel intends to produce nuclear weapons".^[12] By 1969, U.S. Defense Secretary Melvin Laird believed that Israel

might have a nuclear weapon that year.^{[13][14]} Later that year, U.S. President Richard Nixon in a meeting with Israeli Prime Minister Golda Meir

pressed Israel to "make no visible introduction of nuclear weapons or undertake a nuclear test program", so maintaining a policy of nuclear ambiguity.^[15] By 1979 U.S. Intelligence

believed Israel had designs and fissile material for nuclear weapons, and were perhaps in a position so they could test a more advanced small tactical nuclear weapon or thermonuclear weapon trigger design.^[16]



The first public revelation of Israel's nuclear capability (as opposed to development program) came in the London based *Sunday Times* on October 5, 1986, which printed information provided by Mordechai Vanunu, formerly employed at the Negev Nuclear Research Center, a facility located in the Negev desert south of Dimona. For publication of state secrets, he was sentenced to 18 years in prison for treason and espionage. Although there had been much speculation prior to Vanunu's revelations that the Dimona site was creating nuclear weapons, Vanunu's information indicated that Israel had also built thermonuclear weapons.^[17]

In 1998, former Prime Minister Shimon Peres said that Israel "built a nuclear option, not in order to have a Hiroshima but an Oslo".^[18]

The "nuclear option" may refer to a nuclear weapon or to the nuclear reactor near Dimona, which Israel claims is used for scientific research. Peres, in his capacity as the Director General of the Ministry of Defense in the early 1950s, was responsible for building Israel's nuclear capability.^[19]

Nuclear weapons capability

According to The Nuclear Threat Initiative, based on Vanunu's information, Israel has approximately 100–200 nuclear explosive devices by 1980' and the Jericho missile delivery system. A United States Defense Intelligence Agency report (leaked and published in the book *Rumsfeld's War: The Untold Story of America's Anti-Terrorist Commander* by journalist Rowan Scarborough in 2004) puts the number of weapons at 82. U.S. intelligence sources in the late 1990s estimated 75–130,^[20] and 400 in the early 2000s according to some sources at the U.S air force intelligence^[21] or even as early as the mid 1990s.^[22] The difference might lie in the amount of material Israel has on store versus assembled weapons.

Israel has operated three modern German-built *Dolphin*-class submarines^[23] since 1999. Various reports indicate that these submarines are equipped with American-made Harpoon missiles modified to carry small nuclear warheads^[24] and/or, and more possible^[25], medium range (1500-2400km) larger Israeli-made "Popeye Turbo" cruise missiles, originally developed by Israel for air-to-ground strike capability.^{[26][27]}

No known nuclear weapons test has been conducted within Israel, although the boosted weapons shown in Vanunu's photographs may well have required testing. It is also possible that the Israelis received results from French nuclear testing in the 1960s. In June 1976, the West Germany Army magazine, *Wehrtechnik*, claimed that a 1963 underground test took place in the Negev, and other reports indicate that some type of non-nuclear test, perhaps a zero yield or implosion test, may have occurred on 2 November 1966.^[28] In September 1979, a Vela satellite may have detected a 3 kiloton oceanic nuclear explosion near South Africa, accompanied by underwater acoustic and ionospheric effects which may have been a joint nuclear test between Israel and South Africa (see Vela Incident and Israel-South Africa relations).

In an interview the Israeli Prime Minister Ehud Olmert appeared to have admitted that Israel possesses nuclear weapons. However, an Israeli spokesman later stated that Olmert meant to give no such statement, and there has been no change in policy on nuclear weapons.^[29]

On February 1, 2007, President Chirac of France commented on the Nuclear ambitions of Iran, hinting on possible nuclear countermeasures from Israel:

"Where will it drop it, this bomb? On Israel? It would not have gone 200 metres into the atmosphere before Tehran would be razed".^[30]

Timetable of Estimates of the Israeli Nuclear Arsenal

Nuclear weapons



History of nuclear weapons
Nuclear warfare
Nuclear arms race
Weapon design / testing
Effects of nuclear explosions
Delivery systems
Nuclear espionage
Proliferation / Arsenals

Nuclear-armed states

US · Russia · UK · France
China · India · Pakistan
Israel · North Korea
South Africa

The State of Israel has never made public any details of its nuclear capability or arsenal. The following is a history of estimates by many different reputable sources on the size and strength of Israel's nuclear arsenal.

- 1967 (Six Day War)- 2 bombs^[31]; 13 bombs^[32]
- 1969- 5-6 bombs of 19 kilotons yield each ^[33]
- 1973 (Yom Kippur War)- 13 bombs^[34]; 20 nuclear missiles plus developed a suitcase bomb^[35]
- 1974- 3 capable artillery battalions each with 12 175 mm tubes and a total of 108 warheads^[36]; 10 bombs^[37]
- 1976- 10-20 nuclear weapons^[38]

- 1980- 200 bombs ^[39]
- 1984- 12-31 atomic bombs^[40]; 31 plutonium bombs and 10 uranium bombs^[41]
- 1985- at least 100 nuclear bombs^[42]
- 1986- 100 to 200 fission bombs and a number of fusion bombs^[43]
- 1991- 50-60 to 200-300^[44]
- 1992- more than 200 bombs^[45]
- 1994- 64-112 bombs (5 kg/warhead)^[46]; 50 nuclear tipped Jericho missiles, 200 total^[47]
- 1995- 66-116 bombs (at 5 kg/warhead)^[48]; 70-80 bombs^[49]; "A complete Repertoire" (neutron bombs, nuclear mines, suitcase bombs, submarine borne)^[50]
- 1996- 60-80 plutonium weapons, maybe more than 100 assembled, ER variants (neutron bombs), varitable yields^[51]
- 1997- More than 400 deliverable thermonuclear and nuclear weapons^[52]

Chemical weapons

Israel has signed but not ratified the Chemical Weapons Convention (CWC). There are speculations that a chemical weapons program might be located at the Israel Institute for Biological Research (IIBR (<http://www.iibr.gov.il>)) in Ness Ziona [2] (<http://cns.miis.edu/pubs/reports/asands.htm>) . Professor Marcus Klingberg, deputy director of the institute, was sentenced in 1983 to 20 years in prison after being found guilty of the charge of being a Soviet spy. The government kept the matter secret for a decade, arguing it was a sensitive issue.^[53]

190 liters of dimethyl methylphosphonate, a CWC schedule 2 chemical used in the synthesis of Sarin nerve gas, was discovered in the cargo of El Al Flight 1862 after it crashed in 1992 en route to Tel Aviv. Israel insisted the material was non-toxic, was to have been used to test filters that protect against chemical weapons, and that it had been clearly listed on the cargo manifest in accordance with international regulations. The shipment was from a U.S. chemical plant to the IIBR under a U.S. Department of Commerce license.^[54]

In 1993, the U.S. Congress Office of Technology Assessment

WMD proliferation assessment recorded Israel as a country generally reported as having undeclared offensive chemical warfare capabilities.^[2]

Former U.S. deputy assistant secretary of defense responsible for chemical and biological defense, Bill Richardson, said in 1998 "I have no doubt that Israel has worked on both chemical and biological offensive things for a long time ... There's no doubt they've had stuff for years".^[55]

Biological weapons

Israel is not a signatory to the Biological Weapons Convention (BWC). It is assumed that the Israel Institute for Biological Research in Ness Ziona develops vaccines and antidotes for chemical and biological warfare.^[56] While it is believed that Israel is not currently producing chemical or biological weapons, there remains speculation that Israel's ability to start production and dissemination, if necessary, remains active.^[57]

In 1993, the U.S. Congress Office of Technology Assessment

WMD proliferation assessment recorded Israel as a country generally reported as having an undeclared offensive biological warfare program.^[2]

Delivery Systems

Missiles

- Israel is known to have tested two versions of the Jericho missile system. The **Jericho I** with a range of 500km and the **Jericho II** with a range of 1,500km.
- The Shavit rocket is used for inserting objects into a low earth orbit.
- Third version of the Jericho missile is possible. Jericho III is thought to have been in service since mid-2005. With a payload of 1,000 - 1,300 kg it has a range of 4,800 km, or 7,800km with a payload of 350 kg (one Israeli nuclear warhead). This gives Israel, at least, nuclear strike capability against Africa, Europe, and most of Asia.
- Popeye turbo cruise missile with a range of 1,500km.

Aircraft

- Lockheed Martin F-16I Sufa ("Storm")
- McDonnell Douglas/Boeing F-15 Eagle Baz 2000 (A/B/C/D/E)

Marine

- Dolphin Class - Type 800 coastal submarines - "Nuclear capable", according to *The Washington Post* [3] (<http://www.washingtonpost.com/wp-dyn/content/article/2006/08/24/AR2006082401050.html>)

See also

- Samson Option
- Project Daniel
- South Africa and weapons of mass destruction
- Vela Incident or the South Atlantic Flash

External links

- Israel's Atomic Weapons (<http://www.betterworldlinks.org/index.php?cat=2519>) at Better World Links
- Britain's dirty secret - Secret papers show how Britain helped Israel make the A-bomb in the 1960s (<http://www.newstatesman.com/200603130011>) , *New Statesman* by Meirion Jones, 10 March 2006
- Secret sale of UK plutonium to Israel (<http://news.bbc.co.uk/1/hi/programmes/newsnight/4789832.stm>) , BBC, 10 March 2006
- How Britain helped Israel get the bomb (<http://news.bbc.co.uk/2/hi/programmes/newsnight/4743493.stm>) by Michael Crick, BBC Newsnight
- Strategic Doctrine (<http://www.fas.org/nuke/guide/israel/doctrine/>) in Israel Special Weapons Guide, Federation of American Scientists
- Israel Profile (http://www.nti.org/e_research/profiles/Israel/index_3552.html) at The Nuclear Threat Initiative
- Israel and the Bomb (<http://www.gwu.edu/~nsarchiv/israel/index.htm>) Avner Cohen's website, including official documents (<http://www.gwu.edu/~nsarchiv/israel/documents/document.htm>)
- Israel crosses the threshold (http://www.thebulletin.org/article.php?art_ofn=mj06cohen) - Israel, the bomb and the NPT in the Nixon era, based on documents released 28 April 2006 (<http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB189/index.htm>)
- Marcus Klingberg, last KGB Spy to be Released in Israel (<http://english.pravda.ru/world/2003/01/15/42060.html>) by Dmitry Chirkin, Pravda. Ru
- History of a hot potato (<http://www.tau.ac.il/jcss/haaretz14012005.html>) by Yehiam Weitz, *Haaretz*, January 14, 2005
- IIBR official website (<http://www.iibr.gov.il>) The Israel Institute for Biological Research
- Israel (<http://www.nuclearfiles.org/menu/key-issues/nuclear-weapons/issues/proliferation/israel/>) at Nuclear Files.org, Nuclear Age Peace Foundation
- Nuclear Stockpiles (<http://www.nuclearfiles.org/menu/key-issues/nuclear-weapons/basics/nuclear-stockpiles.htm>) Current information on nuclear stockpiles in Israel at Nuclear Files.org, Nuclear Age Peace Foundation
- Israel and Chemical/Biological Weapons: History, Deterrence, and Arms Control (<http://www.bsos.umd.edu/pgsd/people/staffpubs/Avner-CBWart.pdf>) , Avner Cohen, *The Nonproliferation Review*/Fall-Winter 2001
- Should Israel give up its nukes? (<http://fairuse.1accesshost.com/news2/latimes968.html>) , Pentagon study about nuclear nonproliferation in Middle East, by George Bisharat, *LA Times*, December 2005
- Israel deploys nuclear arms in submarines (<http://observer.guardian.co.uk/international/story/0,6903,1061381,00.html>) by Peter Beaumont and Conal Urquhart, *The Observer*, October 12, 2003
- The Untold Story of Israel's Bomb (http://www.washingtonpost.com/wp-dyn/content/article/2006/04/28/AR2006042801326_pf.html) By Avner Cohen and William Burr, *Washington Post*, April 30, 2006

- The Third Temple's Holy Of Holies: Israel's Nuclear Weapons (<http://www.au.af.mil/au/awc/awcgate/cpc-pubs/farr.htm>) by Lt. Col. Warner D. Farr, US Army.
- JIC Israel Nuclear file 1960-61 Part 1 (http://www.cabinetoffice.gov.uk/foi/pdf/israeli_nuclear1.pdf)
- JIC Israel Nuclear file 1960-61 Part 2 (http://www.cabinetoffice.gov.uk/foi/pdf/israeli_nuclear2.pdf)
- Time to Open the Nuclear Gates - Israel's "nuclear ambivalence" strategy (http://www.amedia.org/Show_Article.asp?DynamicContentID=1979&MenuID=611&ThreadID=1014010)

References

1. ^ Nuclear Weapons: Who Has What at a Glance (<http://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat.asp>) . Arms Control Association. Retrieved on 2007-05-30.
2. ^ ^{a b c} *Proliferation of Weapons of Mass Destruction: Assessing the Risks*, U.S. Congress Office of Technology Assessment, August 1993, OTA-ISC-559, <http://www.wws.princeton.edu/ota/disk1/1993/9341_n.html>. Retrieved on 2007-05-27
3. ^ Dawoud, Khaled. "Redefining the bomb (<http://weekly.ahram.org.eg/1999/458/intervw.htm>) ", Al-Ahram Weekly, 1999-12-02. Retrieved on 2006-07-02.
4. ^ Avner Cohen and William Burr, The Untold Story of Israel's Bomb (http://www.washingtonpost.com/wp-dyn/content/article/2006/04/28/AR2006042801326_pf.html) , *Washington Post*, April 30, 2006; B01.
5. ^ Background Information, 2005 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (<http://www.un.org/events/npt2005/background.html>) . United Nations. Retrieved on 2006-07-02.
6. ^ Mohamed ElBaradei (27 July 2004). Transcript of the Director General's Interview with Al-Ahram News (<http://www.iaea.org/NewsCenter/Transcripts/2004/alahram27072004.html>) . International Atomic Energy Agency. Retrieved on 2007-06-03.
7. ^ Olmert: Iran wants nuclear weapons like Israel (<http://www.ynetnews.com/articles/0,7340,L-3338783,00.html>) . Retrieved on 2006-12-11.
8. ^ Olmert Says Israel Among Nuclear Nations (<http://www.forbes.com/technology/ebusiness/feeds/ap/2006/12/11/ap3245636.html>) . Retrieved on 2006-12-11.
9. ^ ^{a b} Nuclear Weapons - Israel (<http://www.fas.org/nuke/guide/israel/nuke/>) , Federation of American Scientists. Retrieved June 23, 2007.
10. ^ Jones, Meirion. "Britain's dirty secret (<http://www.newstatesman.com/200603130011>) ", New Statesman, 2006-03-13. Retrieved on 2006-07-02.
11. ^ Statement from the Foreign Office (<http://news.bbc.co.uk/2/hi/programmes/newsnight/4791360.stm>) . *Newsnight*. BBC (2006-03-09). Retrieved on 2006-07-02.
12. ^ Atomic Activities in Israel (http://www.cabinetoffice.gov.uk/foi/pdf/israeli_nuclear1.pdf) (PDF). *UK Cabinet Submission from Joint Intelligence Bureau*. Cabinet Office, Government of the United Kingdom (1961-07-17). Retrieved on 2006-07-02.
13. ^ "Israel crosses the threshold (http://www.thebulletin.org/article.php?art_ofn=mj06cohen) ", Bulletin of the Atomic Scientists, May/June 2006, pp. 22-30. Retrieved on 2006-07-02.
14. ^ Stopping the introduction of nuclear weapons into the Middle East (<http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB189/IN-06.pdf>) (PDF). *Memorandum to the secretary of state*. National Security Archive (1969-03-17). Retrieved on 2006-07-02.
15. ^ Discussions with the Israelis on nuclear matters (<http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB189/IN-22.pdf>) (PDF). *Memorandum for the President*. National Security Archive (1969-10-07). Retrieved on 2006-07-02.
16. ^ The 22 September 1979 Event (<http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB190/03.pdf>) (PDF). *Interagency Intelligence Memorandum 5,9* (paragraphs 4,26). National Security Archive (December 1979). Retrieved on 2006-11-01.
17. ^ "Mordechai Vanunu: The Sunday Times articles (<http://www.timesonline.co.uk/article/0,,1-1081668,00.html>) ", The Times, 2004-04-21. Retrieved on 2006-07-02.
18. ^ Peres admits to Israeli nuclear capability (<http://www.fas.org/news/israel/980714-israel1.htm>) . Federation of American Scientists (1998-07-14). Retrieved on 2006-07-02.
19. ^ Israel and the Bomb: Principal players (<http://www.gwu.edu/~nsarchiv/israel/players.htm>) . National Security Archive. Retrieved on 2006-07-02.
20. ^ Nuclear weapons - Israel (<http://fas.org/nuke/guide/israel/nuke/>) . Federation of American Scientists. Retrieved on 2006-07-02.
21. ^ U.S. Air Force: Israel has 400 nukes, building naval force (http://www.worldtribune.com/worldtribune/WTARC/2002/ss_israel_07_04.html) , World Tribune.com, July 4, 2002
22. ^ Could Israel's nuclear assets survive a pre-emptive strike? (http://www.janes.com/regional_news/africa_middle_east/news/jir/jir990901_1_n.shtml) , Harold Hough, Jane's Intelligence Review, 1997-09-01
23. ^ Dolphin Class Submarines (<http://www.dolphin.org.il/dolphins/>) . Uri Dotan-Bochner. Retrieved on 2006-07-02.
24. ^ Frantz, Douglas. "Israel Adds Fuel to Nuclear Dispute (<http://www.dolphin.org.il/press/#LAT>) ", Los Angeles Times, 2003-12-10. Retrieved on 2006-07-02.
25. ^ [1] (<http://www.wisconsinproject.org/countries/israel/IsraelMissile2005.html>)
26. ^ Popeye Turbo (<http://www.globalsecurity.org/wmd/world/israel/popeye-t.htm>) . globalsecurity.org. Retrieved on 2006-07-02.
27. ^ Nuclear Weapons Inventories of the Eight Known Nuclear Powers (<http://www.plrc.org/docs/970508G.pdf>) . PLRC. Retrieved on 2007-11-02.
28. ^ The Third Temple's holy of holies: Israel's nuclear weapons (<http://www.fas.org/nuke/guide/israel/nuke/farr.htm>) . *The Counterproliferation Papers, Future Warfare Series No. 2*. USAF Counterproliferation Center, Air War College, Air University, Maxwell Air Force Base (September 1999). Retrieved on 2006-07-02.
29. ^ Israel Denies Policy Change After Olmert Nuclear Arms Hint (<http://www.globalsecurity.org/wmd/library/news/israel/israel-061212-rferl01.htm>) . GlobalSecurity.org (December 12, 2006). Retrieved on 2007-02-11. "In an interview with German television on December 11, Olmert said Iran has threatened to wipe Israel off the map and accused Tehran of trying to make nuclear weapons. Seeking to draw a distinction with Iran, Olmert listed Israel alongside nuclear powers the United States, France, and Russia. "Iran

openly, explicitly, and publicly threatens to whip Israel off the map", Olmert said. "Can you say that this is the same level when they are aspiring to have nuclear weapons, as America, France, Israel, Russia?" An Israeli spokesman later said Olmert did not mean to say that Israel has nuclear weapons, but instead had meant to describe America, France, Israel, and Russia as democracies, in contrast to Iran, which the spokesman described as an "extremist theological regime." Israel is widely believed to have an arsenal of nuclear weapons, but has never confirmed or denied this."

30. ^ Sciolino, Elaine; Katrin Bennhold (February 1, 2007). Chirac Strays From Assailing a Nuclear Iran (<http://www.nytimes.com/2007/02/01/world/europe/01france.html?ex=1171342800&en=e2b5766c3bbaa94b&ei=5070>) . The New York Times. Retrieved on 2007-02-11.
31. ^ 150. Burrows and Windrem, op. cit., 280 and Cohen, Israel and the Bomb, op. cit., 273-274.
32. ^ Data from Time, 12 April 1976, quoted in Weissman and Krosney, op. cit., 107.
33. ^
Tahtinen, Dale R., The Arab-Israel Military Balance Today (Washington, DC: American Enterprise Institute for Public Policy Research, 1973), 34.
34. ^ How Israel Got the Bomb." Time, 12 April 1976, 39.
35. ^ Burrows and Windrem, op. cit., 302.
36. ^ Kaku, op. cit., 66 and Hersh, op. cit., 216.
37. ^ Valéry, op. cit., 807-09.
38. ^ Data from CIA, quoted in Weissman and Krosney, op. cit., 109.
39. ^ Ottenberg, Michael, "Estimating Israel's Nuclear Capabilities," Command, 30 (October 1994), 6-8.
40. ^ Pry, op. cit., 75.
41. ^ Ibid., 111.
42. ^ Data from NBC Nightly News, quoted in Milhollin, op. cit., 104 and Burrows and Windrem, op. cit., 308.
43. ^ Data from Vanunu quoted in Milhollin, op. cit., 104.
44. ^ Harkavy, Robert E. "After the Gulf War: The Future of the Israeli Nuclear Strategy," The Washington Quarterly (Summer 1991), 164.
45. ^ Burrows and Windrem, op. cit., 308.
46. ^
Albright, David, Berkhout, Frans and Walker, William, Plutonium and Highly Enriched Uranium 1996. World Inventories, Capabilities, and Policies (New York: Stockholm International Peace Research Institute And Oxford University Press, 1997), 262-263.
47. ^ Hough, Harold, "Israel's Nuclear Infrastructure," Jane's Intelligence Review 6, no. 11 (November 1994), 508.
48. ^ Ibid., 262-263.
49. ^ Spector, and McDonough, with Medeiros, op. cit., 135.
50. ^ Burrows and Windrem, op. cit., 283-284.
51. ^ Cordesman, op. cit., 1996, 234.
52. ^
Brower, Kenneth S., "A Propensity for Conflict: Potential Scenarios and Outcomes of War in the Middle East," Jane's Intelligence Review, Special Report no. 14, (February 1997), 14-15.
53. ^ Chirkin, Dmitri. "Last KGB Spy to be Released in Israel (<http://english.pravda.ru/world/2003/01/15/42060.html>) ", Pravda, 2003-01-15. Retrieved on 2006-07-02.
54. ^ "Israel says El Al crash chemical 'non-toxic' (<http://web.archive.org/web/20030818042548/http://news.bbc.co.uk/2/hi/europe/185199.stm>) ", BBC, 1998-10-2. Retrieved on 2006-07-02.
55. ^ Jeff Stein. "Debunking the "ethno-bomb" (<http://www.salon.com/news/1998/12/02news.html>) ", Salon.com, 1998-12-02. Retrieved on 2006-07-11.
56. ^ Nes Ziyona (<http://www.globalsecurity.org/wmd/world/israel/cbw.htm>) . GlobalSecurity.org (April 28, 2005). Retrieved on 2007-02-11. "Israel is believed to have the capacity to produce chemical warfare agents, and probably has stocks of bombs, rockets, and artillery shells. Public reports that a mustard and nerve gas production facility was established in 1982 in the Dimona restricted area are apparently erroneous. Israel is also probably poised to rapidly produce biological weapons, though there are no public reports of currently active production effort or associated locations....Israel's primary chemical and biological warfare facility is at Nes Ziyona [Noss Ziona], near Tel Aviv. The Israeli Institute for Bio-Technology is believed to be the home of both offensive and defensive research."
57. ^ Normark, Magnus; Anders Lindblad, Anders Norqvist, Björn Sandström, and Louise Waldenström (December 2005). Israel and WMD: Incentives and Capabilities (<http://www.foi.se/upload/pdf/israel-and-wmd-1734.pdf>) (PDF) pg. 38. FOI. Retrieved on 2007-02-11. "Israel does not stockpile or produce BW in large-scale today. However, we assess that Israel has a breakout capability for biological weapons and also CW, i.e. the knowledge needed to implement theoretical knowledge into the practical management of production and deployment of CBW. The knowledge base would be the one that was built during the 1950s and 1960s where today's advanced research can be used to upgrade potential BW and CW agents and their behaviour in the environment. We have not found any conclusive evidence that show that Israel's offensive programs still remain active today."

Retrieved from "http://en.wikipedia.org/wiki/Israel_and_weapons_of_mass_destruction"

Categories: Israeli nuclear development | Weapons of mass destruction | Arab-Israeli conflict

- This page was last modified 11:57, 2 November 2007.
- All text is available under the terms of the GNU Free Documentation License. (See **Copyrights** for details.)
Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a U.S. registered 501(c)(3) tax-deductible nonprofit charity.