

The Israeli Nuclear Program and the Invention of “Proliferation”

Daniel Moran

Department of National Security Affairs

Naval Postgraduate School

We built a nuclear option not to have a Hiroshima, but to have an Oslo.

- Shimon Peres, 14 July 1998

World Nuclear Forces, 2008

| Status of World Nuclear Forces 2008¹ | | | | |
|--|--------------------------|--------------------------|--------------------------|---------------------------|
| <u>Country</u> | <u>Strategic</u> | <u>Non-Strategic</u> | <u>Operational</u> | <u>Stockpile</u> |
| Russia | 3,113 | 2,079 | 5,192 | 14,000 ^a |
| United States | 3,575 | 500 ^b | 4,075 | 5,400 ^c |
| France | 300 | n.a. | ~300 | 300 ^d |
| China | 180 | ? | ~193 | 240 ^e |
| United Kingdom | 160 | n.a. | <160 | 185 ^f |
| Israel | 80 | n.a. | n.a. | 80 ^g |
| Pakistan | 60 | n.a. | n.a. | 60 ^g |
| India | 50 | n.a. | n.a. | 50 ^g |
| North Korea | <10 | n.a. | n.a. | <10 ^h |
| Total: | 7,728^j | 2,589^j | 9,920^j | 20,325^j |

Bulletin of the Atomic Scientists and SIPRI Database

Israel's Nuclear History

Evolution

1947-'53 - Scientific socialism

1953 - '60 - "Atoms for Peace" and the French Connection

1960 - '67 - The American inspection regime and the emergence of "opacity"

1967 - '73 - Going critical

1974 - '91 - Modernization and the Fraying of Opacity

1991 - 2008 - Israel as a Nuclear Weapons State

Issues / Puzzles

Nuclear weapons and conventional deterrence

The future of opacity

Motives and interests of collaborators and enablers

From proliferation to counter-proliferation

Will Israel (and the Arabs) settle for MAD

Scientific Socialism

1948 Mar - Founding of HEMED (scientific section of Haganah)

Step 1: Get some physicists.

1949 - Program to fund six graduate students of physics at Western universities

1952 June - Israeli Atomic Energy Commission founded (secretly) within MOD

1949 -53 - Personal collaborative networks emerge among Israeli and French nuclear scientists

Patented Israeli technologies are the glue for Franco-Israeli joint program

Both countries had tried and failed to get access to American technology

1953 Dec - President Eisenhower announces “Atoms for Peace” program calling for peaceful development of nuclear technology under int’l control

56 Israeli scientists would be trained at Argonne and Oak Ridge labs

The French Connection

Throughout 1950s and early 1960s, Israel makes unsuccessful efforts to obtain NATO / Japan-like security guarantee from US

Between 1955 and 1967 Israel purchases \$600M of weapons from France, including \$75M for the core components of the Dimona reactor

1954 - Algerian Revolution begins

1956 June - Egyptian-Czech arms deal (300% increase in Egyptian armaments)

1956 Sept - Planning for Suez operation incorporates agreement of close cooperation in the nuclear arena, including 24MWatt (nominal) thermal reactor

1957 - Initial work on Dimona begins

1958 - USA becomes aware of the project [U2 flight + too many Frenchmen in Negev]

Purpose is described by the French and the Israelis as scientific research

1959 -Norway [via UK] sells 20 tons of heavy water to Israel, on condition of 30 year inspection regime

1960 Feb - First French nuclear test, conducted in partnership with the Israelis

Toward Opacity

Fall 1960 - Under French pressure, Israel agrees to disclose its nuclear program in return for continued French assistance

1960 Dec - US State Department reveals existence of secret Israeli nuclear program and installation

Time (16 Dec) publishes a leaked story declaring that a “small power ... neither of the communist nor the NATO block” was developing nuclear weapons

AEC chairman John McCone appears on Meet the Press (18 Dec) and declares that Israel has an active nuclear program about which the United States was concerned

1961 Jan - David Ben Gurion tells the Knesset that Dimona is not a textile plant; tells US that program's objective is “peaceful” (~ “defensive” / “deterrent”)

1961 May - Kennedy-Ben Gurion meeting establishes framework for US inspection regime (lasts until 1969)

1963 Apr - Shimon Peres, in a meeting with President Kennedy, declares that Israel “will not introduce nuclear weapons to the region.”

1963 Dec - Dimona reactor operational

1964-65 - French complete final work on underground plutonium reprocessing facility

Toward Opacity, cont.

1965 Mar - Israel refuses to accept IAEA safeguards at Dimona; negotiates MOU with Americans reaffirming that it will not be the first to introduce nuclear weapons to the region.

Approximately 50% of US Hawk SAMS, supplied to Israel under the terms of the Kennedy-Ben Gurion deal, are deployed around Dimona

1966 Oct - Sub-critical underground test detected in Negev

French sources claim that Israel possessed sufficient plutonium to manufacture one bomb by early 1967

1967 - France ceases to supply Israel with uranium

Subsequently replaced by secret deal with Dutch, and via deception/theft assisted by West German front company (Operation PLUMBAT)

In 1970s principal supplier of uranium is South Africa

Going Critical

17 May 1967 - Egyptian high altitude overflight of Dimona reactor

Defense ministerial committee amends published list of declared *casus belli* to include “aerial attack on nuclear reactors and scientific institutions.”

Others are:

Deployment of Iraqi troops in Jordan

Jordanian-Egyptian defense pact

Closing of the Strait of Tiran

High level of guerilla activity

Imbalance of armaments supply to Arab states

Israel shoots down one of its own jets during Six-Day War because it was too close to Dimona

Early 1968 - CIA reports that Israel has successfully produced four bombs

1969 July - Final US inspection of Dimona

1969 Sept - US begins delivery of nuclear-capable F-4E Phantom jets to Israel

State Department objections overruled by Whitehouse, which subsequently denies that the delivery took place.

1970 - Richard Helms (DCI) tells Senate Arms Services Committee that Israel has the bomb

Senator Stuart Symington tells Hedrick Smith of *New York Times*

Going Critical, cont

8 Oct 1973 - Golda Meir orders preliminary assembly of thirteen atomic bombs on day 2 of October War

7-8 Oct - Syrian 5th Mechanized Division breaks through at Rafid

Advanced halted at base of Golan Heights, because of...

Logistical depletion? Staggering attrition? Nuclear threat?

9 Oct - Soviet airlift to Egypt and Syria begins

13 Oct - US airlift to Israel begins

18 Oct - Soviet ship allegedly carrying nuclear weapons arrives in Alexandria

24 Oct - UN cease fire (second) declared. 7 Soviet airborne divisions prepare to intervene on behalf of Egyptian Third Army if cease-fire fails

25 Oct - US forces go to DEFCON III worldwide

27 Oct - UN agrees to re-insert peacekeepers in Sinai and on the Golan Heights

Modernization and the Fraying of Opacity

1974 - US estimates that Israel possesses between 10 and 20 nuclear weapons

1974 - early 80s - From “existential deterrent” to operational mix

Much uncertainty over results (mines, tactical nukes, “mini-nukes,” hydrogen bombs)

1977-79 - Nuclear cooperation with South Africa

Kalahari test in 1977 aborted in the face of US / Soviet pressure

1979 Sept test in southern Indian Ocean detected by multiple satellites, presumed to be joint South-Africa - Israeli test.

1981 June - Osiraq raid

1986 Oct - Mordechai Vanunu tells the London *Times* that Israel possesses more than 200 nuclear weapons

1991 Jan - Israeli nuclear alert in response to scud attacks during Desert Storm

Israel as a Nuclear Weapons State

1996 - Israeli diplomatic overtures seek public US acknowledgment of Israel's need for nuclear weapons (refused)

Leaked CIA aerial photos of Dimona now appear on world-wide web

2000 - First public debate on nuclear program in Knesset; repeated public defenses of “nuclear ambiguity” by Shimon Peres and other senior figures

2000 June - First report of Israeli test of SLBM; Israel takes delivery of first three Dolphin-class German diesel subs

2001 December - Israeli documentary on its nuclear program broadcast on *Al-Jazeera*

2004 Aug - Iranian foreign minister Kamal Kharrazi warns that attacks on Iranian nuclear facilities will lead to retaliation against Dimona

2004 to present - Arab governments call for “nuclear free Middle East”

Israeli nukes now an *Arab* bargaining chip in regional campaign to restrain Iran