

## VIII. Israeli nuclear forces

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While Israel continues to maintain its long-standing policy of neither officially confirming nor denying that it possesses nuclear weapons, it is widely believed to have built a small undeclared nuclear arsenal. Declassified US and Israeli Government documents indicate that Israel began building its stockpile of nuclear weapons in the early 1960s, using plutonium produced by a heavy-water reactor at the Negev Nuclear Research Centre (NNRC) near Dimona.<sup>1</sup> It is estimated that Israel has approximately 80 nuclear weapons (see table 11.9) Of these, approximately 30 are gravity bombs for delivery by aircraft and the remaining 50 weapons are for delivery by solid fuel, two-stage Jericho II medium-range ballistic missiles. A three-stage Jericho III intermediate-range ballistic missile, which some sources describe as having intercontinental range—that is, a range exceeding 5500 kilometres—remains under development but its status is unknown.<sup>2</sup>

There are reports that Israel has equipped its fleet of German-built Dolphin class diesel-electric submarines with nuclear-armed sea-launched cruise missiles, giving it a sea-based second-strike capability. Israeli officials have consistently denied these reports. Israel has purchased six Dolphin class submarines. Five of the submarines had been delivered to Israel by early 2016, and the sixth is scheduled to be commissioned in 2018.<sup>3</sup>

<sup>1</sup> For a history of Israel's nuclear weapon programme see Cohen, A., *The Worst-kept Secret: Israel's Bargain with the Bomb* (Columbia University Press: New York, 2010).

<sup>2</sup> Ben David, A., 'Israel tests Jericho III missile', *Aviation Week & Space Technology*, 22 July 2013.

<sup>3</sup> *Times of Israel*, 'PM, president turn out to welcome Israel's newest submarine', 12 Jan. 2016.

**Table 11.9.** Israeli nuclear forces, January 2017

Type	Range (km) <sup>a</sup>	Payload (kg)	Status	No of warheads
<i>Aircraft</i> <sup>b</sup>				
F-16A/B/C/D/I Falcon	1 600	5 400	205 aircraft in the inventory; some are believed to be equipped for nuclear weapon delivery	30
<i>Land-based ballistic missiles</i> <sup>c</sup>				
Jericho II	1 500– 1 800	750– 1 000	c. 50 missiles; first deployed in 1990; test launched on 27 June 2001	50
Jericho III	>4 000	1 000– 1 300	Possibly under development; based on Shavit space launch vehicle; test launched on 12 July 2013; status unknown	
<i>Cruise missiles</i>				
..	..	..	Dolphin class diesel-electric submarines are rumoured to have been equipped with nuclear-armed sea-launched cruise missiles; denied by Israeli officials	..
<b>Total</b>				<b>80<sup>d</sup></b>

.. = not available or not applicable.

<sup>a</sup> Aircraft range is for illustrative purposes only; actual mission range will vary. Missile payloads may have to be reduced in order to achieve maximum range.

<sup>b</sup> Some of Israel's 25 F-15I aircraft may also have a long-range nuclear delivery role.

<sup>c</sup> The Shavit space launch vehicle, if converted to a ballistic missile, could deliver a 775-kg payload to a distance of 4000 km.

<sup>d</sup> SIPRI's estimate, which is approximate, is that Israel has approximately 80 stored warheads.

Sources: Cohen, A., *The Worst-kept Secret: Israel's Bargain with the Bomb* (Columbia University Press: New York, 2010); Cohen, A. and Burr, W., 'Israel crosses the threshold', *Bulletin of the Atomic Scientists*, vol. 62, no. 3 (May/June 2006); Cohen, A., *Israel and the Bomb* (Columbia University Press: New York, 1998); Albright, D., Berkhout, F. and Walker, W., SIPRI, *Plutonium and Highly Enriched Uranium 1996: World Inventories, Capabilities and Policies* (Oxford University Press: Oxford, 1997); *Jane's Strategic Weapon Systems*, various issues; Fetter, S., 'Israeli ballistic missile capabilities', *Physics and Society*, vol. 19, no. 3 (July 1990); 'Nuclear notebook', *Bulletin of the Atomic Scientists*, various issues; and authors' estimates.