

## MARKETWATCH OPTIONS CENTER

Another example of our innovative market tools and data.

MarketWatch

VISIT NOW

Dow Jones Reprints: This copy is for your personal, non-commercial use only. To order presentation-ready copies for distribution to your colleagues, clients or customers, use the Order Reprints tool at the bottom of any article or visit [www.djreprints.com](http://www.djreprints.com)

See a sample reprint in PDF format.

Order a reprint of this article now

**THE WALL STREET JOURNAL**

WSJ.com

SEPTEMBER 25, 2009

# The Iran Attack Plan

*Iran's acknowledgment that it is developing a second uranium-enrichment facility does little to dispel the view that the regime is developing a weapons program. Israel must consider not just whether to proceed with a strike against Iran—but how. By Anthony H. Cordesman*

By ANTHONY H. CORDESMAN

When the Israeli army's then-Deputy Chief of Staff Dan Halutz was asked in 2004 how far Israel would go to stop Iran's nuclear program, he replied: "2,000 kilometers," roughly the distance between the two countries.

Israel's political and military leaders have long made it clear that they are considering taking decisive military action if Iran continues to develop its nuclear program. Prime Minister Benjamin Netanyahu warned at the United Nations this week that "the most urgent challenge facing this body is to prevent the tyrants of Tehran from acquiring nuclear weapons."

Reporting by the International Atomic Energy Agency and other sources has made it clear that whether or not Iran ties all of its efforts into a formal nuclear weapons program, it has acquired all of the elements necessary to make and deliver such weapons. Just Friday, Iran confirmed that it has been developing a second uranium-enrichment facility on a military base near Qom, doing little to dispel the long-standing concerns of Britain, China, France, Germany, Russia, and the U.S. that Iran is developing nuclear weapons.

Iran has acquired North Korean and other nuclear weapons design data through sources like the sales network once led by the former head of Pakistan's nuclear program, A. Q. Khan. Iran has all of the technology and production and manufacturing capabilities needed for fission weapons. It has acquired the technology to make the explosives needed for a gun or implosion device, the triggering components, and the neutron initiator and reflectors. It has experimented with machine uranium and plutonium processing. It has put massive resources into a medium-range missile program that has the range payload to carry nuclear weapons and that makes no sense with conventional warheads. It has also worked on nuclear weapons designs for missile warheads. These capabilities are dispersed in many facilities in many cities and remote areas, and often into many buildings in each facility—each of which would have to be a target in an Israeli military strike.

It is far from certain that such action would be met with success. An Israeli strike on Iran would be far more challenging than the Israeli strike that destroyed Iraq's Osirak reactor in 1981. An effective Israeli nuclear strike may not be possible, yet a regional nuclear arms race is a game that Iran can start, but cannot possibly win. Anyone who meets regularly with senior Israeli officials, officers and experts knows that Israel is considering military options, but considering them carefully and with an understanding that they pose serious problems and risks.

One of the fundamental problems dogging Israel, especially concerning short-ranged fighters and fighter-bombers, is distance. Iran's potential targets are between 950 and 1,400 miles from Israel, the far margin of the ranges Israeli fighters can reach, even with aerial refueling. Israel would be hard-pressed to destroy all of Iran's best-known targets. What's more, Iran has had years in which to build up covert facilities, disperse elements of its nuclear and missile programs, and develop options for recovering from such an attack.

At best, such action would delay Iran's nuclear buildup. It is more likely to provoke the country into accelerating its

plans. Either way, Israel would have to contend with the fact that it has consistently had a "red light" from both the Bush and Obama administrations opposing such strikes. Any strike that overflowed Arab territory or attacked a fellow Islamic state would stir the ire of neighboring Arab states, as well as Russia, China and several European states.

This might not stop Israel. Hardly a week goes by without another warning from senior Israeli officials that a military strike is possible, and that Israel cannot tolerate a nuclear-armed Iran, even though no nation has indicated it would support such action. President Mahmoud Ahmadinejad continues to threaten Israel and to deny its right to exist. At the same time, President Barack Obama is clearly committed to pursuing diplomatic options, his new initiatives and a U.N. resolution on nuclear arms control and counterproliferation, and working with our European allies, China and Russia to impose sanctions as a substitute for the use of force.

Mr. Ahmadinejad keeps denying that Iran is seeking nuclear weapons, and tries to defend Iran from both support for sanctions and any form of attack by saying that Iran will negotiate over its peaceful use of nuclear power. He offered some form of dialogue with the U.S. during his visit to the U.N. this week. While French President Nicolas Sarkozy denounced Iran's continued lack of response to the Security Council this week, and said its statements would "wipe a U.N. member state off the map," no nation has yet indicated it would support Israeli military action.

Most analyses of a possible Israeli attack focus on only three of Iran's most visible facilities: its centrifuge facilities at Natanz, its light water nuclear power reactor near Bushehr, and a heavy water reactor at Arak it could use to produce plutonium. They are all some 950 to 1,000 miles from Israel. Each of these three targets differs sharply in terms of the near-term risk it poses to Israel and its vulnerability.

The Arak facility is partially sheltered, but it does not yet have a reactor vessel and evidently will not have one until 2011. Arak will not pose a tangible threat for at least several years. The key problem Israel would face is that it would virtually have to strike it as part of any strike on the other targets, because it cannot risk waiting and being unable to carry out another set of strikes for political reasons. It also could then face an Iran with much better air defenses, much better long-range missile forces, and at least some uranium weapons.

Bushehr is a nuclear power reactor along Iran's southwestern coast in the Gulf. It is not yet operational, although it may be fueled late this year. It would take some time before it could be used to produce plutonium, and any Iranian effort to use its fuel rods for such a purpose would be easy to detect and lead Iran into an immediate political confrontation with the United Nations and other states. Bushehr also is being built and fueled by Russia—which so far has been anything but supportive of an Israeli strike and which might react to any attack by making major new arms shipments to Iran.

The centrifuge facility at Natanz is a different story. It is underground and deeply sheltered, and is defended by modern short-range Russian TOR-M surface-to-air missiles. It also, however, is the most important target Israel can fully characterize. Both Israeli and outside experts estimate that it will produce enough low enriched uranium for Iran to be able to be used in building two fission nuclear weapons by some point in 2010—although such material would have to be enriched far more to provide weapons-grade U-235.

Israel has fighters, refueling tankers and precision-guided air-to-ground weapons to strike at all of these targets—even if it flies the long-distance routes needed to avoid the most critical air defenses in neighboring Arab states. It is also far from clear that any Arab air force would risk engaging Israeli fighters. Syria, after all, did not attempt to engage Israeli fighters when they attacked the reactor being built in Syria.

In August 2003, the Israeli Air Force demonstrated the strategic capability to strike far-off targets such as Iran by flying three F-15 jets to Poland, 1,600 nautical miles away. Israel can launch and refuel two to three full squadrons of combat aircraft for a single set of strikes against Iran, and provide suitable refueling. Israel could also provide fighter escorts and has considerable electronic-warfare capability to suppress Iran's aging air defenses. It might take losses to Iran's fighters and surface-to-air missiles, but such losses would probably be limited.

Israel would, however, still face two critical problems. The first would be whether it can destroy a hardened underground facility like Natanz. The second is that a truly successful strike might have to hit far more targets over a much larger area than the three best-known sites. Iran has had years to build up covert and dispersed facilities, and is known to have dozens of other facilities associated with some aspect of its nuclear programs. Moreover, Israel would have to successfully strike at dozens of additional targets to do substantial damage to another key Iranian threat: its

long-range missiles.

Experts sharply disagree as to whether the Israeli air force could do more than limited damage to the key Iranian facility at Natanz. Some feel it is too deeply underground and too hardened for Israel to have much impact. Others believe that it is more vulnerable than conventional wisdom has it, and Israel could use weapons like the GBU-28 earth-penetrating bombs it has received from the U.S. or its own penetrators, which may include a nuclear-armed variant, to permanently collapse the underground chambers.

No one knows what specialized weapons Israel may have developed on its own, but Israeli intelligence has probably given Israel good access to U.S., European, and Russian designs for more advanced weapons than the GBU-28. Therefore, the odds are that Israel can have a serious impact on Iran's three most visible nuclear targets and possibly delay Iran's efforts for several years.

The story is very different, however, when it comes to destroying the full range of Iranian capabilities. There are no meaningful unclassified estimates of Iran's total mix of nuclear facilities, but known unclassified research, reactor, and centrifuge facilities number in the dozens. It became clear just this week that Iran managed to conceal the fact it was building a second underground facility for uranium enrichment near Qom, 100 miles southwest of Tehran, and that was designed to hold 3,000 centrifuges. Iran is developing at least four variants of its centrifuges, and the more recent designs have far more capacity than most of the ones installed at Natanz.

This makes it easier to conceal chains of centrifuges in a number of small, dispersed facilities and move material from one facility to another. Iran's known centrifuge production facilities are scattered over large areas of Iran, and at least some are in Mashad in the far northeast of the country—far harder to reach than Arak, Bushehr and Natanz.

Many of Iran's known facilities present the added problem that they are located among civilian facilities and peaceful nuclear-research activities—although Israel's precision-strike capabilities may well be good enough to allow it to limit damage to nearby civilian facilities.

It is not clear that Israel can win this kind of "shell game." It is doubtful that even the U.S. knows all the potential targets, and even more doubtful that any outside power can know what each detected Iranian facility currently does—and the extent to which each can hold dispersed centrifuge facilities that Iran could use instead of Natanz to produce weapons-grade uranium. As for the other elements of Iran's nuclear programs, it has scattered throughout the country the technical and industrial facilities it could use to make the rest of fission nuclear weapons. The facilities can now be in too many places for an Israeli strike to destroy Iran's capabilities.

Israel also faces limits on its military capabilities. Strong as Israeli forces are, they lack the scale, range and other capabilities to carry out the kind of massive strike the U.S. could launch. Israel does not have the density and quality of intelligence assets necessary to reliably assess the damage done to a wide range of small and disperse targets and to detect new Iranian efforts.

Israel has enough strike-attack aircraft and fighters in inventory to carry out a series of restrikes if Iran persisted in rebuilding, but it could not refuel a large-enough force, or provide enough intelligence and electronic warfare capabilities, to keep striking Iran at anything like the necessary scale. Moreover, Israel does not have enough forces to carry out a series of restrikes if Iran persisted in creating and rebuilding new facilities, and Arab states could not repeatedly standby and let Israel penetrate their air space. Israel might also have to deal with a Russia that would be far more willing to sell Iran advanced fighters and surface-to-air missiles if Israel attacked the Russian-built reactor at Bushehr.

These problems are why a number of senior Israeli intelligence experts and military officers feel that Israel should not strike Iran, although few would recommend that Israel avoid using the threat of such strikes to help U.S. and other diplomatic efforts to persuade Iran to halt. For example, retired Brigadier General Shlomo Brom advocates, like a number of other Israeli experts, reliance on deterrence and Israel's steadily improving missile defenses.

Any Israeli attack on an Iranian nuclear target would be a very complex operation in which a relatively large number of attack aircraft and support aircraft would participate. The conclusion is that Israel could attack only a few Iranian targets—not as part of a sustainable operation over time, but as a one-time surprise operation.

The alternatives, however, are not good for Israel, the U.S., Iran's neighbors or Arab neighbors. Of course being

attacked is not good for Iran. Israel could still strike, if only to try to buy a few added years of time. Iranian persistence in developing nuclear weapons could push the U.S. into launching its own strike on Iran—although either an Israeli or U.S. strike might be used by Iran's hardliners to justify an all-out nuclear arms race. Further, it is far from clear that friendly Arab Gulf states would allow the U.S. to use bases on their soil for the kind of massive strike and follow-on restrikes that the U.S. would need to suppress Iran's efforts on a lasting basis.

The broader problem for Iran, however, is that Israel will not wait passively as Iran develops a nuclear capability. Like several Arab states, Israel already is developing better missile and air defenses, and more-advanced forms of its Arrow ballistic missile defenses. There are reports that Israel is increasing the range-payload of its nuclear-armed missiles and is developing sea-based nuclear-armed cruise missiles for its submarines.

While Iran is larger than Israel, its population centers are so vulnerable to Israeli thermonuclear weapons that Israel already is a major "existential" threat to Iran. Moreover, provoking its Arab neighbors and Turkey into developing their nuclear capabilities, or the U.S. into offering them a nuclear umbrella targeted on Iran, could create additional threats, as well as make Iran's neighbors even more dependent on the U.S. for their security. Iran's search for nuclear-armed missiles may well unite its neighbors against it as well as create a major new nuclear threat to its survival.

Copyright 2009 Dow Jones & Company, Inc. All Rights Reserved

This copy is for your personal, non-commercial use only. Distribution and use of this material are governed by our [Subscriber Agreement](#) and by copyright law.

For non-personal use or to order multiple copies, please contact Dow Jones Reprints at 1-800-843-0008 or visit

[www.djreprints.com](http://www.djreprints.com)