Iranian Nuclear Weapons (Part I):

The Challenges of U.S. Preventive Action

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Brief Analysis

Having just fought a war to rid Iraq of weapons of mass destruction, and alarmed by fresh signs of dramatic progress by Tehran in the nuclear arena, the United States is pressing the International Atomic Energy Agency (IAEA) to declare Iran in violation of its commitments under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) at the next meeting of the agency's board of governors on June 16. In the coming weeks, it will become clear whether there is a diplomatic option for dealing with Iran's nuclear program. Yet, U.S. policymakers have also likely considered preventive military action against Iran's nuclear infrastructure. Is prevention a viable option for the United States? If so, what are its risks and implications?

Iran's Nuclear Progress

Iran's nuclear program has made steady progress. The power plant at Bushehr is finally approaching completion and, according to Russian officials, may be ready for delivery of reactor fuel later this year. Although not ideally suited for the purpose, the plant could produce enough plutonium for dozens of nuclear weapons per year; moreover, its low-enriched uranium fuel could be diverted and enriched into weapons-grade material.

Iran is also completing a uranium conversion facility at Esfahan to produce uranium hexafluoride feed-stock for its centrifuge program; Iranian officials claim that the plant is nearly ready to begin production. Moreover, a February 2003 IAEA visit revealed that Iran is producing gas centrifuges. At a facility at Natanz, the agency found a small pilot cascade of 160 centrifuges, parts for 1,000 more, and plans to have 5,000 up and running within two years -- in a facility large enough to accommodate tens of thousands of centrifuges. If Iran tested these existing centrifuges before commencing mass production -- it seems implausible that they were not tested -- it may have violated its NPT commitments.

In short, Iran appears well on the way to attaining all of the elements needed to produce large quantities of fissile material by either the plutonium or uranium-enrichment routes. It could produce its first nuclear weapon in one to three years, turning out enough fissile material for dozens of weapons a year. Hence, the window of opportunity for effective preventive action (if such a window still exists) is more likely to be measured in months than years.

The Challenges of Prevention

Preventive action will not stop a determined proliferator as far advanced as Iran, though it could cause delays. The principal goal of U.S. action would be to delay Iran's nuclear program long enough to allow for the possible emergence of new leadership in Tehran that is willing to eschew nuclear weapons (which seems improbable) or that is more likely to act responsibly should it obtain such weapons.

Intelligence challenges. To succeed, preventive action must inflict significant damage on key facilities associated with both Iran's plutonium and uranium-enrichment programs. Accomplishing this objective would require a rather complete picture of Iran's nuclear program, including knowledge about possible clandestine facilities. Recent experience in Iraq and North Korea is not encouraging; for years, both countries successfully hid large parts of their nuclear programs from the United States, which may have similar gaps in its knowledge about Iran's nuclear program.

Technical challenges. The technical processes related to fissile material production create both vulnerabilities and challenges. Plutonium programs may be vulnerable to interdiction due to their reliance on large reactors that produce significant signatures. Destroying the reactor at Bushehr could set back Iran's plutonium program several years, provided Iran is not building or operating a clandestine plutonium production reactor elsewhere. The Bushehr reactor would have to be targeted prior to start-up to avoid exposing civilians downwind to fallout.

Centrifuge programs pose a more complex set of challenges. A large number of workshops and factories may be involved in producing and assembling centrifuges, and they can be widely dispersed and easily hidden. Centrifuge cascades can be housed in small, dispersed, nondescript facilities, as well as in huge plants such as the one at Natanz. If preventive action is to have a long-term impact, both production and enrichment facilities would have to be destroyed, which may not be practical. The uranium conversion plant at Esfahan may therefore be the weak link in the chain; destroying it could set back Iran's centrifuge program several years, provided Iran does not possess a pilot plant or duplicate facility elsewhere.

Political challenges. There seems to be broad support in Iran for the government's efforts to acquire nuclear weapons. Thus, should it act preventively, the United States must ensure that such action does not poison the reservoir of pro-American goodwill among young Iranians, thereby complicating efforts to encourage political change and improve U.S.-Iranian relations. From a political perspective, overt U.S. military action would be the least desirable option. To resolve this dilemma, the United States might undertake covert action or encourage preventive action by its allies.

Other than Israel, few, if any, U.S. allies would be willing or able to carry out such an operation. Moreover, overt Israeli action would almost certainly be seen as inspired by Washington, and Iran might be tempted to strike back in ways that would heighten tensions between Israel and its neighbors and harm U.S. interests (e.g., encouraging Palestinian terrorism against Israeli or American targets; goading the Lebanese Hizballah -- with its 8,000-plus katyusha rockets -- to heat up the border with Israel). Israel may be willing to accept these risks in order to deal with a perceived existential threat.

Covert action would be the most politically expedient way to disrupt Iran's nuclear program, as it would reduce the risks of a political backlash and complicate identification of a target for retaliation. U.S. intelligence, however, would have to recruit well-placed assets in key facilities in both the plutonium and uranium-enrichment programs; for this reason, the prospects for success seem remote.

Overt military action (e.g., cruise missiles; strike aircraft) may offer the best hope for striking all of Iran's critical nuclear facilities at once. But overt action is politically problematic. It could prompt a backlash among Iranians formerly sympathetic to the United States, strengthen the hand of hardliners, and spur the regime to retaliate against U.S. interests in the Gulf or elsewhere. Should overt action be deemed necessary, Washington could best

explain its intervention in terms that some of the many Iranians hostile to the country's hardline clerical leadership might understand: a desire to deny the hardliners -- who support repression at home and terrorism abroad -- access to nuclear weapons.

Conclusion

Successful U.S. prevention would require exceptionally complete intelligence; near flawless military execution; and deft poststrike diplomacy to mitigate nationalist/anti-American backlash, deter retaliation and, most important, catalyze political change in Iran. The complex, daunting, and somewhat contradictory nature of these challenges (e.g., successful prevention could harm short-term prospects for political change and complicate long-term prospects for rapprochement with a new Iran) only underscores the importance of exhausting diplomatic options before giving serious consideration to military action. Washington, moreover, must supplement these efforts with a serious push to prevent North Korea from emerging as a nuclear supplier to Iran and others. Time is short, and whether it chooses diplomatic or military tools, the United States must act soon, vis-a-vis both Iran and North Korea.

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