Iran's Nuclear Program:

Gathering Dust or Gaining Steam?

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Brief Analysis

As the United States looks to disarm Iraq and to defuse or defer a nuclear crisis with North Korea, another nuclear crisis -- with Iran -- looms on the horizon. U.S. policymakers could face critical decisions this year regarding Iran's nuclear program as the Bushehr reactor approaches completion, as Iran's efforts to produce fissile material progress, and, most alarming, as North Korea appears poised to become a significant producer -- and perhaps supplier -- of fissile material.

Bushehr: Approaching Completion?

Russian officials recently announced that the first reactor at Bushehr (Unit I) may be completed this year, with the first consignment of reactor fuel to be delivered by early next year (provided Tehran agrees to return it to Russia for reprocessing). Delays have dogged Iran's nuclear program from its inception: Russia originally undertook to complete Unit I by 1999. Problems completing the project -- or teething problems during reactor startup -- could further delay the program. Conversely, successful completion of Unit I could lead to contracts for additional reactors at Bushehr and Ahvaz.

Although not ideally suited for the purpose, Bushehr could become a source of plutonium for weapons. For example, during a protracted crisis or war, Tehran could run the reactor at economically inefficient low fuel burn-up levels to produce weapons-grade plutonium or, alternately, separate reactor-grade plutonium from spent fuel awaiting reshipment to Russia. Although reactor-grade plutonium is not ideal for bombmaking (radioactivity makes it dangerous to work with, while its isotopic composition makes for an inefficient and unreliable weapon), the United States demonstrated the military utility of such plutonium in a 1962 underground nuclear explosive test. Assuming that the Bushehr reactor begins operation early next year, Iran could produce plutonium by 2005. Weaponization could take another six to twelve months, provided that Iran has the requisite know-how.

Clandestine Fissile Material Production?

Iran is apparently constructing a heavy-water production plant at Arak and a gas-centrifuge plant at Natanz. The existence of these facilities -- confirmed by U.S. officials in December 2002 -- raises troubling questions. Given that there is a heavy-water plant, where is the associated heavy-water reactor? And how advanced is the Iranian

centrifuge program, which reportedly benefited from Pakistani help in the early 1990s and North Korean help in the late 1990s? Although a recent report in the Israeli daily Ha'aretz claimed that North Korea is conducting centrifuge enrichment work in Iran in order to hide it from U.S. intelligence, Western officials quoted in Nucleonics Week assert that Iran remains years away from large-scale uranium enrichment.

North Korea as Nuclear Merchant?

Over the past two decades, Iran has emerged as the premier customer for North Korean arms, missiles, and, more recently, nuclear technology. Were North Korea to reprocess its declared stock of spent fuel, it could separate enough plutonium within a year for five to six nuclear weapons. Pyongyang might then opt to export some of that plutonium. Were North Korea to continue its uranium enrichment program, resume operation of its existing reactor, and complete work on two unfinished reactors, it could be producing enough fissile material within five years for up to fifty nuclear weapons per year. Based on its record, there is reason to believe that Pyongyang might be willing to sell fissile material and weapon design data to proliferators in the Middle East and elsewhere.

What Can Washington Do?

Iran is in the midst of a profound, protracted domestic crisis that holds the potential for dramatic political change in Tehran and rapprochement with Washington. Although change seems certain, when it will occur is unclear. Without effective steps on Washington's part, Iran's embattled conservative clerical leadership might obtain a nuclear weapon before they are removed from power.

Delay, Delay, Delay. Past U.S. efforts to staunch Iran's nuclear program have relied on diplomacy and on denying Tehran the necessary technology and financing. These measures have succeeded in delaying, but not halting, Iran's efforts. Washington should continue its efforts to curtail Russian assistance to Iran while tightening restrictions on ongoing activities at Bushehr and elsewhere. In particular, Washington should press Moscow to insist on the early return of spent fuel in order to prevent Tehran from accumulating large quantities. Moreover, China should be watched to ensure that it honors its commitment to strictly limit aid to Iran's civilian nuclear program.

Enhanced Safeguards. The United States should continue to press the International Atomic Energy Agency (IAEA), Russia, and its allies for help in prodding Iran to sign onto the Additional Protocol of Program 93+2, the agency's enhanced safeguards system. Yet, whatever its potential to detect Iranian violations of the Treaty on the Non-Proliferation of Nuclear Weapons, Program 93+2 is not a panacea. As Baghdad has repeatedly demonstrated, proscribed activities can be hidden from more intrusive inspection and monitoring regimes than the IAEA's, and even compelling technical evidence of such activities (e.g., the 1998 detection of VX decomposition products on Iraqi Scud warheads) can be trumped by the politics of the UN Security Council.

Encourage Political Change in Tehran. Popular discontent with clerical rule in Iran is unlikely to produce change in the nuclear arena. To the degree that is possible to assess popular and elite opinion on such matters, support for Iran's weapons of mass destruction programs appears to come from across the political spectrum. Thus, regime change may not alter Iran's motivation to develop such weapons. It could, however, bring to power leaders who are more sensitive to the potential costs of nuclear proliferation -- who might, if the price is right, postpone crossing the nuclear threshold, or at least act more responsibly if they did acquire nuclear weapons. Therefore, Washington should leverage successful regime change in Afghanistan (and, perhaps soon, in Iraq) to embolden those seeking political change in Tehran and to deter the more bellicose members of Iran's clerical leadership.

Preventive Action? If other measures do not suffice, the United States might have to consider preventive action against Iran's nuclear infrastructure. In considering specific options, however, Washington must ensure that its actions do not poison the reservoir of pro-American sentiment among Iranians, which may eventually provide the foundation for better relations. To resolve this conundrum, the United States might have to encourage preventive

action by its allies or undertake plausibly deniable covert action of its own. Should overt action be deemed necessary due to operational considerations, Washington would be well-advised to justify prevention in terms of its desire to deny Iran's hardliners access to nuclear weapons. Moderate Iranians angered by a U.S. preventive strike but also hostile to the clerical regime might then at least understand the concerns that prompted U.S. action. Moreover, prevention would have to produce significant setbacks in Iran's nuclear program to justify the likely political cost of such action. Obtaining the detailed intelligence necessary to strike with this kind of effectiveness could, however, prove very difficult.

The North Korean Angle. Finally, any attempt to thwart Iran's nuclear ambitions must be coupled with efforts to prevent North Korea's emergence as a supplier of nuclear technology, materials, or weapons. Ultimately, preventing an Iranian nuclear breakout might depend on Washington's ability to forestall cooperation between Pyongyang and Tehran.

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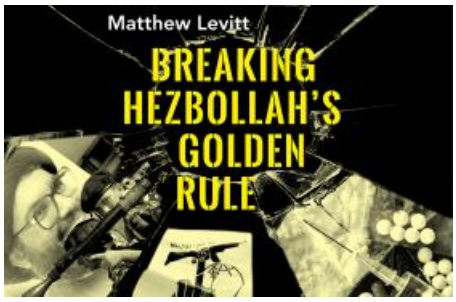

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