



## Covering all the Iran Nuclear Breakout Paths in the P5+1 Negotiations

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If Iran were to make the political decision to produce a nuclear weapon after a comprehensive nuclear deal, conventional wisdom currently varies on how Iran would cheat on such a deal. Would Iran use its declared nuclear facilities to secretly make enough highly enriched uranium (HEU) for a bomb or would it build covert sites to make the HEU? Unfortunately, this debate over guessing Iran's future breakout decisions is counterproductive to the achievement of an adequate long-term nuclear deal between the P5+1 and Iran. It is best to take a broad view and secure a deal that makes all of Iran's paths to the bomb a time consuming, risky effort.

Some of those who would argue that only the covert route is likely are tempted to live with Iranian demands for keeping a far greater number of centrifuges at declared sites than the U.S. government wants. Some would accept all of Iran's currently installed centrifuges, which number 10,000 IR-1 centrifuges currently enriching and another roughly 9,000 installed but not yet enriching, including about 1,000 advanced centrifuges. A few have even said that the number of centrifuges at declared sites does not matter, since only covert breakout is conceivable.

In contrast, the United States has stated that it wants only about 1,000 to 2,000 IR-1 centrifuges enriching and the rest non-operational or dismantled. (Recently, as a proposed compromise, that number has reportedly increased to about 5,000 IR-1 centrifuges). Undersecretary of State Wendy Sherman recently said, "We must be confident that any effort by Tehran to breakout of its obligations will be so visible and time-consuming that the attempt would have no chance of success." That goal requires that all of Iran's paths to the bomb are limited.

Those advocating the covert route to nuclear weapons as the most likely or only path often rely on the U.S. 2007 National Intelligence Estimate, *Iran: Nuclear Intentions and Capabilities*. It concluded, "We assess with moderate confidence that Iran probably would use covert facilities—rather than its declared nuclear sites—for the production of highly enriched uranium for a weapon." That assessment may have been true in 2007 when Iran had few centrifuges and in fact, was building a covert centrifuge plant at Qom, now called the Fordow facility. However, that statement is no longer true.

At this point in time, it is unlikely that Iran will put all its eggs in one basket, the covert pathway basket, for fear of getting caught again, long before it has enough weapon-grade uranium or separated plutonium for nuclear weapons. The revelation about the Qom enrichment plant was highly damaging to Iran's international credibility. For example, Russia became much more critical of Iran after this revelation and the creation of damaging sanctions became easier. Therefore, Iran is unlikely to want to repeat that mistake without greater assurance of being able to successfully hide a covert program, something it likely lacks now and will not likely gain anytime soon if the long term deal is carefully crafted by the United States and its partners.

Iran is more likely today to pick a safe route and seek to maintain and increase its capabilities at declared centrifuge sites, the associated centrifuge manufacturing complex, and centrifuge R&D facilities. It would view this path as the preferred one, because it can simply and legitimately claim that all its activities are civil in nature, even if it is actually hiding the goal of eventually seeking nuclear weapons. If it opts to make nuclear weapons in the future, its declared programs could serve as the basis of whatever it does. Then, it could pursue breakout as it deems most appropriate, whether by misusing its declared centrifuge facilities, building covert ones, or using both paths together.

Thus, the U.S. goal should be limiting sharply the number of centrifuges at declared sites and constraining centrifuge manufacturing and R&D activities. This approach would greatly diminish Iran's ability to breakout to nuclear weapons. If Iran decides to build nuclear weapons in the future, it would have to start from this relatively low level of capability, regardless of the path it would actually select in the future. The long time to acquire enough HEU for a weapon may turn out to deter Iran from even trying.

This strategy depends on creating a robust verification regime able to detect covert nuclear activities. Iran has assuredly learned from its mistakes at hiding the Qom enrichment site. In fact, it has likely developed more sophisticated methods to hide covert nuclear activities. But robust verification, which requires measures beyond the Additional Protocol, can provide assurance that Iran is not hiding centrifuge plants or other nuclear capabilities in the future. These additional verification measures would ensure that Iran would have a very hard time creating a covert program outside of its declared programs after signing a long term agreement.

It is wiser to anticipate and block all of Iran's potential future paths to the bomb, rather than guessing and picking the wrong one.