

Status of the Iran Nuclear Deal: Q&A with Ernest J. Moniz

Iran's announcement that it would no longer abide by certain "operational restrictions" on uranium enrichment in the Iran nuclear deal has prompted a slew of questions about Iran's activities and intent, the status of the deal (more formally, the Joint Comprehensive Plan of Action or JCPOA), and what will (or should) happen next.

These questions are best understood in the context of the structure of the JCPOA, a deal built on Iran's commitment that its nuclear activities would be exclusively peaceful. First, Iran has biting restrictions on its nuclear activities, some time-limited and others in perpetuity. Second, and more important, Iran is subject to a unique comprehensive verification regime, with the international inspectors granted capabilities available to them nowhere else.

Is Iran's Jan. 5, 2020 nuclear announcement a response to the killing of Iranian General Qasem Soleimani?

No. The timing was coincidental to the killing of Soleimani. In May 2019, one year after the United States unilaterally withdrew from the JCPOA, President Hassan Rouhani announced that Iran would begin stepping back from some of its commitments and would announce additional steps away from the deal every 60 days, unless the remaining JCPOA partners delivered promised sanctions relief. Iran deemed the subsequent steps taken by the E3/EU countries (France, Germany, and the United Kingdom, and the European Union) insufficient. Its "fifth and final" announcement came on January 5, as expected.

Has Iran effectively "quit" the JCPOA?

No. Tehran has made clear in its announcements that it is taking steps while remaining "within the deal," to cease performing "in part" certain JCPOA commitments. Iran stated that the steps could be reversed, though it can never "reverse" the experience gained through nuclear operations. Still, Iran can remove and dismantle equipment and ship out or dilute the material. More importantly, Iran has so far continued to comply with a key element of the deal: its stringent verification and monitoring measures, including on specific non-nuclear activities needed for nuclear weapons development. If Iran chose to "break out" of the deal or rush to build a bomb, the verification system would provide early indication. I have characterized the JCPOA approach as "don't trust...and verify, verify, verify."

What are Iran's current capabilities? How quickly could it build a nuclear weapon?

Before negotiations with Iran started in the mid-2010s, Iran's "breakout time"—or the time it would take to produce the first bomb-worth of nuclear material in an all-out effort—had shrunk to a couple of months, an estimate based on the quantity and type of its feed material as well as the quantity and type of gas centrifuges available to produce weapons-usable uranium. In the face of a unified international community, Iran accepted limits under the JCPOA that extended its breakout time to at least one year for the first 10 years of the deal. This was

accomplished by reducing Iran's nuclear infrastructure dramatically, removing 98% of its enriched uranium, and restricting its centrifuge development activities.

Now, though Iran's breakout time is decidedly longer than it was when negotiations started, it is inching back from one year because of the steps it is taking away from JCPOA restrictions. The speed at which the timeline will shrink depends on how much, and how quickly, Iran chooses to exceed the JCPOA limits. Reports from International Atomic Energy Agency (IAEA) inspectors, who remain on the ground daily, suggest Iran is increasing its enrichment levels only minimally but is expanding work on more efficient gas centrifuges. The next IAEA report in March 2020 will fill in many blanks, but the continued presence of the IAEA means the "worst case" breakout estimates, which would require Iran to use all its known facilities and materials, cannot take place without immediate detection.

A rush to a bomb can be maximally secret or maximally fast—but not both.

Regarding plutonium, which also can be used to build a bomb, Iran is abiding by limits in the deal that prohibit facilities from separating plutonium and is continuing to cooperate with China and the United Kingdom to modify its design for a new nuclear research reactor so that it will not produce suitable material for a weapon. The reactor that they were building before the JCPOA, which would have produced enough plutonium annually for one or two bombs, has been partially destroyed.

How do we know that Iran doesn't have any secret sites?

While there is broad agreement that Iran's structured nuclear weapons program ended after 2003, we can never be 100% sure that there are no clandestine activities related to nuclear weapons. However, the existing, intrusive verification system in Iran is designed specifically to identify indications of secret activity with as much warning time as possible and to give the international community the ability to follow up on any relevant evidence. It raises the bar substantially for hiding covert nuclear weapon development activities and getting caught again at such activities would mobilize a strong international response. The verification system is supplemented by national intelligence activities.

What should happen now?

The international community must work to reinvigorate diplomacy to address the Iranian nuclear challenge. Recent actions by the United Kingdom, France, and Germany to trigger the "dispute resolution mechanism" may serve this purpose, but it is a risky gamble. At a minimum, it will be necessary for the United States to work with our European allies, as well as Russia and China, to press Iran not to further expand its nuclear program. Whether or not the JCPOA survives, the core elements of the deal should remain important touchstones for any future arrangement: well-defined restrictions on Iran's nuclear fuel cycle activities for a significant period, paired with the highest possible level of international monitoring and verification.

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