



Iran Accelerates into the Nuclear Gray Zone

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On December 26, the International Atomic Energy Agency (IAEA) reported that Iran more than tripled its production rate of 60 percent highly enriched uranium (HEU) from the month before. This is the latest in a series of aggressive Iranian moves to entrench itself securely in the nuclear gray zone of nuclear weapons capability, where it can credibly threaten to field a sizable nuclear arsenal in short order without actually testing a bomb or clearly crossing U.S. and Israeli redlines.

Tehran's decades-long approach to this threshold has occurred entirely in a vacuum of serious U.S. prevention strategy. Iran has expanded its enrichment capacity most aggressively in the last 18 months, as it became abundantly clear the Biden administration had no plan beyond delaying or simply ignoring this problem as an inconvenient distraction from other global priorities. The collapse of Israeli deterrence on October 7, and the administration's reluctance to fill the ensuing void, only gives Tehran more incentive and opportunity to push deeper into the nuclear gray zone.

These developments make it imperative that the United States reestablish credible deterrence against the entire Iran-based problem set, of which the nuclear program is one key element.

What Happened?

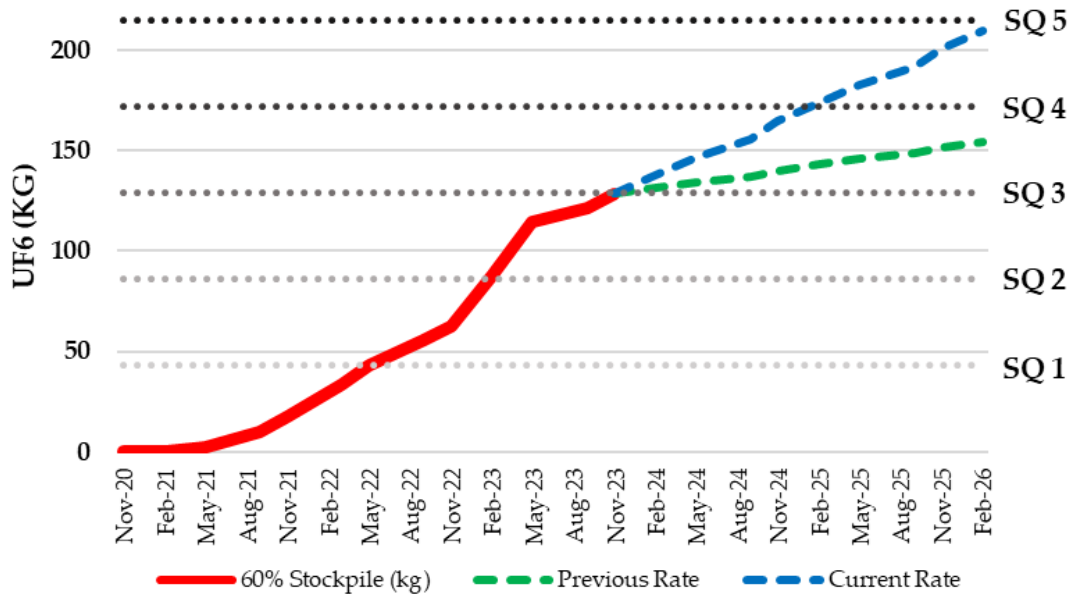
- On December 26, the International Atomic Energy Agency (IAEA) [informed](#) member states in a confidential report that Iran tripled its production rate of 60 percent highly enriched uranium (HEU) over the [previous month](#), from 3 kilograms per month (kg/mo) to 9 kg/mo.
 - » This followed June 2023 [reports](#) that Tehran had slowed this production rate to roughly 3 kg/mo from the previous rate of around 9 kg/mo.
 - » Though uranium enriched to 60 percent technically counts as fissile material, it also represents 95 percent of the work needed to achieve 90 percent HEU – the level at which enriched uranium could be converted and readily fitted in a missile warhead.

Why Is It Important?

- Reaccelerating 60 percent HEU production is just the tip of the iceberg of Iran's deeper advance into the gray zone of nuclear weapons capability, where it accrues the benefits, at minimal cost, of being perceived to be "a screwdriver's turn away" from achieving a nuclear arsenal that is deeply-buried and large enough to effectively be immune from military action.
 - » Iran already [possessed](#) three bombs' worth ("significant quantities," or SQ) of 60 percent uranium by December 2023, even before reversing the slowdown it initiated in mid-2023.

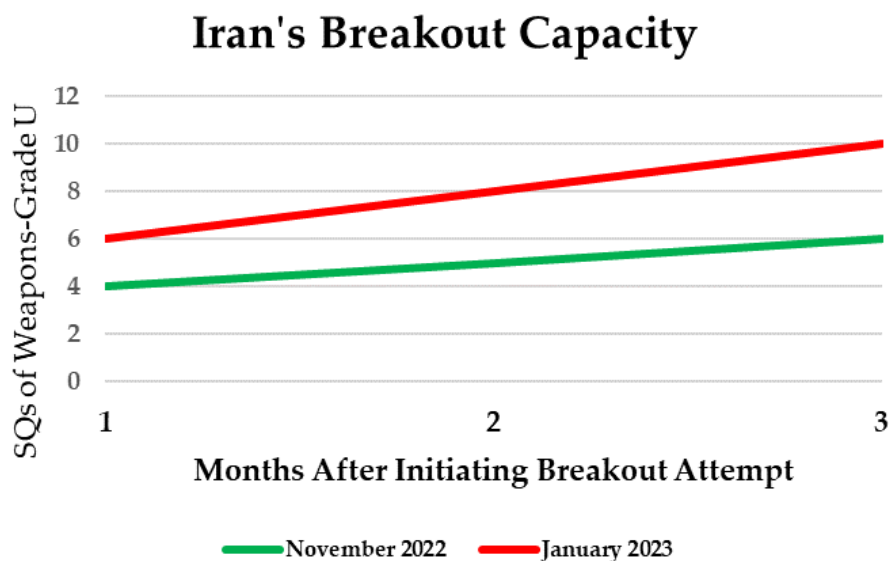
- » Returning to the higher production rate hastens Iran’s expected achievement of the next SQ of 60 percent uranium compared to the previous, slower rate (see chart).
- » In addition to verging on weapons-grade material, Iran already possesses delivery vehicles (cruise and ballistic missiles), and has worked extensively on the third and final element of nuclear weapons capability, namely: an explosive device for the delivery vehicle.

Iran's 60 Percent Stockpile



- Iran’s production of 60 percent HEU, which began in spring 2021, is one of its most impactful moves toward nuclear weapons capability, since currently it would need only two weeks to “break out” by converting its first SQ of 60 percent into 90 percent weapons-grade uranium – a timeframe far too tight to be reliably detected by IAEA inspectors.
- However, focusing on this metric risks obscuring Tehran’s much larger, ongoing build-out of its nuclear weapons program to make it more productive, survivable, and undetectable – all of which began in earnest after President Trump left the JCPOA nuclear deal, but which then ramped up markedly in response to President Biden’s election and the concurrent killing of Mohsen Fakhrizadeh, one of the leading architects of Iran’s nuclear weapons program.
 - » After on-and-off talks from April 2021-August 2022 – premised on concerted, but open-ended and conciliatory, U.S. diplomatic outreach – failed to entice Tehran to rejoin the JCPOA, by November 2022 the Biden administration [admitted](#) privately that Iran killed the deal by expanding its nuclear program and refusing to negotiate in good faith. Yet the administration conspicuously avoided fulfilling its repeated pledges to increase pressure on Iran in response.
 - » Instead, it shifted into an autopilot of avoiding sanctions enforcement or responding to [persistent](#) Iran-backed strikes on U.S. bases in the Middle East, in the hopes of averting escalation and buying some semblance of quiet while it dealt with other priorities.
 - » Iran’s slowdown of its 60 percent uranium production over the summer showed the infeasibility and counterproductivity of this [non-policy](#), since it did nothing to slow Tehran’s larger march toward nuclear weapons capability – even as the Biden administration simultaneously agreed to give Iran billions of dollars in U.S. sanctions relief.

- Since this undeclared U.S. policy shift in late 2022, Iran’s nuclear program has expanded geometrically, and pushed into dangerous new areas of enrichment, including:
 - » [Increasing](#) by nearly half its stocks of 20 percent enriched uranium, which also can be converted fairly quickly into weapons-grade uranium, from October 2022-October 2023.
 - » [Deploying](#) large numbers of more advanced centrifuges, particularly IR-6 centrifuge cascades which can easily be modified to increase enrichment rates.
 - » [Moving](#) the core of its most dangerous enrichment activities 200 feet underground at its Fordo facility, including 60 percent enrichment with its most advanced IR-6 centrifuges, and modifying the groupings of these centrifuges to simplify the process of enriching to 90 percent weapons-grade fissile material.
 - In early 2023, it used this new configuration to briefly enrich [84 percent](#) uranium.
 - It also announced plans to more than [double](#) the current number of IR-6 machines operating at Fordo.
 - » Initiating new [mining](#) operations to increase its domestic supplies of uranium.
 - » Tehran also continued violating its IAEA safeguards agreements, including [expelling](#) roughly one-third of the IAEA’s top Iran inspectors from the country in September 2023, thus complicating detection precisely as it ramped up its enrichment activities.
- As a result, Iran’s ability to [produce](#) an arsenal’s worth of weapons-grade uranium has jumped appreciably during this period (see chart), and is set to continue expanding.



- Simultaneously, Iran’s potential progress on weaponization came to the fore in March 2023, when then-Joint Chiefs of Staff Chairman Gen. Mark Milley [testified](#) to Congress that Iran “would only take several more months to produce an actual nuclear weapon” after producing fissile material – significantly undercutting longstanding previous estimates of 1-2 years.
- By shattering Israel’s deterrence that had long substituted for the lack of America’s own, and straining Israeli forces on multiple fronts at home and distracting it from its prior [preparations](#) to strike Iran’s nuclear facilities, events since October 7 could make matters even worse on the nuclear front by emboldening Tehran to advance its program further, and/or use its position astride the nuclear weapons threshold to ramp up Middle East instability and undermine U.S. credibility, interests, and partners even more.

What Should the United States Do Next?

- Because deterrence is fungible, U.S. efforts to counter Iran’s nuclear advances must be part of a larger coherent strategy of building and enforcing credible threats against the full suite of Tehran’s malign behaviors, from its nuclear program to its proxies’ regional aggression.
 - » The steady ongoing rise in Iran-backed attacks around the region and its continual nuclear expansions put paid to Secretary Blinken’s [claim](#) in August that the administration is “pursuing a strategy of deterrence” against Tehran.
 - » By treating its clear and strong support for Israel as categorically separate from its own painfully obvious desire not to be forced to respond to Iran’s nuclear expansions and proxy attacks on U.S. forces and key shipping lanes, the administration encourages Tehran to escalate vertically via further proxy strikes against Israel and the United States, and horizontally by continuing to build out and obscure its nuclear weapons program.
 - » Addressing this credibility and clarity deficit requires stronger warnings to Tehran that the United States will respond how and where it chooses, including directly against Iranian targets, to any Iran-led escalation that threatens itself, Israel, and/or the region.
 - Concomitantly, it entails an end to the administration’s [unprompted](#) avowals of its own self-deterrence and overarching desire to avoid risks of escalation, which counterproductively signal to Iran it can continue escalating at no risk or cost to itself.
 - » The Biden administration also should explicitly issue a redline against Iran achieving nuclear weapons [capability](#) rather than its higher current bar of a working Iranian nuclear weapon, which Tehran’s ongoing advances threaten to make completely irrelevant.
- Congress needs to backstop the administration by getting its act together and passing vital measures to support both nonproliferation efforts and America’s ally Israel against Iran.
 - » It should initiate the “legislative snapback” process to block further U.S. sanctions relief for Iran and signal bipartisan congressional support for enhanced pressure on Tehran in response to the latter’s egregious and serial violations of nonproliferation obligations.
 - » It also should enact a significant aid package for Israel, in order to strengthen shared bilateral efforts to push back and impose serious costs on Iranian aggression.