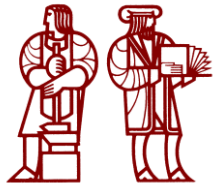

MIT
Science, Technology, and
National Security Working Group

Iran: is Now the Second Undeclared Nuclear Weapon State in the Middle East

July 18, 2025

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Iran Can Almost Certainly Start Producing Roughly 10 Atomic Bombs with Proven, in Hand, Iranian Materials, Technology, and Equipment

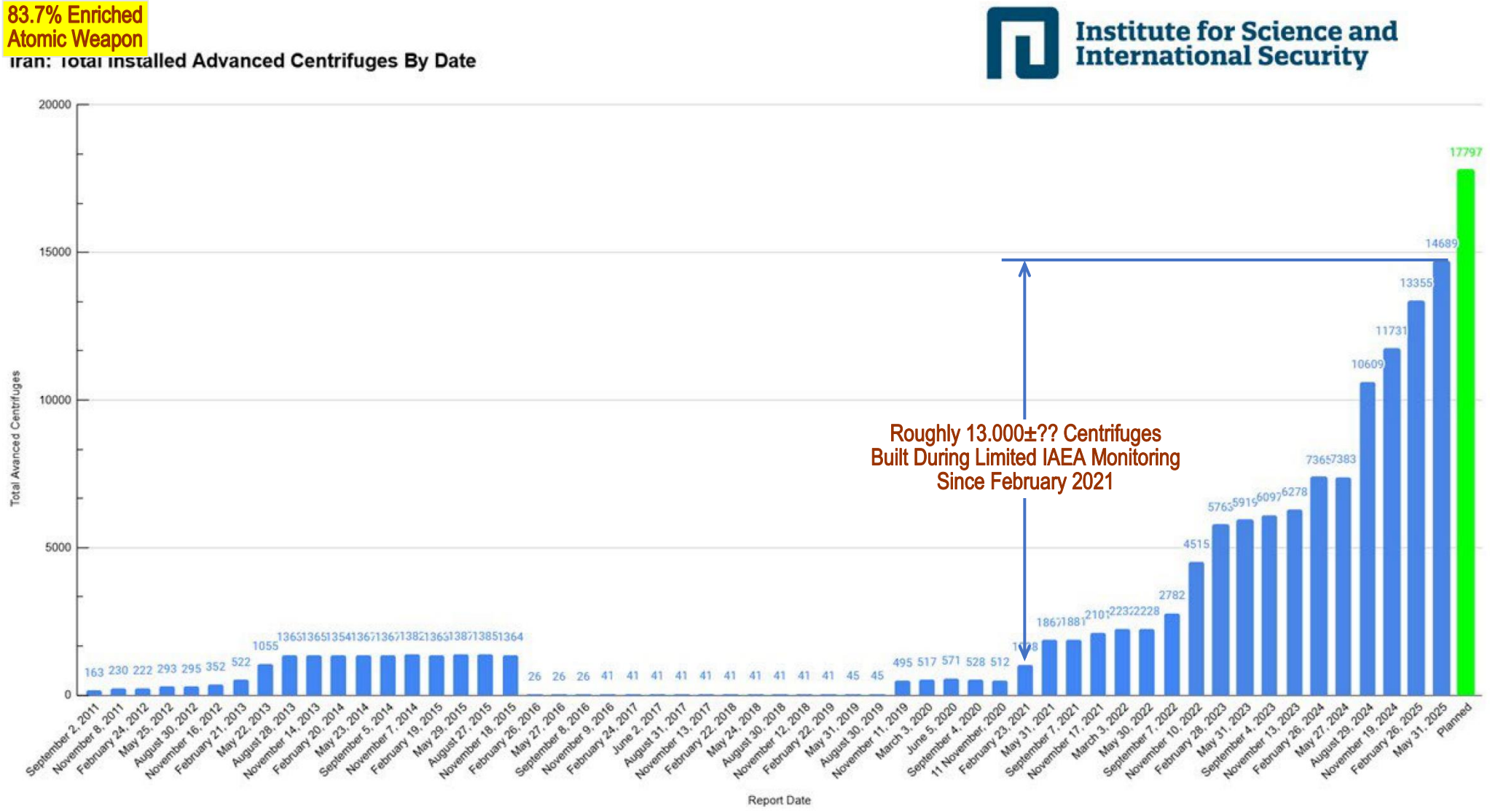
1. Iran has 408 kg of 60% enriched uranium hexafluoride 235 which can be used to produce 10 atomic weapons with either 90% or 83.7% enriched uranium 235
2. There are significant advantages to producing these weapons with 83.7% enriched uranium 235
3. In early 2023, the International Atomic Energy Agency (IAEA) detected uranium particles enriched to 83.7% purity at Iran's Fordow Enrichment Site.
4. The critical mass to produce atomic weapons from 83.7% uranium 235 is only 17% larger relative to 90% enrichment
5. 83.7% enriched uranium for a bomb is more easily and quickly obtained than 90% enriched Uranium.
6. For enriching from 60% U^{235}, 83.7% enriched uranium requires 25% less enrichment time and effort than for 90% enrichment (92 SWU relative to 120 SWU)
7. This means that that Iran has already demonstrated with its own centrifuges that it can produce roughly 10 atomic bombs using 83.7% enriched weapons grade uranium 235.
8. Since February 2021, Iran has produced roughly 13,000 centrifuges without its centrifuge production being monitored by the IAEA (see NOTE below)
9. If even 1% to 2% of the centrifuges being manufactured were clandestinely removed from the production line, Iran would have enough centrifuges to produce the needed weapons grade uranium 235 for an atomic bomb within a month or two.
10. Diversion of 4% of the centrifuges being produced could be used to build three full centrifuge cascades (174 centrifuges) capable of producing 83.7% enriched uranium for an atomic bomb every 10 to 11 days.

NOTE:
Since February 2021, Iran has denied IAEA access to recorded data from centrifuge production plants and in June 2022 forced the IAEA to remove monitoring equipment altogether from such plants as well as from uranium enrichment and uranium concentrate (yellowcake) production facilities. Although a few cameras were re-installed at centrifuge production plants in May 2023, the Agency still cannot access the recordings. Iran has also refused to cooperate with the Agency's investigation of uranium particles found at two undeclared sites. The overall effect has caused the IAEA to lose knowledge of essential elements of Iran's program.

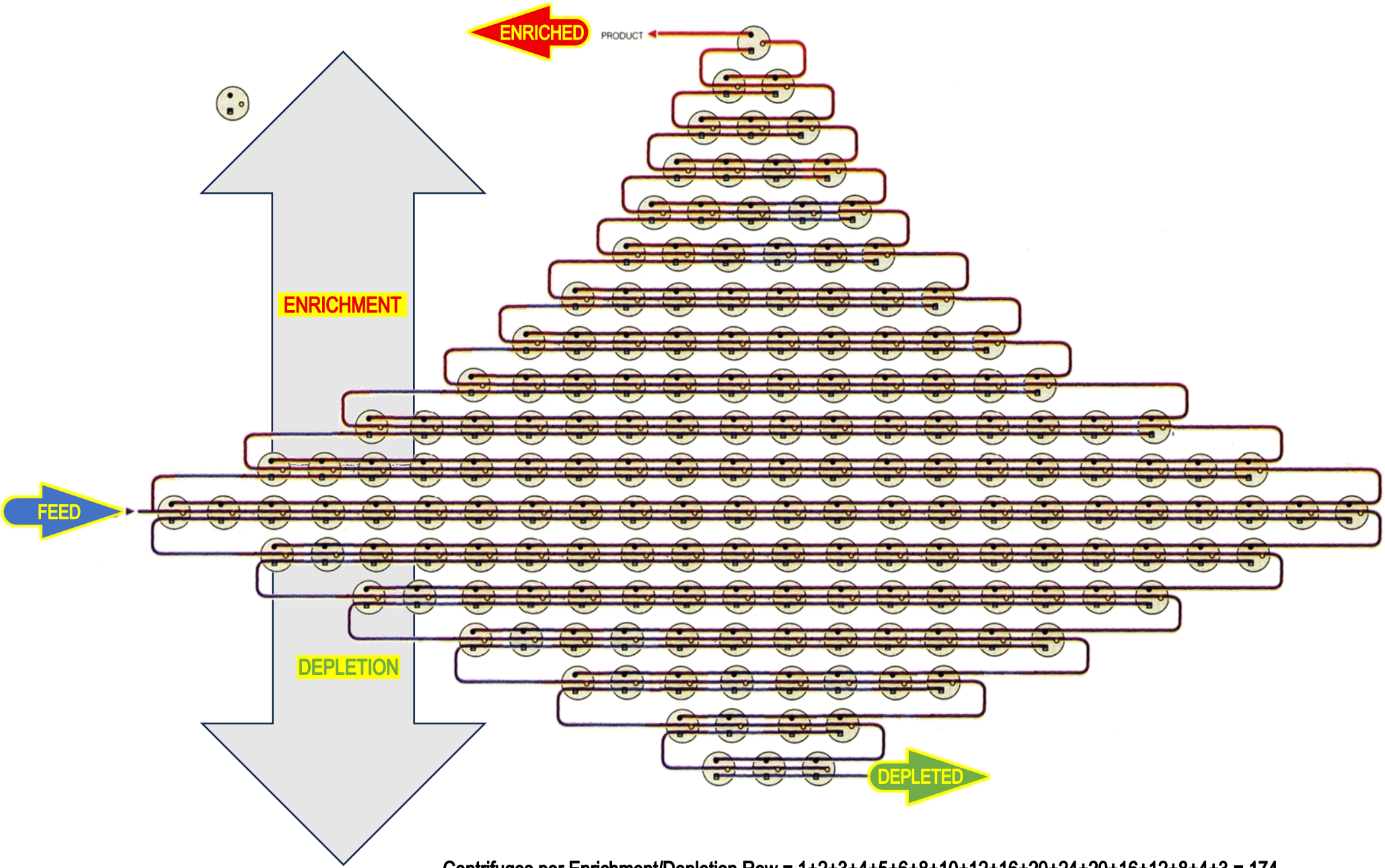
The International Community (IAEA) Has Not Been Able to Monitor Iran's Centrifuge Construction Program Since February 2021

Since Monitoring Stopped, the Current Estimate is Roughly 13,000 Centrifuges ±?? Have Been Produced

83.7% Enriched Atomic Weapon

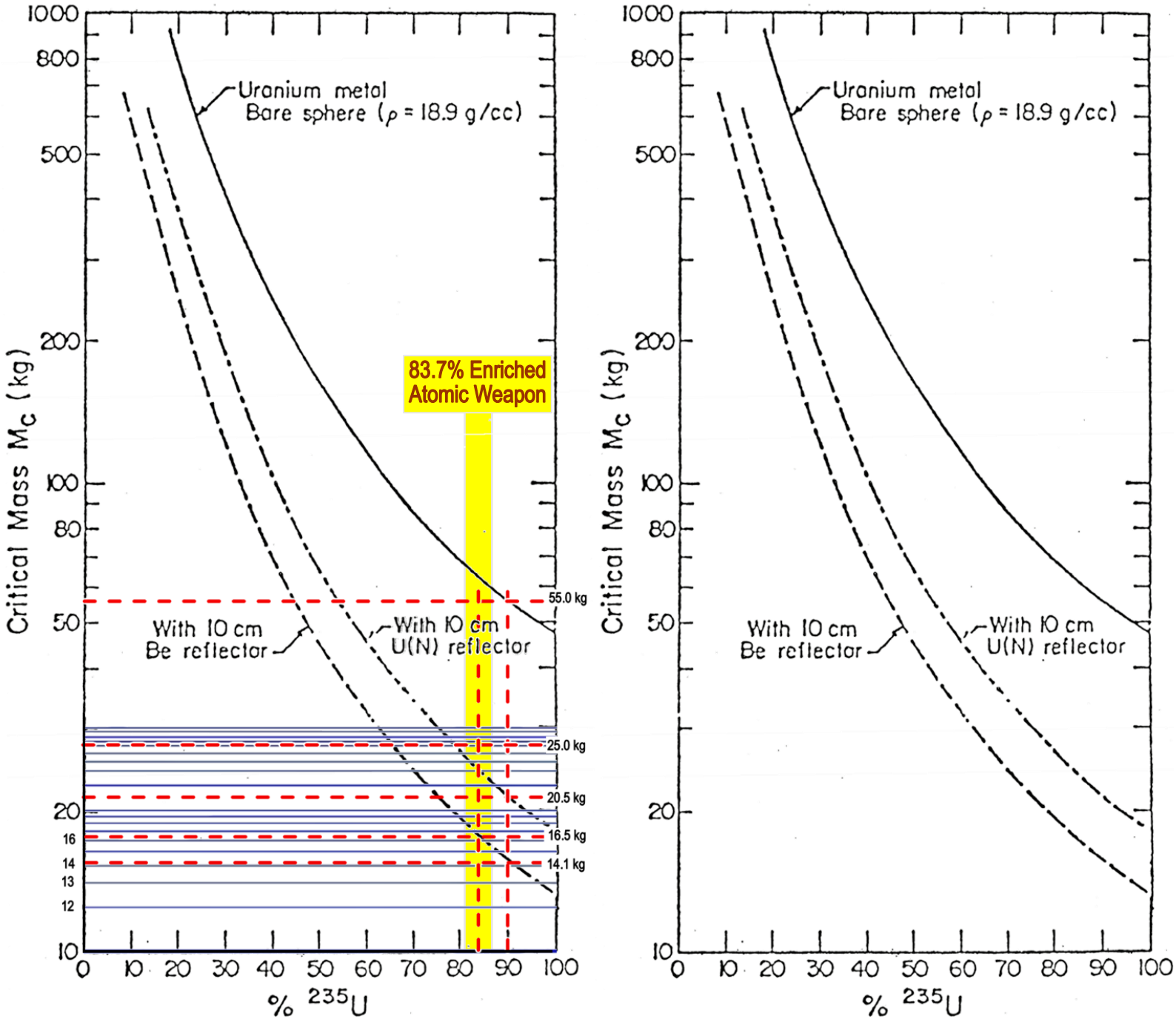


Rough Estimate of the Configuration and Enrichment Paths of a 174 Centrifuge Cascade at Fordow, Iran

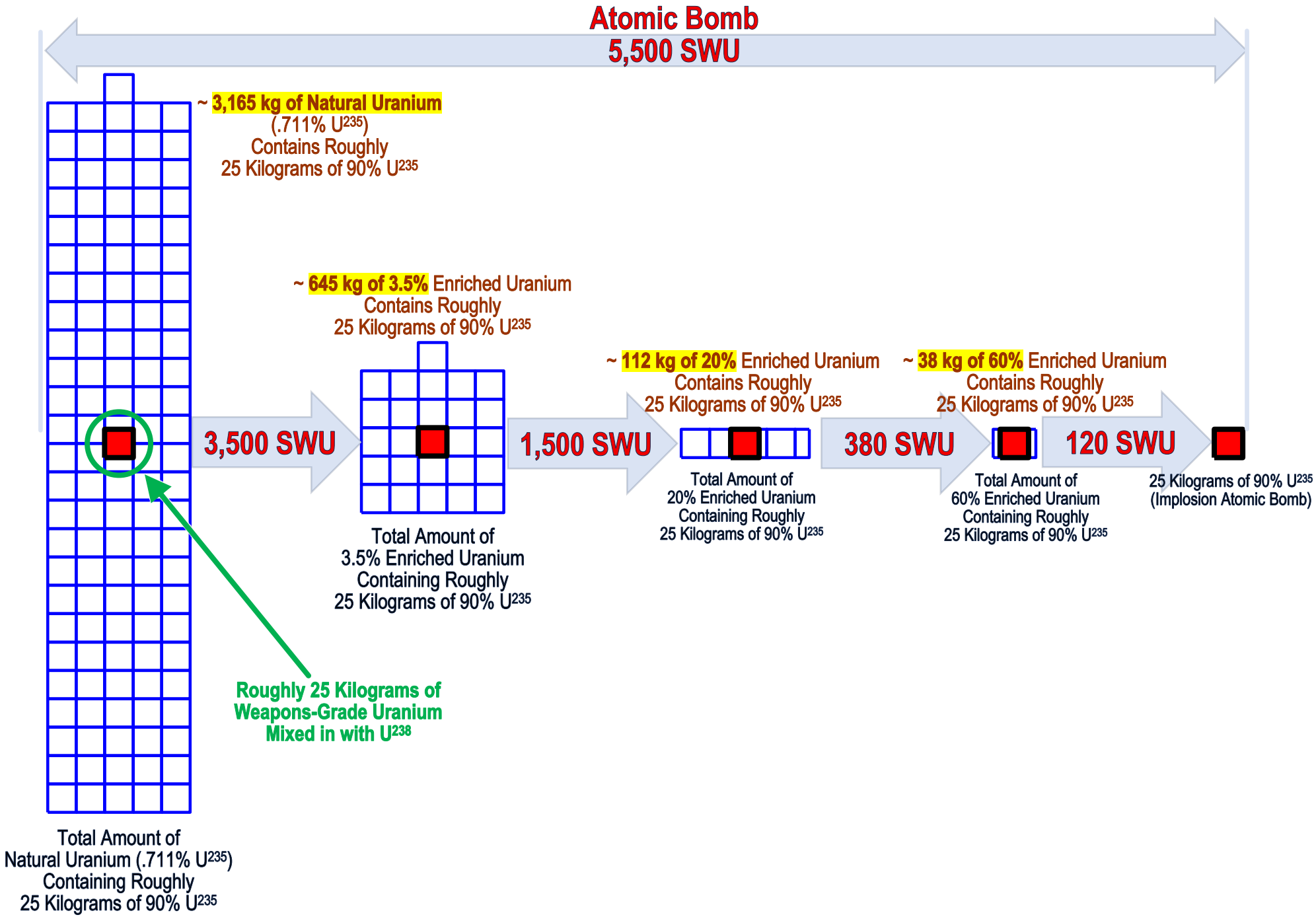


Centrifuges per Enrichment/Depletion Row = 1+2+3+4+5+6+8+10+12+16+20+24+20+16+12+8+4+3 = 174

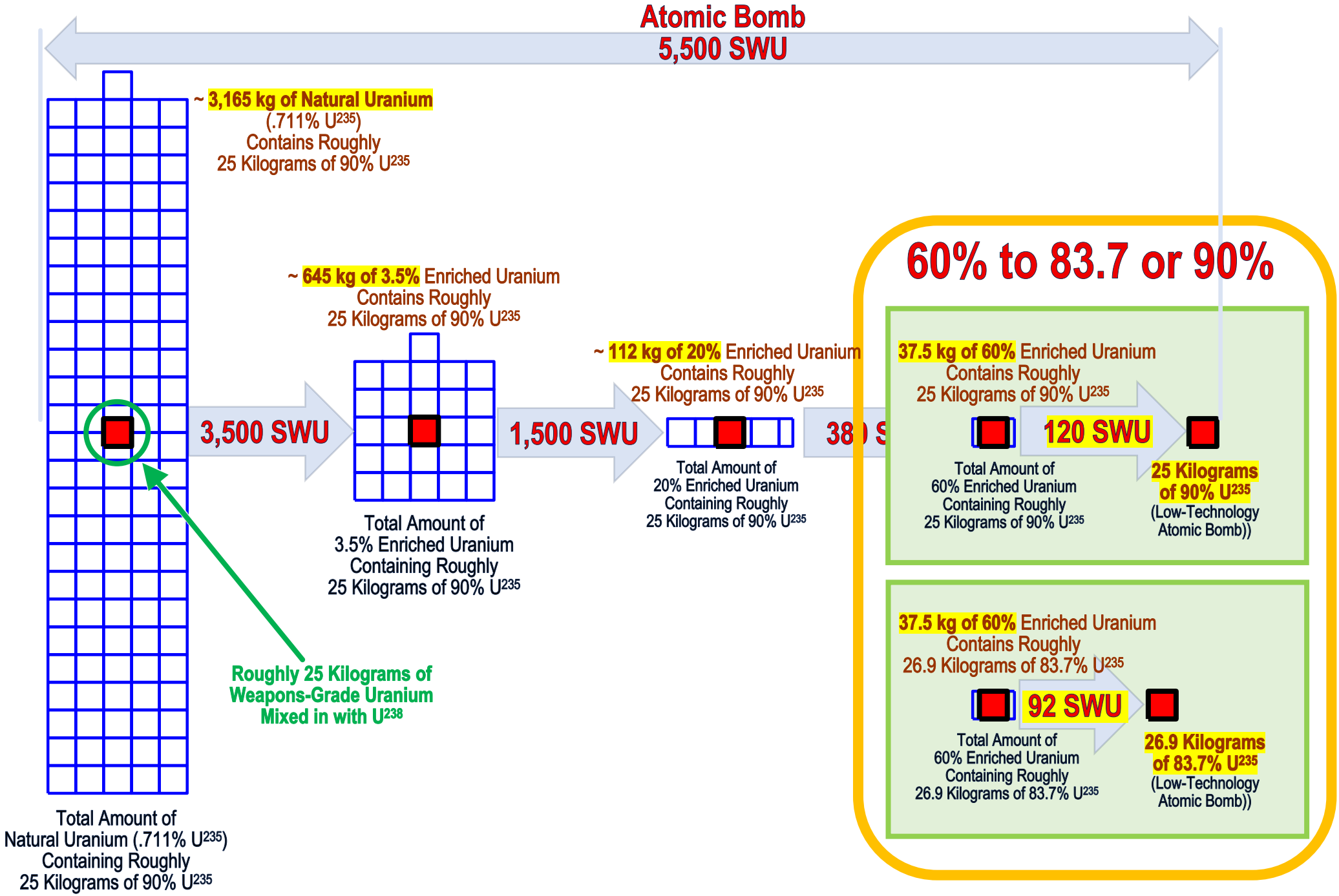
Critical Masses of Bare, Beryllium Reflected, and Uranium Reflected U^{235} and Pu^{239} Atomic Bombs



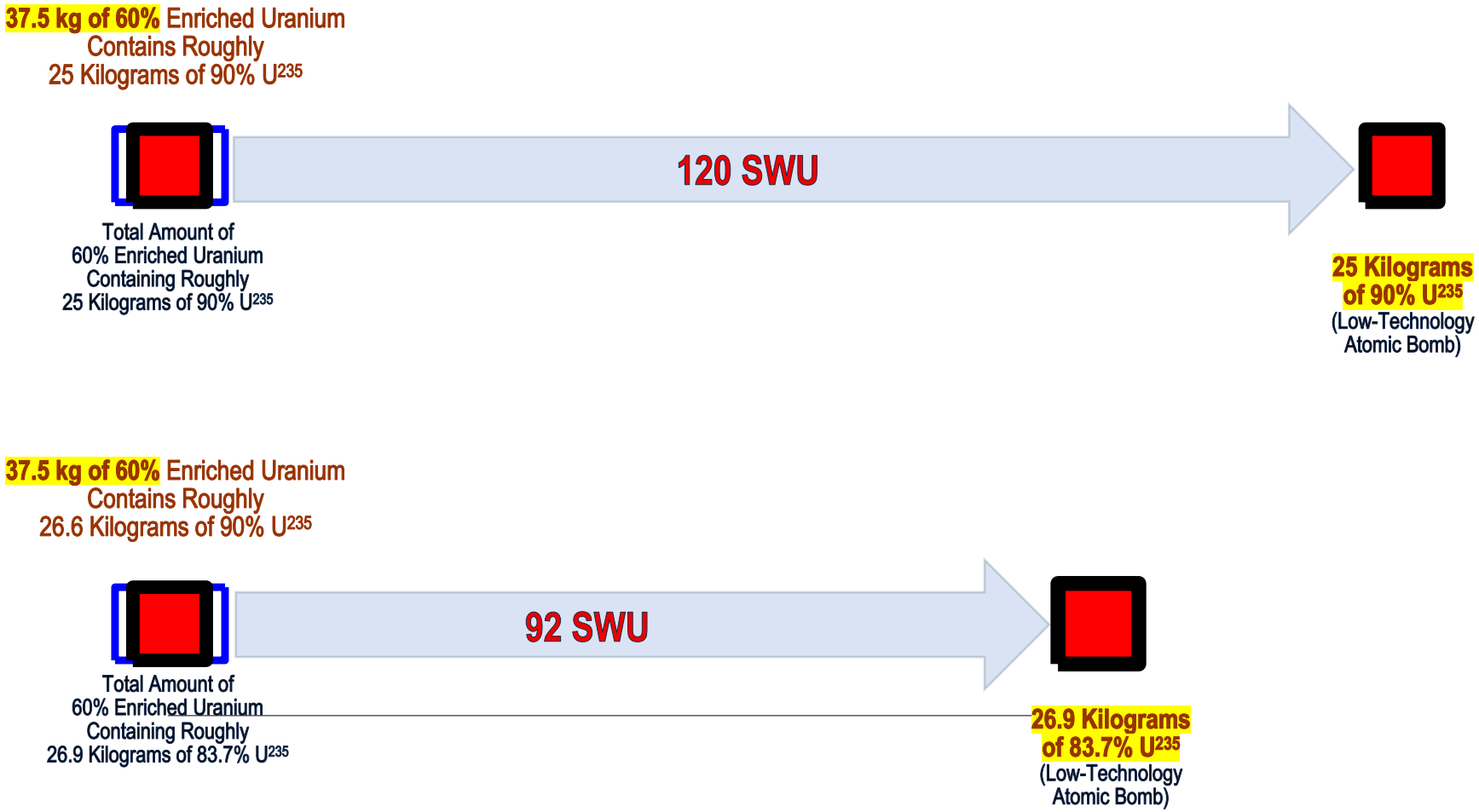
Separative Work and Quantities of Uranium Required to Get to Various Levels of Enrichment



Separative Work Quantities for Uranium Enrichment to 83.7% and 90% From 60% U^{235}



Separative Work for 83.7% U^{235} and 90% U^{235} Iranian Atomic Bombs



Arithmetic Notes

3,164.6 kg of Natural Uranium Needed to produce 25 kg of 90% Enriched Uranium or 37.5 kg of 60% Enriched Uranium

37.5 kg of 60% Uranium Can be Enriched to 25 kg of 90% Enriched Uranium

37.5 kg of 60% Uranium Can be Enriched to 26.9 kg of 83.7% Enriched Uranium (An Increase in Mass of 7.5%)

Critical Mass of 90% Enriched Uranium with 10 cm Beryllium Reflector is 14.1 kg (21.5 kg UF_6)

Critical Mass of 83.7% Enriched Uranium with 10 cm Beryllium Reflector is 16.5 kg (24.75 kg UF_6, An Increase in Mass of 17%)

17.9 kg of 83.7% Uranium Produced from 26.9 kg of UF6 (

37.5 kg Produces Roughly 16% More 90% Uranium Than Needed for a Critical Mass

37.5 kg Produces Roughly 7% More 83.7% Uranium Than Needed for a Critical Mass

SWU's Needed to Produce Atomic Bomb from 90% Enriched Uranium ~ 120 SWU

SWU's Needed to Produce Atomic Bomb from 83.7% Enriched Uranium ~ 92.5 SWU –
Roughly 25% Less Enrichment Time and Effort Needed to Produce an Atomic Bomb

Most Efficient Path to 10 Atomic Bombs is 83.7% Enrichment

The US and Israeli Intelligence Community (Working Together) Agree that Iran Already Has the Capabilities

https://www.haaretz.com/opinion/2025-07-08/ty-article-opinion/.premium/israel-won-the-war-it-fought-but-iran-emerged-victorious-in-the-one-that-mattered/00000197-e931-d508-a997-eb751f1b0000

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Moty Kanias is a reservist colonel in the IDF's Intelligence and Operations divisions, and a former senior executive in Israel security agencies.

Israel Won the War It Fought. But Iran Emerged Victorious in the One That Mattered - Opinion - Haaretz.com

Moty Kanias, July 8, 2025

For years, Iran has been enriching uranium and threatening the region with nuclear weapons, resulting in all-out war last month. But what has been presented as one war, with Israel emerging victorious is misleading. The 12-day conflict was two wars: one which Israel won, and the other won by Iran.

Israel and the U.S. had a clear mission in their joint endeavor: To strike Iran's nuclear program and restore regional deterrence by crippling Iran's nuclear and ballistic infrastructure. Hit the facilities. Destroy the capabilities. Eliminate the threats. Annihilate expertise. Set back Iran's nuclear timeline by years.

Yes, these strikes were vital and effective in reaching their targets. But the timing was four years too late. Iran began enriching uranium to 60 percent in April 2021. In the four years since, Tehran has raced toward nuclear weapons capability, which largely went by without retaliation. Iran already built the very stockpile that would ensure their program's survival even after devastating attacks. That stockpile is 408 kilograms of uranium, enriched to 60 percent, just short of weapons grade.

Israel led the campaign while the U.S. landed the heaviest blows, with their awesome bunker-busting bombs. Coordination was tight. Intelligence was precise and even historic, proving the Israel-U.S. alliance is stronger than ever. The world watched with wonderment, glued to their screens, as the Natanz and Fordow enrichment sites were struck in what the U.S. called Operation Midnight Hammer and Israel dubbed Rising Lion.

Missile factories and research sites destroyed. Key scientists and military leaders killed. Iran's nuclear infrastructure and missile programs suffered brutal hits.

But all of that was entirely replaceable. Iran seems to have kept what mattered: those 408 kilograms of uranium enriched to 60 percent. Enough to continue their nuclear program even without the old infrastructure, the Islamic Republic's sacrificial lamb or perhaps its Trojan horse.

Each side fought for different goals and claimed different victories. Israel did manage to achieve a few of its objectives: take out infrastructure, pull the U.S. onto their side and even wreck Iran's aerial defense.

These objectives likely could not have been accomplished four years ago, when they could have actually far more effectively prevented Iran's nuclear program from enriching uranium. Only now, after the regional, strategic developments following October 7 were they feasibly attainable. First came the degradation of Iran's air defense systems after the April 2024 volley of attacks between the Islamic Republic and Israel. Then, Israel's victory over Hezbollah, taking out Iran's strongest proxy. Finally, came the collapse of the Assad regime in Syria. Iran's protective shield was systematically dismantled, one piece at a time.

All this needed to happen in order for Israel to even attempt striking Iran's nuclear infrastructure. But doing so now was too late. The uranium is already enriched.

Iran fought a different war entirely. The Islamic Republic was likely not trying to win militarily – they were trying to survive politically while gaining strategic legitimacy. Turn losses into proof of importance. Make getting hit look like playing with the big kids, being respected by the world's superpowers. Yes, their nuclear infrastructure was severely damaged, but they had three outcomes in mind that to them were far more important than Fordow, than any general or even than strikes during a live TV broadcast.

In the meantime, Iran fought a second war – on the narrative front.

Domestically, Tehran censored footage of the destruction helped by their 95 percent shut down of the internet while exaggerating the success of its own attacks on Israel. To their public, they showed strength and control, thus preventing regime change.

Internationally, global calls for restraint gave Tehran something more valuable: legitimacy. The world treated Iran as a negotiating partner – not a rogue regime.

And so in addition to keeping its 408 kilogram of uranium safe from combined U.S. and Israeli attacks, they also managed to hold on to control while improving their standing on the global stage. Iran's ability to absorb punishment, control the story and avoid collapse may be its biggest win.

Plus, with its uranium stockpile likely dispersed and intact, Tehran no longer needs to rebuild everything – just maintain ambiguity. In this way, they can maintain their position as a partner that must be negotiated with. You don't need to test a bomb if everyone assumes you have one.

Iran can now mirror other regional powers, namely Israel: never confirm, never deny – just imply. This "threshold" position brings maximum strategic benefit with fewer consequences.

From Tehran's perspective, Iran may have emerged stronger: More legitimate at home, more respected abroad and closer to nuclear threshold status without crossing it. While the world watched explosions, Tehran quietly moved toward its real goal.

Their ultimate victory? Being treated as a nuclear power – without the risks of officially becoming one. In redefining what winning looks like, Iran may have changed the rules of modern conflict itself.

Moty Kanias is a reservist colonel in the IDF's Intelligence and Operations divisions, and a former senior executive in Israel security agencies.

https://www.nbcnews.com/politics/national-security/new-us-assessment-finds-american-strikes-destroyed-only-one-three-iran-rcna218761

EXCLUSIVE

NATIONAL SECURITY

New U.S. assessment finds American strikes destroyed only one of three Iranian nuclear sites

President Donald Trump rejected a military plan for more comprehensive strikes on Iran's nuclear program that would have lasted weeks, NBC News has also learned.

July 17, 2025, 5:00 AM EDT / Updated July 17, 2025, 9:30 AM EDT

By Gordon Lubold, Courtney Kube, Julie Tsirkin, Katherine Doyle, Dan De Luce and Carol E. Lee

/ 10:42

WASHINGTON — One of the three nuclear enrichment sites in Iran struck by the United States last month was mostly destroyed, setting work there back significantly. But the two others were not as badly damaged and may have been degraded only to a point where nuclear enrichment could resume in the next several months if Iran wants it to, according to a recent U.S. assessment of the destruction caused by the military operation, five current and former U.S. officials familiar with the assessment told NBC News.

The assessment, part of the Trump administration's ongoing efforts to determine the status of Iran's nuclear program since the facilities were struck, was briefed to some U.S. lawmakers, Defense Department officials and allied countries in recent days, four of those people said.

NBC News has also learned that U.S. Central Command had developed a much more comprehensive plan to strike Iran that would have involved hitting three additional sites in an operation that would have stretched for several weeks instead of a single night, according to a current U.S. official and two former U.S. officials.

President Donald Trump was briefed on that plan, but it was rejected because it was at odds with his foreign policy instincts to extract the United States from conflicts abroad, not dig deeper into them, as well as the possibility of a high number of casualties on both sides, one of the current officials and one of the former officials said.

"We were willing to go all the way in our options, but the president did not want to," one of the sources with knowledge of the plan said.

In a speech in the hours after they took place, Trump called the strikes he directed "a spectacular military success" and said, "Iran's key enrichment facilities have been completely and totally obliterated."

The reality as gleaned through intelligence so far appears to be more nuanced. And if the early findings about the damage inflicted to Iran's nuclear program hold up as more intelligence comes in, the United States could find itself back in a conflict there.

There have been discussions within both the American and Israeli governments about whether additional strikes on the two less-damaged facilities could be necessary if Iran does not soon agree to restart negotiations with the Trump administration on a nuclear deal or if there are signs Iran is trying to rebuild at those locations, one of the current officials and one of the former officials said. Iran has long said its nuclear program is purely for peaceful, civilian purposes.

The Fordo fuel enrichment site on June 20 and on June 22 after U.S. airstrikes.Maxar Technologies

The recent assessment is a snapshot of the damage U.S. strikes inflicted amid an intelligence-gathering process that administration officials have said is expected to continue for months. Assessments of Iran's nuclear program after the U.S. strikes are expected to change over time, and according to two of the current officials, as the process

“As the President has said and experts have verified, Operation Midnight Hammer totally obliterated Iran’s nuclear capabilities,” White House spokeswoman Anna Kelly told NBC News in a statement. “America and the world are safer, thanks to his decisive action.”

In a statement of his own, chief Pentagon spokesman Sean Parnell said: “The credibility of the Fake News Media is similar to that of the current state of the Iranian nuclear facilities: destroyed, in the dirt, and will take years to recover. President Trump was clear and the American people understand: Iran’s nuclear facilities in Fordow, Isfahan, and Natanz were completely and totally obliterated. There is no doubt about that.”

He added, “Operation Midnight Hammer was a significant blow to Iran’s nuclear capabilities thanks to the decisive action of President Trump and the bravery of every man and woman in uniform who supported this mission.”

Destruction and deterrence

The U.S. strikes targeted three enrichment sites in Iran: Fordo, Natanz and Isfahan. U.S. officials believe the attack on Fordo, which has long been viewed as a critical component of Iran’s nuclear ambitions, was successful in setting back Iranian enrichment capabilities at that site by as much as two years, according to two of the current officials.

Much of the administration’s public messaging about the strikes has focused on Fordo. In a Pentagon briefing they held in response to reporting on an initial Defense Intelligence Agency assessment that concluded that Iran’s nuclear program had been set back by only three to six months, for instance, Defense Secretary Pete Hegseth and Gen. Dan Caine, the chairman of the Joint Chiefs of Staff, talked extensively about the strike at Fordo but not the strikes at Natanz and Isfahan.

U.S. officials knew before the airstrikes that Iran had structures and enriched uranium at Natanz and Isfahan that were likely to be beyond the reach of even America’s 30,000-pound GBU-57 “bunker buster” bombs, three of the sources said. Those bombs, which had never been used in combat before the strikes, were designed with the deeply buried facilities carved into the side of a mountain at Fordo in mind.

As early as 2023, though, there were indications that Iran was digging tunnels at Natanz that were below where the GBU-57 could reach. There are also tunnels deep underground at Isfahan. The United States hit surface targets at Isfahan with Tomahawk missiles and did not drop GBU-57s there, but it did use them at Natanz.

A U.S. official pointed NBC News to a closed-door briefing conducted in late June by CIA Director John Ratcliffe, who told lawmakers that Iran’s nuclear program was “severely damaged” and that several key nuclear facilities were “completely destroyed,” according to an administration official’s description of the briefing. Ratcliffe said the only metal conversion facility at Natanz, required for nuclear enrichment, was destroyed to the point that it would take “years to rebuild,” according to the official, who was authorized to describe some contents of the classified briefing.

Ratcliffe also said that the intelligence community believes the strikes buried the vast majority of enriched uranium at Isfahan and Fordo and that thus it would be extremely difficult for the Iranians to extract it to resume enrichment, according to the official. The United States has not seen indications that Iran is trying to dig out the facilities, two officials said.

As NBC News has reported, the Israeli government believes at least some of Iran’s highly enriched uranium remains intact but buried beneath the Isfahan facility, according to a senior Israeli government official who briefed reporters in Washington last week. The official said, however, that Israel considers the material effectively unreachable, because it is watching and will conduct new strikes if it believes Iran is trying to dig up the uranium. The official also said Israel believes Iran’s nuclear program has been set back by up to two years.

Similarly, even if the targeted Iranian nuclear sites were not completely destroyed, U.S. officials and Republican advocates of the operation believe it was a success because it has changed the strategic equation for Iran. From their point of view, the regime in Tehran now faces a credible threat of more airstrikes if Israel and the United States believe it is trying to revive clandestine nuclear work.

Asked late last month whether he would consider bombing Iran again if intelligence reports concluded Iran can enrich uranium at a level that concerns him, Trump said: “Sure. Without question. Absolutely.”

Iran’s air defenses have been largely destroyed, making it all but impossible for Iran to defend against further strikes on facilities in the future, the U.S. official said.

“It was made clear that Iran no longer has any more [air defenses], so the idea that they can easily rebuild anything is ludicrous,” the official said.

The ‘all-in’ plan

Beginning during the Biden administration, as early as last fall and into this spring, Army Gen. Erik Kurilla, the head of U.S. Central Command, had developed a plan to go “all-in” on striking Iran, according to a current U.S. official and two former officials. That option was designed to “truly decimate” Iran’s nuclear capabilities, in the words of one of the former officials.

Under the plan, the United States would have hit six sites. The thinking was that the six sites would have to be hit repeatedly to inflict the kind of damage necessary to completely end the program, people familiar with the thinking said. The plan would also have involved targeting more of Iran’s air defense and ballistic missile capabilities, and planners projected it could result in a high number of Iranian casualties. U.S. officials expected that if that were to take place, Iran would target American positions, for example in Iraq and Syria, a person familiar with the plan said.

“It would be a protracted air campaign,” the person said.

Some Trump administration officials believed a deeper offensive option against Iran was a viable policy, two of the former officials said.

Trump was briefed on the so-called all-in plan, but it was rejected ultimately because it would have required a sustained period of conflict.

The history

During his first term, in 2018, Trump pulled the United States out of a 2015 nuclear deal between Iran and world powers that was negotiated during the Obama administration. The agreement, known as the Joint Comprehensive Plan of Action, imposed strict limits on Iran’s nuclear program in return for an easing of economic sanctions.

Under the deal, Iran was a year away from obtaining enough fissile material for a nuclear bomb. After Trump withdrew from the accord and reimposed sanctions, Iran flouted restrictions on its uranium enrichment. Before the June airstrikes, the regime had enough fissile material for about nine to 10 bombs, according to U.S. officials and United Nations inspectors.

Trump has since sought a new agreement with Iran that would block it from developing nuclear weapons. Indirect talks between U.S. and Iranian officials failed to clinch a deal before Israel launched airstrikes on Iran’s nuclear facilities.

Iran has long denied that it wants to build a nuclear weapon, a position its foreign minister reiterated in an interview with NBC News the day before the U.S. strikes.

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 Carol E. Lee

Carol E. Lee is the Washington managing editor.

The *New York Times* Publishes its Usual Politically Motivated Hearsay as if it Was Based on Facts

https://www.nytimes.com/2025/07/17/us/politics/iran-nuclear-sites.html

The New York Times

New Assessment Finds Site at Focus of U.S. Strikes in Iran Badly Damaged

A clearer picture begins to emerge of what the Israeli and U.S. attacks on Iran's nuclear sites achieved.

A satellite image of the Iranian nuclear facility at Fordo after the U.S. attacks last month.Credit...Maxar Technologies, via Reuters

By Julian E. BarnesDavid E. Sanger and Eric Schmitt

The reporters cover intelligence agencies, the White House and the Pentagon.

July 17, 2025

Iran's deeply buried nuclear enrichment plant at Fordo was badly damaged, and potentially destroyed, by the 12 massive bombs that U.S. Air Force B-2 bombers dropped on it last month, according to a new American intelligence assessment.

Two other nuclear sites targeted in the U.S. attacks were not as badly damaged, but facilities at the sites that would be key to fabricating a nuclear weapon were destroyed and could take years to rebuild, U.S. officials said.

A senior Israeli official said last week that the strikes most likely did not eliminate the stockpile of near-bomb-grade fuel that could be used to produce upward of 10 nuclear weapons. But without the facilities to manufacture a weapon, U.S. officials insist, the fuel would be of little use even if the Iranians can dig it out of the rubble.

The new assessment helps create a clearer picture of what the combined Israeli and U.S. strikes on Iran achieved. The bombings deeply damaged Fordo — considered by the Iranians to be their best-protected and most advanced nuclear enrichment site — probably crippling Iran's ability to make nuclear fuel for years to come.

Iran most likely still has a stockpile of uranium enriched to 60 percent purity, which is just below the level that is usually used in nuclear weapons, U.S. and Israeli officials say. But the officials believe it is buried under rubble, and Israeli officials believe that only the stockpile at Iran's nuclear laboratory at Isfahan is accessible despite the strikes on it.

The crucial question of how long the American strikes have set back either the overall Iranian nuclear program or Iran's ability to use its existing uranium to make a crude bomb continues to be debated within the U.S. government.

The new U.S. assessment was earlier reported by NBC News.

The main target of the American bombing was Fordo, which was hit by a dozen GBU-57 bunker-busting bombs. The assessment concludes those explosions wiped out the thousands of delicate nuclear centrifuges buried under the mountain, a finding consistent with statements by the head of the International Atomic Energy Agency.

Multiple American officials said it would take at least two years of intensive work before the Fordo facility could be operational again. But other experts say that if Iran seeks to restart its program, it is likely to do so at other underground sites.

In addition to Fordo and Isfahan, the U.S. Air Force dropped two bombs on Iran's older enrichment plant at Natanz, which had facilities above and below ground. A U.S. Navy submarine fired cruise missiles at Isfahan, trying to destroy aboveground facilities there.

While the underground facilities at Natanz and tunnels at Isfahan were far less damaged, American officials said that any effort by Iran to repair or gain access to them could be detected.

Rebuilding the conversion facilities would also probably be spotted. With much of Iran's air defenses destroyed, Israeli or the U.S. forces could attack again, stopping any reconstruction efforts, American officials said. An Israeli official repeated last week that the country was prepared to "mow the lawn," suggesting sites could be reattacked.

While President Trump has declared that all three sites were "obliterated" and that Iran has given up its nuclear ambitions, American officials do not yet know whether the country is determined to restart the effort, nor whether it will try to move toward a bomb with whatever enriched uranium that remains.

Mr. Trump and Israeli officials say their willingness to strike again may deter the Iranians from even trying.

In the strikes at Fordo, the United States sent some of the bunker busters down air ventilation shafts that took them closer to the buried control room and the centrifuge halls. That avoided having to blast through hundreds of yards of rock. Even if the bombs did not reach the centrifuge halls, American and Israeli officials say, the blast wave would have wiped out the centrifuges, including some of Iran's most advanced and efficient models.

In contrast, Natanz was struck by only two of the Massive Ordnance Penetrators. Those strikes left much of the facility intact, though they probably destroyed the centrifuges and cut off Iran's ability to reach specific parts of the facility.

Military planners in U.S. Central Command had proposed multiple plans to the White House that would have utilized multiple waves of strikes against the sites that could have potentially done more damage.

Current and former military officials had cautioned before the strike that any effort to destroy the Fordo facility, which is buried more than 250 feet under a mountain, would probably require waves of airstrikes, with days or even weeks of pounding the same spots.

But Mr. Trump decided on a more limited single strike on the three sites, and then pushed Israel to end its war against Iran.

After the strikes, the Defense Intelligence Agency conducted an early assessment that said the Iranian nuclear program had been set back by only a few months. But soon after, John Ratcliffe, the C.I.A. director, announced that "a body of credible intelligence" indicated the nuclear program had been severely damaged. "Several key Iranian nuclear facilities were destroyed and would have to be rebuilt over the course of years," Mr. Ratcliffe wrote.

Mr. Ratcliffe's comments reflected growing confidence by U.S. officials that Fordo's nuclear facilities were badly damaged and that the facility at Natanz that was meant to convert uranium into a metal that could be used in weapon was also destroyed.

Mr. Ratcliffe delivered a more detailed report to lawmakers, saying it would take years to rebuild the metal conversion facility.

Sean Parnell, the chief Pentagon spokesman, said in a statement that it would take "years to recover" Iran's nuclear facilities, and reiterated Mr. Trump's announcement that Iran's facilities were "obliterated."

"There is no doubt about that," Mr. Parnell said. "Operation Midnight Hammer was a significant blow to Iran's nuclear capabilities."

Some experts have criticized the U.S. focus on just the three sites, arguing that Iran has others that it could use to restart the program.

"We're too caught up in the stories about the big three sites — Fordo, Natanz and Isfahan — when really Iran's capabilities are much more sprawling and sophisticated, and include many sites that the U.S. and Israel did not bomb," said Rosemary A. Kelanic, an expert with Defense Priorities, a think tank advocating a restrained foreign policy. "Focusing too much on the big three sites misses the larger point that even if those three sites and their contents — centrifuges, stockpiles — were destroyed, Iran could likely still rebuild quickly."

Jeffrey Lewis, a professor at the Middlebury Institute of International Studies who has studied commercial satellite imagery of Iran, said he believed that three underground sites in Iran were not struck, one near Natanz, one at the Parchin military complex and a third secret site.

He was skeptical that the additional sites could be easily struck, despite the American officials' certainty.

"If it were easy, they would have done it right away," Mr. Lewis said.

Julian E. Barnes covers the U.S. intelligence agencies and international security matters for The Times. He has written about security issues for more than two decades.

David E. Sanger covers the Trump administration and a range of national security issues. He has been a Times journalist for more than four decades and has written four books on foreign policy and national security challenges.

Eric Schmitt is a national security correspondent for The Times. He has reported on U.S. military affairs and counterterrorism for more than three decades.

Critical Masses of Bare, Beryllium Reflected, and Uranium Reflected U^{235} and Pu^{239} Atomic Bombs