**National Security Program**

*Foreign Policy Project*

ISSUE BRIEF:

# What to Look for In a Nuclear Deal with Iran

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Across multiple administrations from both political parties, the primary objective of U.S. policy toward Iran has been to prevent it from acquiring nuclear weapons. To achieve that objective, any diplomatic agreement with Iran will have to address a range of issues, dealing not just with constraints on Iran's nuclear capabilities but also its nuclear weapons and ballistic missile programs, monitoring of Iran's compliance with the deal, the duration of an agreement, the status of Iran's current legal obligations and the structure of sanctions relief.

Several factors will make it difficult to evaluate whether an agreement lives up to the widely accepted but ill-defined standard of "no deal is better than a bad deal." First, many of the issues are highly technical in nature, requiring an expertise in nuclear engineering to determine how quickly Iran might be able to breakout with a given combination of centrifuge number and type and stockpile amount. Second, the strength of the deal will depend on how all of these elements come together—no matter how stringent the restrictions on Iran's enrichment program, for example, they will be rendered largely meaningless if they are not matched with a robust inspections regime—making it difficult to judge a deal before it is revealed in its totality. For this reason, the BPC has recommended the creation of a congressional mandated independent, bipartisan panel, with members selected by both parties and both the executive and legislative branches, to offer a credible and objective assessment of the final deal.

Nevertheless, there are certain questions that should be asked of any deal and set principles that should guide any analysis of it. As described in BPC's guide to a "good deal," a comprehensive agreement that prevents a nuclear Iran should include:

- enough mechanisms to allow the United States and others to detect any attempts made by Iran to sprint for a nuclear weapon with sufficient time to act to prevent Iran from producing sufficient fissile material to fabricate a weapon;
- extensive and wide-ranging inspections for detecting repeated Iranian efforts to build cover nuclear facilities;

- a long-term duration that is predicated on actual, meaningful changes in Iranian behavior;
- transparency on Iran's nuclear weapons and ballistic missile programs;
- and a satisfactory resolution of Iran's outstanding legal obligations vis-à-vis both the United Nations Security Council (UNSC) and International Atomic Energy Agency (IAEA).

Here is what to look for in greater detail:

**FISSILE MATERIAL PRODUCTION**

The most immediate priority for a comprehensive deal is to limit Iran's ability to produce both weapons grade uranium and plutonium.

*a) How many operating centrifuges?*

Simply put, the more centrifuges there are enriching uranium, the faster Iran will be able to produce enough weapons grade uranium for a nuclear device, should it ever decided to do so. And as long as some centrifuges remain spinning, Iran will be able to attempt to produce weapons grade uranium. Iran has some 10,000 centrifuges currently in operation.

*b) What type of centrifuges?*

Just as salient as the raw number of centrifuges operating is the type of centrifuges operating. Iran's entire stockpile of enriched uranium was produced using only IR-1 centrifuges but Iran has also installed and enriched with other models, including the IR-2m, which is reported to be five times as effective. Allowing Iran to operate centrifuges beyond the IR-1 would let it enrich uranium much more quickly.

*c) What happens to Iran's non-operating centrifuges?*

Iran has roughly 9,000 installed but not operating centrifuges that, if they remain in place, would represent a surge capacity. What happens to these and any deactivated centrifuges under a final deal—do they remain in place? are they disconnected but left in place? are they dismantled and removed? are they destroyed?—will dictate the size of Iran's latent nuclear capabilities and how quickly it might be able to reactivate its nuclear program.

*d) How much centrifuge R&D will be allowed?*

Iran continues to experiment with building more efficient and durable centrifuge models. Allowing Iran to continue work on faster centrifuges—even if a deal disallows their use—creates the possibility of Iran using such new technology in a small, covert facility.

*e) Which enrichment facilities will remain open?*

There are three operating enrichment facilities in Iran that the world knows of. Will all three remain operational? If not, will any be just shuttered or fully dismantled? The more such plants Iran is allowed to operate, the trickier it will be to police them. And if any closed plants are allowed to remain intact, the easier it will be for Iran to restart them.

*f) What enrichment level will be permitted?*

The interim deal required Iran to dispose of its stockpile of 20 percent enriched uranium and cap its production at 3.5 percent enriched uranium. Will a comprehensive agreement keep this cap in place? Enriching to 20 percent already represents about four-fifths of the work and time required to reach weapons-grade uranium.

*g) Enriched Uranium Stockpiles*

Iran would need at least 1,800 kilograms of 3.5 percent enriched uranium to produce a nuclear weapon; it currently has more than three times that amount. The more of this stockpile that Iran is allowed to keep in the form of uranium hexafluoride (UF6, the gaseous form used for enrichment), the faster it can breakout. If Iran is required to reduce its stockpile, how much will it be allowed to keep? And how will it do so - by shipping out nuclear materials? Turning its enriched UF6 into some other form?

*h) Will Iran be able to produce plutonium?*

Were Iran to operate the Arak reactor accordingly to current design specifications, it would be able to produce and extract the relatively little amount of plutonium—10 kilograms—needed for a nuclear device in as little as a year. Will a comprehensive agreement require the closure of Arak? A modification of its design to minimize plutonium production?

**HOW MUCH WILL IRAN REVEAL ABOUT ITS NUCLEAR WEAPONS PROGRAM?**

Beyond enriching uranium, Iran has also pursued the technology to construct a working nuclear device. The IAEA has raised 13 concerns about this work, of which Iran has only answered one thus far. Without knowing how far Iran's research has progressed and at what facilities it was undertaken, it will be hard to design an effective monitoring program that will know what to look for and where in terms of potential Iranian noncompliance. Will, then, a comprehensive agreement require Iran to come clean on its past work on nuclear weapons design?

**WILL IRAN GIVE UP ITS BALLISTIC MISSILE PROGRAM?**

Iran has researched technology to fit a nuclear warhead on its Shahab 3 medium range ballistic missile. It has also recently unveiled the Soumar long range cruise missile. Will any constraints to this program be required under a final deal?

## WHAT LEVEL OF MONITORING WILL IRAN BE SUBJECTED TO?

Iran is currently subject to IAEA safeguards that require the accounting of nuclear material and periodic on-site inspections. The ability of inspectors to monitor Iranian compliance with a comprehensive agreement will hinge on expanding both the scope and frequency of this monitoring. One often mentioned standard is the IAEA Additional Protocol, which requires more frequent, intensive inspections, including some on short notice, but stops shorts of "anytime, anywhere" inspections that would give the IAEA access to any facility they would want to check.

## HOW LONG WILL A DEAL LAST?

The Joint Plan of Action already specified that the final deal is to have "a specified long-term duration to be agreed upon," but it has been unclear how each side interprets "long-term." Whatever number is arrived at it will require some justification as to why it will be deemed safe to lift restrictions on Iran's nuclear program, thereby allowing it to resume the full scope of nuclear activities, after that time period.

## HOW WILL OUTSTANDING LEGAL ISSUES BE RESOLVED?

The UNSC has passed six resolutions that have called for Iran to suspend its enrichment-related activity and to come clean on its nuclear weapons research. These are binding legal obligations. Since it appears certain that Iran will be allowed to continue enriching uranium to some degree, how will these legal issues be addressed? Will Iran be required to comply with the UNSC mandates?

## WHAT SANCTIONS RELIEF WILL IRAN GET AND HOW SOON?

The stated goal of the negotiating parties is to arrive at a final deal that would "comprehensively lift UN Security Council, multilateral and national nuclear-related sanctions." Will this relief be immediate or staggered? If it is to be phased in, what is the schedule? Will sanctions be lifted only after Iran takes specific steps, or will relief be granted first to incentivize Iranian compliance? How will lifting sanctions at the national and international level be coordinated? And how will the complex array of U.S. sanctions be parsed to determine which ones constitute as "nuclear-related sanctions" needing to be lifted and which do not?