



Iran nuclear issue – considerations for a negotiated outcome

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1. Introduction

Iran has been found in non-compliance with its International Atomic Energy Agency (IAEA) safeguards agreement, and accordingly is in non-compliance with the Nuclear Non-Proliferation Treaty (NPT).¹ Iran is continuing its uranium enrichment program and heavy water-related activities in defiance of Security Council resolutions calling for their suspension. The IAEA is trying to resolve a number of matters indicating a possible military dimension to Iran's nuclear program, but Iran is not cooperating with the IAEA's investigations. There are well-founded concerns that the Iranian enrichment and heavy water programs have a military objective – to give Iran the capability to produce nuclear weapons if it decides to do so. What is not clear is how far Iran intends to proceed down this path – will it cross the nuclear weapon threshold, or if not, how far short will it stop?

Amongst other issues, this paper addresses the commonly held belief that Iran is *entitled* to undertake uranium enrichment, and the closely related question whether *nuclear hedging* – establishing a nuclear weapon break-out capability in the guise of a civilian program – is a legitimate activity under the NPT. If a negotiated solution with Iran is achieved that allows for continued enrichment, this must also adequately address international concerns that Iran's nuclear program has a military purpose. A “solution” that allows continued development of a military dimension would be pointless.

2. Possible outcomes

In short, these can be summarized as:

1. No negotiated outcome – Iran keeps expanding its enrichment program and continues its heavy water program.

Iran might continue production of low enriched uranium (LEU) just below the highly enriched uranium (HEU) threshold (20% U-235), perhaps claim a pretext for producing HEU (at say 60% U-235), and bring the Arak heavy water reactor into operation.

- (a) In due course Iran proceeds to manufacture nuclear weapons, in open violation of the NPT or after announcing withdrawal from it; or
- (b) Iran stops just short of weaponization.

¹. At the least Iran has violated Article III which requires following of IAEA safeguards procedures on all nuclear material. Iran may also be in violation of the Article II commitment not to pursue nuclear weapons – apparent weaponization activities remain under investigation by the IAEA.

2. Negotiations lead to an agreed outcome – outstanding issues are resolved, sanctions are lifted, and Iran receives a broad package of benefits.² As part of this outcome:
 - (a) Iran comes to the conclusion that, given their strategic implications, the enrichment and heavy water programs are against its longer term interests, and decides not to continue them; or
 - (b) Iran insists on continuing enrichment, and the other negotiating parties consider that some deal on enrichment is a necessary part of an overall settlement.

In case 2(b), what might a negotiated outcome look like with respect to ongoing nuclear activities – what could be acceptable both to Iran and to the other parties involved? Most attention is focused on Iran’s enrichment activities. But it is essential for any outcome to also deal with the heavy water program. While confidence-building limits could be placed on the enrichment program (see below), it is difficult to see how confidence-building measures could apply to the heavy water program – the Arak reactor resembles too closely plutonium production reactors that have formed the basis of nuclear weapon programs elsewhere. It is unlikely that continuation of this program could be acceptable internationally.

3. The “right” to undertake proliferation-sensitive nuclear activities

An important issue underlying any internationally accepted outcome is what Iran may be “entitled” to do under the NPT. Iran has been very active in asserting that the NPT gives it a right to undertake enrichment or any other fuel cycle activity.³ Many governments and commentators have accepted this proposition uncritically. It is important to explore whether this is really so.

The situation is complicated by Iran’s own behavior. Iran cannot claim rights under a treaty it has itself violated, at least until the violation is satisfactorily resolved. Even then, it may take some time to restore international confidence that Iran is committed to observing the terms of the NPT. Conditions under which it might be possible to restore this confidence would have to be considered very carefully.

The right mentioned in Article IV of the NPT does not refer to any specific technology, but rather is a general right to use *nuclear energy*. This right is not unqualified, but must be in conformity with the Treaty – Articles I and II (non-proliferation) and also Article III (safeguards). Further, the right is to use nuclear energy for *peaceful purposes*. Peaceful purposes are not defined. But conducting nuclear activities as part of a program for establishing a nuclear weapon capability – commonly referred to as *nuclear hedging* – cannot be regarded as a peaceful purpose.

Nuclear hedging refers to a national strategy of maintaining a viable option for the relatively rapid acquisition of nuclear weapons, based on an indigenous technical capacity to produce them within a relatively short time frame ranging from several weeks to a few years.⁴ Clearly nuclear hedging is inimical to the NPT’s objectives. Hedging would undermine the NPT through the creation of “virtual” arms races, which could degenerate very quickly into real arms races, break-out from the NPT, and nuclear war. Such a situation would destroy the confidence and stability that the NPT is intended to promote.

Article II of the NPT prohibits a non-nuclear-weapon state from manufacturing nuclear weapons. To “manufacture” cannot be interpreted so narrowly that there is no violation of Article II until a nuclear

². This paper does not consider the broader elements of a settlement.

³. NPT Article IV refers to “... the inalienable right of all the Parties ... to develop research, production and use of nuclear energy for peaceful purposes ... in conformity with Articles I and II of this Treaty.”

⁴. Ariel Levite, *Never Say Never Again*, International Security, Vol. 27, No. 3, pp. 59-88.

weapon is fully assembled – this would be an unreasonably rigorous approach that would undermine the practical value of the NPT. But it is not clear how far preparations to make nuclear weapons can progress before a state will be regarded as being in violation of Article II. Since the purpose of nuclear hedging is to be in a position to make nuclear weapons, at the very least nuclear hedging is not a “peaceful purpose”, hence is not a purpose permitted by Article IV. Depending on the kind of activities undertaken by the state, at some point hedging will constitute a violation of Article II.

There is a practical problem of evidence – how to determine that the real purpose of an ostensibly peaceful program is to establish a nuclear weapon capability? The fact that this might not be straightforward is no justification for accepting hedging as a legitimate activity. A number of indicators can be identified that would help distinguish a peaceful program from one whose purpose is hedging.

A nuclear weapon program has three basic components: acquisition of fissile material; weaponization into a warhead or bomb; and development of suitable delivery systems. With fissile production capability, the basic question is whether pursuit of the fuel cycle activity in question – uranium enrichment or reprocessing – is consistent with the state’s nuclear energy needs. For example, development of uranium enrichment is generally not considered economic except for large power programs (broadly speaking, 20 or more reactors). It could be argued this is not a definitive criterion – different states have different ideas on economic justification – though certainly the smaller the power program the more questionable an enrichment program will be. Another indicator of a military purpose would be military involvement in a supposedly civilian nuclear program.

The conduct of nuclear weaponization-relevant activities – involving e.g. neutron initiators, triggering systems, and implosion experiments – would make it more obvious that the purpose of a nuclear program is to establish a nuclear weapon capability. While it might be argued that some weaponization activities are dual-purpose, the presence of a number of such activities would make a non-nuclear purpose less plausible. Similar considerations arise with the development of nuclear-capable missiles or other delivery systems – while it might be claimed these are not intended for nuclear use, such claims would be contradicted if the state is also conducting weaponization-relevant activities. The real problem here is that a number of these activities are likely to be hard to detect. An enrichment or reprocessing program with no clear civilian justification might be the only visible indicator of hedging.

This brief discussion shows that it is possible to identify indicators to distinguish the possibly ambiguous from the obviously military. The problem in Iran’s case is that it has not only violated its safeguards commitments, but also it “ticks all the boxes” for military indicators. There can be no serious doubt that Iran’s nuclear program is for hedging, if not break-out.

Any outcome to the Iranian situation that proceeds on the basis that hedging is acceptable will be fundamentally flawed – it would mislead Iran about international tolerance levels, and mislead the international community about Iran’s commitment to non-proliferation. No outcome will provide the necessary international confidence if states continue to think the real purpose of Iran’s nuclear program is to establish a break-out capability.

More generally, these considerations have given fresh impetus to the development of ideas for multilateral approaches to sensitive stages of the fuel cycle. With facilities such as large-scale centrifuge enrichment plants, it will be difficult for safeguards to provide the timely warning envisaged

when the NPT was negotiated.⁵ Wholly nationally-controlled enrichment and reprocessing programs can be seen as posing risk both to non-proliferation and to disarmament objectives. In this respect, Iran's assertion of national rights is out of step with evolving ideas on future international governance of the nuclear fuel cycle.⁶

4. What does Iran want?

Briefly summarized, the possible outcomes Iran could seek are:

1. Break-out – production of nuclear weapons as soon as achievable (case 1(a) referred to above);
2. Rapid break-out capability (case 1(b) above);
3. A longer term break-out potential (could correspond to case 1(b) or 2(b));
4. A purely civilian program (could correspond to case 2(a) or (b)).

Outcomes 1 and 2 involve serious disadvantages and dangers for Iran. Other states are likely to see little real difference between the two – an ability to break out within months will be inherently threatening and destabilizing, and will prompt states to act as if Iran had already done so. International responses could include much stronger sanctions, and possibly military pre-emption. A nuclear-capable Iran is likely to become a nuclear target. Other states in the region are likely to establish military alliances against Iran. They may feel compelled to pursue similar capabilities, so that Iran's perceived strategic advantage would be only temporary. Iran would become an international pariah, isolated like North Korea.

Iran should reflect that, by demonstrating it has an enrichment capability, together with the experience gained from weaponization activities, it has already achieved a longer-term break-out potential, i.e. outcome 3. If Iran ceased its hedging activities now, it will still have a significant strategic advantage – a 10-15 year head-start on any neighboring states that might think of going down the same path. Iran can afford to stop at this point, in exchange for the advantages of a normalized relationship with its neighbors and the broader international community. But to achieve this, it has to be prepared to accept meaningful limits to its ongoing nuclear program.

At some point Iran has to make a strategic decision as to where its long-term interests lay – what outcome best meets its national interests? Iran's enrichment program started in the context of the existential threat posed by Iraq. But today that threat has gone, and Iran has replaced Iraq as a cause of fear in the Middle East. Is this the best future Iranians can see for themselves, isolated from their neighbors by suspicion and fear?

5. What kind of negotiated outcome is possible?

If Iran seeks to continue expanding its enrichment program, and proceeding with its heavy water program, there is no realistic basis for a negotiated outcome. Even if Iran accepts enhanced verification – at the least, the additional protocol – this in itself would not be sufficient to reassure the international community that Iran is not trying to establish a military option. Any outcome where Iran simply tolerates safeguards inspections while it prepares to break out—in effect a situation of *safeguarded proliferation*—would provide only false assurances and discredit the IAEA safeguards system.

⁵. It was envisaged that safeguards would provide warning of facility misuse in sufficient time to enable the international community to intervene to prevent weaponization.

⁶. See e.g. the IAEA's 2005 study on *Multilateral Approaches to the Nuclear Fuel Cycle*.

If Iran wants a negotiated outcome, it has to acknowledge international concerns about its nuclear program and accept limits on the program. The most effective way of addressing international concerns is by ceasing the enrichment program, as well as the heavy water program. As discussed above, cessation of the heavy water program is likely to be essential for any negotiated outcome. To date Iran has made it clear it is not prepared to cease the enrichment program, in which case it has to understand that international concerns will continue, and that substantial confidence-building measures will be required.

Elements that could contribute towards building confidence might include:

- removing any military involvement in nuclear activities.
- limiting the scale of the enrichment program to demonstrated civilian needs (considering the fuel supply arrangements for the Bushehr reactor, at present these needs are zero);
- no enrichment above 5%;
- no stockpiling of LEU in Iran;
- verification to provide assurance that there are no undeclared activities, including verification of the scale of enrichment component manufacturing – essentially this requires both the IAEA additional protocol and possibly some additional verification measures;
- termination of the heavy water reactor program;
- possibly, multilateralization of the enrichment program (i.e. operation by an international consortium).

In addition, the international community would require assurance that Iran was no longer undertaking nuclear weaponization activities and developing nuclear-capable delivery systems. It is not clear how these matters could be verified effectively.

6. Conclusions

Resolving the Iranian nuclear issue is a major diplomatic challenge. This will require convincing Iran that compliance with the non-proliferation regime is in its best interest. It can be pointed out that Iran's security has benefitted from the application of NPT safeguards in neighboring states, and taking action that will cause these states to reconsider their commitment to the NPT would work against Iran's interests. As Iran was able to avoid detection of its clandestine nuclear activities for two decades, it may not have great confidence in the effectiveness of safeguards in neighboring states. On the other hand, it is noteworthy that Iran suspended the application of its additional protocol, suggesting it is nervous about the efficacy of the IAEA's strengthened safeguards methods.

A more effective course for Iran, if it is genuinely concerned about the potential for proliferation by neighboring states, is to work for stronger non-proliferation measures, as well as nuclear disarmament, in the Middle East. This may well require development of a regional confidence-building system to complement IAEA safeguards. Resolving the nuclear issue would enable Iran to take a constructive and persuasive role in advancing a Middle East WMD-free zone – something which is very much in its

interest. But progress towards a WMD-free zone is not a realistic possibility while Iran pursues a break-out capability.

Ultimately, it is necessary to identify Iran's real interests and motivations, and to try to address these effectively. Iran has to be persuaded that its security interests are best served by building relationships and alliances, not by isolation and confrontation. Pursuing nuclear weapons is counterproductive – by becoming a nuclear threat to others, Iran will only increase the dangers to itself.

If Iran's motivation is "prestige", it has to be persuaded that power and influence are best based on economic strength and legitimacy. Iran has to choose between two futures – currently it is on the path to becoming a pariah state, isolated and, despite its petroleum resources, impoverished, with increasing unemployment and lack of opportunity for its people. Alternatively, through normalizing its relations with the world, it has the potential to become an economic powerhouse in the Middle East.

These issues require serious dialogue, not just between Iran and the states most concerned – and the international community more broadly – but especially within Iran itself.