Senate Foreign Relations Committee Hearing

"Evaluating Key Components of a

Joint Comprehensive Plan of Action With Iran"

Thursday, June 25, 2015

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Mr. Chairman, Mr. Ranking Member, and Members of the Committee:

It is an honor to be with you today to discuss a possible Iran nuclear agreement.[1] I sit here with this distinguished panel, whose members I have known for many years, and whose work I have

[1]I would like to thank the many people who helped with my testimony, including Angela Nichols, Angela Canterbury, Ed Levine, Michelle Lee, Tim MacDonald, Jen Greenleaf, and Tom Collina, to name a few.

admired. I want to personally thank you for your efforts to address the Iranian nuclear issue. I can say with confidence that sustained Congressional leadership is a key reason why we have a negotiation in the first place, and why we may yet have a long-term agreement on Iran's program. Absent Congressional leadership, we would not be here today, and absent Congressional leadership in the future we will not be where we need to be.

I come to this topic as a scholar of nuclear weapons decision-making and someone who has provided assessments to Republican and Democratic presidents, as well as to Republican and Democratic Members of Congress, as they have wrestled with proliferation challenges. As regards Iran in particular, I have studied and written about its nuclear program for more than 15 years. I have been to Iran many times and have spent hundreds of hours in meetings with Iranian officials, including three Iranian Presidents, discussing nuclear and regional issues. Much of my work has been with a group of colleagues associated with the Iran Project, and over the years we have produced a number of reports that have been signed by more than 40 of America's most senior, retired military, diplomatic, and national security officials, including General Anthony Zinni, Brent Scowcroft, Michael Hayden, and Tom Pickering.[2] Of course, my comments today are mine alone.

In my testimony, I want to directly address the set of questions you have put to me. My answers are organized around four topics:

[2] See, for example, *Weighing Concerns and Assurances about a Nuclear Agreement with Iran: A Briefing Book*, New York: The Iran Project, June, 2015; *Weighing the Costs and Benefits of Military Action Against Iran*, New York: The Iran Project, September, 2012.

1) The appropriate criteria for evaluating a future agreement

2) The minimum requirements that any agreement should meet

3) The challenge of verification, including inspections, Possible Military Dimensions (PMDs) issues, and breakout time

4) The impact of an agreement on nonproliferation in the region, and more generally

My summary judgment is inspections, PMDs, and breakout are all issues that policymakers will what to carefully consider. For the reasons described below, I judge that the risks posed by these challenges are real but manageable and not in excess of what similar agreements with similar kinds of countries have been able to successfully navigate. I also judge that an agreement is likely to bolster the cause of nonproliferation, both in the region and globally.

I. Criteria for Evaluating a Future Nuclear Agreement with Iran

Selecting the appropriate criteria for assessing an agreement requires that one step back and be clear about the intended objective and the context in which an agreement will operate, both as it relates to Iran in particular and to nonproliferation more generally.

I.1. Objective

The simplest and most sensible objective is to prevent Iran from acquiring nuclear weapons, whether by indigenous manufacture or via the transfer of material and equipment from third parties. This includes both uranium and plutonium based nuclear weapons.

I.2. Context

Assessment is more than simply listing the things that could go wrong or right with an agreement. In theory, lots of things can happen, but in practice few of those possibilities come true. Experience and data enable analysts to distinguish between what is more likely and what is unlikely. This, in turn, makes it possible for policymakers to weigh costs, benefits, and tradeoffs.

In this case, the context is defined, in part, by Iran's past and present nuclear behavior. The most authoritative guides to Iran's nuclear program are the International Atomic Energy Agency (IAEA) reports and the Director of National Intelligence's (DNI) testimony and statements. According to the DNI, Iran had a structured nuclear weapons program that began in the late 1990s and was halted in 2003. In 2012, the DNI reported that:

> "Iran has the …capacity to eventually produce nuclear weapons, making the central issue its political will to do so. …We assess Iran is keeping open the option to develop nuclear weapons, … should it choose to do so. We do not know, however, if Iran will eventually decide to build nuclear weapons."[3]

[3] James R. Clapper, "Unclassified Statement for the Record on the Worldwide Threat Assessment of the U.S. Intelligence Community for the Senate Select Committee on Intelligence," Office of the Director of National Intelligence, January 31, 2012, p 6,

He goes on to say that Iran's nuclear choices will reflect a cost-benefit approach.

Each of these findings has important implications for a nuclear agreement with Iran. The fact that the Islamic Republic once had an illicit nuclear program reinforces the possibility that it might again consider that option and underlines the importance of verification.

The fact that Iran possesses a basic nuclear capability, and that political will, not technical capacity, will determine the nuclear endgame suggests that any agreement will need buy in from Iran, if it is to be successful. Iran knows how to build a centrifuge, and neither sanctions nor military strikes can change that. In the long-term, the best way to insure than Iran does not acquire nuclear weapons is for Iran to embrace its non-nuclear posture.

Perhaps most importantly, the DNI has assessed that Iran has not yet made a decision to pursue nuclear weapons and may or may not make such a decision in the future. This would imply that the moment is ripe for an agreement that would lock Iran into a political decision and a policy path that takes it down a non-nuclear road.

Selecting appropriate criteria for assessment should also be informed by the broader nonproliferation context. Iran is not the first country to violate its NPT obligations. It is not the first country to have an enrichment program. It will not be the first country to enter into a nuclear agreement, if there is one. The United States and the IAEA have decades of experience

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http://www.intelligence.senate.gov/120131/clapper.pdf.

with preventing and reversing proliferation. That experience can help policymakers make informed determinations of risk.

As contemporary scholars of nuclear studies have repeatedly pointed out, the historical record for non-proliferation is a surprising story of success.[4] Dark predictions of nuclear spread did not come true; we do not live in a world of dozens of nuclear weapons states. In fact, the rate or pace of proliferation has steadily declined since the 1960s, with fewer and fewer countries joining the nuclear weapons club each decade. The pool of potential proliferators is the smallest is has ever been, and since the end of the Cold War, more countries have given up their weapons assets than joined the nuclear club. In short, nonproliferation is one of America's greatest policy successes. Congress can take a major share of credit for that outcome, from the efforts of Senator McMahon and later Senator Pastore and on through the work of this committee today.

Of course, not all the news is good. North Korea and the A.Q Kahn network are reminders that there is still difficult work to be done, and that success requires continued effort. The unambiguous evidence to date suggests, however, that it is possible to prevent and even reverse proliferation.[5]

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[4] On the surprising success of nonproliferation efforts, see Mitchell Reiss, *Without the Bomb: The Politics of Nuclear Non-proliferation*, (New York: Columbia University Press, 1988); Mitchell Reiss, *Bridled Ambition: Why Countries Constrain Their Nuclear Capabilities*, (Washington: Woodrow Wilson Center Press/Johns Hopkins University Press, 1995); Jim Walsh, *Bombs Unbuilt: Power, Ideas, and Institutions in International Politics*, (Cambridge, MA; MIT Doctoral Dissertation, May, 2000; Robert J. Einhorn, Mitchell B. Reiss, and Kurt M. Campbell, eds., *The Nuclear Tipping Point: Why States Reconsider Their Nuclear Choices*, (Washington, D.C. : Brookings Institution Press, 2004).

[5] Some 30 countries started down the path to nuclear weapons and reversed course. In some cases the pursuit was exploratory; in other cases it involved full-blown weapons programs. Countries that considered nuclear weapons acquisition include Taiwan, South Korea, Egypt,

The data also suggests that negotiated agreements are a powerful tool for achieving nonproliferation objectives.[6] There is scholarly debate about the causes of America's nonproliferation success, and one should assume that a variety of factors contribute, but my own research suggests that, contrary to my expectations, nonproliferation agreements can have a profound effect. From the Nuclear Nonproliferation Treaty to the Libya nuclear agreement, negotiated agreements are among the most important tools governments have for preventing and reversing proliferation.

In summary, the selection of appropriate criteria for an agreement should be informed by Iran's past cheating, the fact that Iran already possesses a basic nuclear capability, the opportunity presented by the absence of an Iranian decision to pursue nuclear weapons, and the success of past nonproliferation efforts.

I.3. Evaluation Criteria

Given the objective, what we know about Iran in particular, and what we know about the track record of nonproliferation agreements in general, it is possible to outline several criteria that policymakers can use to evaluate a nuclear agreement with Iran.

Libya, Iraq, Iran, Germany, Italy, Japan, Yugoslavia, Romania, Brazil, Argentina, Sweden, Switzerland, Australia, Canada, Indonesia, and Spain, among others.

[6] On the effectiveness of nonproliferation agreements, see Matthew Fuhrmann and Yonatan Lupu, "Do Arms Control Treaties Work? Domestic Politics and the Constraining Power of the Nuclear Nonproliferation Treaty," January 7, 2015 [Working Paper.]; Jim Walsh, "Learning From Past Success: The NPT and the Future of Nonproliferation," Paper no. 41, Oslo: Weapons of Mass Destruction Commission, 2006. Contrary to popular understanding, the rate of proliferation peaked in the 1960s and has declined in every ensuing decade.

These criteria take the form of both questions and principles.

A. Does an agreement substantially advance the objective of preventing Iran from acquiring a nuclear weapon?

This is the most important criterion, though others are also important. No agreement can be perfect, and there is no such thing as zero risk, but agreements can dramatically reduce the risks of proliferation.

B. Is the agreement sustainable?

It is not enough to simply get an agreement. If a good agreement immediately falls apart, it is a bad agreement. Sustainability requires that all sides follow through on their commitments. It means minimizing the reasons why an agreement might fail (e.g., cheating) *and* maximizing the reasons an agreement will succeed (e.g., all parties see timely benefits). Most of the discussion so far has focused on minimizing the causes for failure, and indeed even more narrowly on break out. But there are many ways agreements can fail (failure to launch, disagreements over the meaning of terms, etc.), and prudent policymakers should be attentive to all of them.

What has been completely ignored is the other half of the equation: maximizing causes for success. Coercion and threats alone will not be sufficient. If Iran or the other parties feel that they are not getting anything out of the agreement, it will collapse. There has to be buy in. It is again worth noting the DNI's assessment. Whether Iran acquires a nuclear weapon or not depends, not on technical issues, but on its political will to do so. It has not yet decided to go for the bomb, so this agreement provides a chance to put Iran on a path, where it never makes that

political decision. For that to work, the agreement must produce benefits for Iran. It is these benefits that will create new political incentives, new political winners and losers within Iran, and a consolidation of its non-nuclear status.

C. Using simple, broad measures, how does an agreement compare to the status quo?

One quick and dirty way to get a general picture of an agreement is to ask how an agreement compares with the period before the agreement. The metric most commonly invoked in this regard has been breakout time, but there are other important measures as well. A simple one is the number of IAEA inspectors/inspections/inspection hours deployed to Iran. Secretary Amano suggested after the JPOA that the IAEA would have to double the number of inspectors in Iran. A comprehensive agreement could require that IAEA again increase the number of inspectors to support an enhanced level of verification. A third metric is the relative transparency achieved by the verification measures. Does the agreement expand the number of sites and activities subject to inspection, the amount of data being gathered for verification, the kinds of data being collected for verification, and/or the degree to which different kinds of information are combined for the purpose of verification?

D. How does the agreement compare with other successful (and unsuccessful) nuclear agreements?

Are its provisions stronger or weaker than previous agreements? What provisions does an agreement have that are different from previous agreements? Are there elements of past agreements that are missing from this agreement?

E. How does an agreement compare to the other alternatives for dealing with Iran's nuclear program?

The basic alternatives include doing nothing, imposing new sanctions, use of military force, and walking away from the negotiations with the hope that Iran will return to the bargaining table to make new concessions. Analysts will debate the merits of these alternatives, but the point is that no agreement can be evaluated by itself, without reference to the costs and benefits of the other courses of action.

F. Avoid myopically focusing on any single number.

The history of nonproliferation and arms control agreements is littered with domestic debates that devolved into fights over a single number. During the Cold War, it was often the number of launchers. For the Iran negotiations, it has typically been the number of centrifuges or breakout time. This is not to suggest that launchers, centrifuges, and breakout are unimportant, but they are each one piece of a larger constellation of issues. Myopically focusing on one number rarely tells us anything useful about an agreement. Doing so strips away other important metrics and hides from discussion the important political factors that are more likely to determine the ultimate outcome. Again, as the DNI has said, Iran's nuclear future is essentially a political question, and so ignoring the political variables and instead focusing on a narrow technical issue is likely to yield a flawed evaluation.

G. Adopt a "whole of agreement" approach.

A rigorous evaluation would not only avoid a myopic focus on a single number, it would affirmatively seek to assess the agreement as an inter-connected whole. There are good technical reasons for an integrated approach. Virtually every aspect of the agreement is related to other parts of the agreement. Looking at the number of centrifuges is perfectly reasonable, but it does not tell you much unless you also know the type of centrifuges that will be allowed, how the centrifuges will be operated, the final form of enriched material, and so on. Members of Congress should resist the strong and natural temptation to cherry pick or focus one aspect of the agreement, and considering it apart from the rest of the agreement.

H. Assessment should avoid making perfect the enemy of the good.

There is no such thing as a perfect agreement, free of risk. In public policy there are always risks – risks from action, risks from inaction. But as history has repeatedly demonstrated, an agreement that greatly advances nonproliferation and US national security does not have to be perfect. If perfect were the standard, we would have no NPT, no arms control agreements with the Soviet Union, no nuclear deal with Libya, no Proliferation Security Initiative, and the like – all of which have advanced American national security.

The Nuclear Nonproliferation Treaty, arguably the single most important and effective nonproliferation tool ever devised, has numerous flaws. It has no enforcement clause; it provided for nuclear testing (for peaceful purposes); it did nothing to limit the fuel cycle or nuclear material. Safeguards arrangements in 1970 were a pale, weak cousin to what we have today. Had the NPT been up for consideration today rather than 45 years ago, it might have been rejected for its flaws. And doing so would have been a gigantic error of enormous consequence.

The NPT, like all nonproliferation and arms control agreements, was not perfect and did not eliminate all risk, but it was spectacularly successful. It helped prevent the cascade of proliferation that virtually every government and academic analyst had predicted in the years prior to its passage.

In today's discussions on Iran, advocates of perfection are everywhere. Some critics want the nuclear agreement to include important but nevertheless unrelated issues such as terrorism and human rights – a burden that no effective nonproliferation agreement has previously been required to meet.

Others will accept nothing less that the dismantlement of Iran's nuclear program and want to "prevent" Iran from having a nuclear weapons capability. Setting aside the fact that the DNI assesses that Iran *already has* that capability, and the fact dismantlement is a political impossibility, this approach would be disastrous. Eliminating facilities would not eliminate Iran's knowledge of how to build a centrifuge. Absent facilities to inspect, the IAEA would have no justification for inspections and monitoring. Dismantlement would mean that thousands of nuclear scientists and engineers would suddenly be out of work and thus available to other countries with nuclear ambitions or for an Iranian clandestine program – one that would then be more difficult to detect as inspections declined.

The dangers of insisting on the "perfect" extend beyond the issue of dismantlement. On verification, PMDs, and other issues some analysts have advocated for nothing less than perfect,

zero risk outcomes. Doing so increases the danger that there will be no agreement, and that Iran will be left unconstrained to pursue whatever nuclear ambitions it has or may have in the future.

I.4. Summary

Evaluating an agreement is not about listing all the things that could go wrong (or right) with an agreement. All actions carry risk, including not acting at all. The task for policymakers is to determine which risks are more likely, find ways to minimize those risks, and weigh trade-offs between risks and actions intended to minimize them. As we have seen with the NPT and other nonproliferation agreements, "good enough" can produce great outcomes.

II. Minimum Requirements

Any final agreement will take the form of a highly complex, interconnected set of technical and political obligations. As suggested above, requirements in one part of the agreement will likely have implications for other parts of the agreement. And since we do not yet have a final agreement, it is not yet possible to make complete and specific judgments about what an agreement should contain. Still, one can offer some examples as well as some general principles.

It seems to me that any agreement would have to include the following elements:[7]

[7] This list is intended as illustrative, not all-inclusive.

1. Adherence to what might be called Additional Protocol "Plus," that is, Iran would implement the requirements of the Additional Protocol but for some period of time go beyond the Additional Protocol in terms of the level of transparency provided
2. Adherence to the revised Code 3.1 of the Subsidiary Arrangements to its safeguards agreement
3. Changing the design for the Arak reactor
4. No reprocessing
5. Limits on the level of enrichment
6. Limits of the number of centrifuges
7. Limits on the types of centrifuges that operate
8. Limits on the size of the material stockpile
9. Limits on the composition of the material stockpile
10. Iran must resolve all outstanding issues with the IAEA, and the agency must certify that it is satisfied with the results of its inquiry
11. Prompt but reciprocally proportioned sanctions relief
12. A process for the timely investigation of alleged violations
13. Provision for the reintroduction of sanctions following a material breach of the agreement by Iran.

III. Challenges to Verification

III.1. Verification in Context

Verification will be central to any agreement, and three challenges in particular have received attention: inspections, PMDs, and breakout time.

Before considering each, it makes sense to step back and put verification in a broader historical context.

III.1.A. The United States and the international community have decades of experience with nuclear verification. The prospect of an agreement with Iran is not the first time policymakers have had to address questions about breakout and sneak out. As with all policy instruments, there is no perfection, but past verification instrumentalities –ones not nearly as robust as those available today --have proven in practice to be highly effective tools for nonproliferation.

III.1.B. Verification has grown progressively stronger over time. This is true legally and institutionally, as the mandate for international safeguards and inspections has expanded and become more intrusive over time. (It would be inconceivable to someone at IAEA in 1970 that an inspector could go military sites.) Progress has also been made operationally. The science and technologies available for verification today are far more powerful than were available in the past. The combination of strong international data collection and advanced national technical means represents a new era in verification.

III.1.C. According to US government assessments, Iran has no structured nuclear weapons program, has not made the decision to build nuclear weapons, operates no clandestine nuclear

facilities, and will now open itself to the most intrusive multi-lateral verification arrangement ever negotiated. Those are favorable conditions for a verification regime.

III.1.D. Verification will be enhanced by the fact that Iran is probably the most watched country in the world – a fact unlikely to change any time soon. The US, Russia, France, Britain, Germany, Israel, Saudi Arabia (and the other Gulf states) all have their eyes on Iran. Many, including Iranian opposition groups, will be looking under every haystack and in every corner for the first signs of non-compliance.

III.2. Inspection

Inspection is a critical piece of the verification architecture. It is not the only piece,[8] but any IAEA inspection regime has to provide inspectors with a mandate sufficient to accomplish their mission. That mission or objective is the timely notice of possible non-compliance with the agreement.

Achieving the objective of timely notice does not require that IAEA have instant or all encompassing knowledge of everything that Iran does. Rather it requires the ability to collect information on potential violations such that the United States and the international community can take actions to end and reverse non-compliance, before Iran is able to acquire a nuclear weapon. Meeting that requirement does not require that inspectors take up residence at all of

[8] IAEA also has a variety of other, important tools, including material accountancy, open source analysis, environmental sampling, and the like.

Iran's nuclear facilities. Instead, it requires, as Mark Fitzpatrick of Britain's International Institute for Strategic Studies has suggested, "access where needed, when needed."[9]

One reason the Additional Protocol is a minimum requirement for any agreement is that it already provides the legal authority for the agency to go to any facility about which it has cause for concern. Of course, inspectors cannot simply run around the country visiting any sensitive site they want for no reason. No country would accept that and in any case, it would be counter-productive.

The Additional Protocol, with its concepts of complementary and managed access -- together with all the other types of information the agency collects, and augmented by whatever new arrangements are agreed to -- will provide the IAEA, the US, and the international community with information and insight into Iran's nuclear program at a level never previously achieved.

III.3. Possible Military Dimensions

Unresolved questions about Iran's nuclear weapons program in the late 1990s and early 2000s prevent the IAEA from closing Iran's nuclear file. The core outstanding issues involve Iran's experiments with neutron transport and high explosives. No comprehensive agreement with Iran is possible without Iran resolving these concerns with the agency.

[9] Mark Fitzpatrick, "Inspecting Iran Anywhere, But Not Anytime," *IISS*, June 16, 2015, http://www.iiss.org/en/politics%20and%20strategy/blogsections/2015-932e/june-3809/inspecting-iran-anywhere-but-not-anytime-ce4d

Since November 2013, the agency and Iran have made progress on part of the PMD portfolio and many of the other items in the Framework for Cooperation, the plan of action negotiated between IAEA and Iran. Of the 18 practical measures Iran is obliged to carry out under the Framework, Iran has carried out 16, but the 2 that remain concern PMD and are the most sensitive. The IAEA also invited Iran to propose additional practical measures to address all resulting questions.[10]

My guess is that these will be satisfactorily resolved but not before a comprehensive agreement has been reached in principle. From a bargaining perspective, it does not make sense for Iran to settle these awkward issues absent a comprehensive agreement.

Recently there has been some debate about what is required for the PMD file to be closed. Some have argued that the agency needs to know virtually everything about the past program and talk to all of its personnel in order to establish a "baseline" for verification.

Perfect knowledge is both unlikely and unnecessary. Even if one could interview every Iranian nuclear official or scientist, it is improbable they would be forthcoming. Some of the information that dates back more than a decade may simply be out of date or irrelevant or irretrievable (e.g., having gone to the grave with a particular official). I have personally studied the nuclear weapons efforts of more than a dozen countries, and one never knows everything, especially about programs that occurred years ago.

[10] IAEA, SIR (Safeguards Implementations Report) 2014, GOV/2015/30, p. 7.

The objective should be sufficient information about Iran's past nuclear activities, such that an agreement can be effectively verified. More information is almost always preferred, but it is important to distinguish what is necessary from what is useful.

One should also weigh the relative value of any one piece of information with information collected from other sources. Information collected by IAEA, the UN Panel of Experts, the US Treasury, national intelligence, and other sources provide a detailed picture of Iran's program, one that has enabled the sanctioning of individuals, government organizations, and private concerns involved in Iran's nuclear program.

The IAEA has considerable experience with these kinds of investigations**.** Iran is not the first country to have its nuclear program investigated. South Korea, Egypt, and Taiwan have been scrutinized for illicit or undeclared research activities.[11] In South Africa, Ukraine, Kazakhstan, and Belarus, the IAEA had to verify the exclusively peaceful nature of nuclear programs in countries that had once possessed nuclear weapons or inherited weapons assets. In Libya, the international community did the same in circumstances where the country gave up its program voluntarily through negotiation and in Iraq with a country where the process was involuntary. Given the agency's experience and expertise, it is in a strong position to assess what information is required to close Iran's file.

[11] See, for example, IAEA Press Office, "IAEA Board Concludes Consideration of Safeguards in South Korea," November, 2004, https://www.iaea.org/newscenter/news/iaea-board-concludes-consideration-safeguards-south-korea; Paul Kerr, "IAEA Investigating Egypt and Taiwan," *Arms Control Today*, January 1, 2005, http://www.armscontrol.org/act/2005_01-02/Egypt_Taiwan.

In summary, the P5+1 does not need to know everything before it can do anything, and the truth is that we already know a great deal about Iran's program. The IAEA should be left to its job. If they are unable to close Iran's file, because Iran lacks the political will to take the necessary steps, then there will be no agreement.

III.4. Breakout Time

The issue of breakout time, the time required for a country to produce one bomb's worth of material, has been a central theme in discussions about a nuclear agreement for some time. It is a traditional concern, being an issue requiring consideration for most nonproliferation and arms control agreements, and it makes sense – up to a point—to extend break out time as far as reasonably possible.

Nevertheless, I do have concerns about the use of the concept in recent discussions. As the members of the executive branch have readily admitted, the definition of breakout time is flawed. It does not include the time needed to take a lump of fissile material and fashion it into a useable, reliable nuclear weapon. The DNI and others in the US government and in the Israeli atomic and military establishments have suggested that this would require an additional year or more.[12]

It also has to be said that no country in the history of the nuclear age has broken out in order to build one bomb, a notion that does not actually make a lot of sense. Two bombs worth of material would be a little more realistic, though a deeply conservative estimate, and that alone would double the breakout time calculations.

[12] Paul Kerr, "Iran's Nuclear Program: Status," Congressional Research Service, 7-5700, October 7, 2012.

And while every policymaker who evaluates a nonproliferation or arms control agreement should take seriously the possibility of successful breakout, it is worth keeping in mind that it is quite rare, with North Korea being really the only example. That does not mean that one should ignore the risk -- far from it. But neither should one exaggerate the risk. Nor should policymakers focus on breakout to the exclusion of other risks to an agreement.

A final concern about the breakout discussion is that it appears to be a game of moving the goalposts. When Prime Minister Netanyahu gave his famous speech at the UN Generally Assembly in 2012, he argued that the red line should be:

> "Before Iran gets to a point where it's a few months away or a few weeks away from amassing enough enriched uranium to make a nuclear weapon."[13]

Later, when discussing a prospective nuclear agreement, Secretary of State Kerry referred to a 6-month breakout time, significantly beyond the Prime Minister's "few months or weeks." Critics shifted their stance and insisted that nothing less than a year would do. Then, when the framework for a comprehensive agreement was announced in April, and it included a 1-year of breakout time, opponents shifted yet *again*, saying that a year was insufficient. One imagines that if a new comprehensive agreement in announced in the coming weeks, and it promises a year and a half of breakout time, opponents will say that only two years will do. And again,

[13] http://www.algemeiner.com/2012/09/27/full-transcript-prime-minister-netanyahu-speech-to-united-nations-general-assembly-2012-video/

none of these estimates include the additional year plus it would take to weaponize the fissile material.

Again, the broader context suggests that the near and medium term risks are low. Breakout is exceedingly rare. The DNI has said that even under the standards of the JPOA, "Iran would not be able to divert safeguarded material and produce enough WGU [weapons-grade uranium] for a weapon before such activity would be discovered."[14] And again, the DNI has assessed that Iran has not made the decision to acquire nuclear weapons.

And it is worth underlining again that preventing breakout depends not only on the deterrence that comes from verification and timely notice, but fundamentally and for the long-term, from Iran buying in – seeing that the benefits of nuclear abstention are greater than the benefits of nuclear weapons, and locking in that political commitment for decades to come.[15]

III.5. Concerns Going Forward

Inspections, PMDs, and breakout are all verification issues that policymakers will want to carefully consider. For the reasons described above, I judge that the risks posed by these challenges are real but manageable, and not in excess of what similar agreements with similar kinds of countries have been able to successfully navigate.

Nevertheless, I do have two concerns going forward.

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[14] Paul Kerr, "Iran's Nuclear Program: Status," Congressional Research Service, 7-5700, October 7, 2012.

[15] Efraim Halevy, "Obama Was Right, Iran Capitulated," May 6, 2015, http://www.ynetnews.com/articles/0,7340,L-4644691,00.html

First, verification could be more challenging in the out years of the agreement if Iran decides to vastly expand its nuclear infrastructure. It is simply a fact of nuclear life that the bigger the nuclear enterprise the more difficult it is to assure that small amounts of material have not been diverted.

That does not mean, axiomatically, that verification will be insufficient or that Iran will cheat, but it is something policymakers will want to be attentive to. For example, it would be to everyone's interest, particularly Iran's, if Tehran takes its resources and invests them in natural gas production rather than a large nuclear infrastructure. Polices might be pursued that encourages that choice. A future administration should also consider developing and negotiating a follow-on agreement with Iran, one whose verification regime will be best suited to the size of Iran's program some 20 years out.

Second, the IAEA has to have the financial and technical support to carry out its expanded mandate. More inspectors, more inspections, more analysts to follow procurement or open sources, the deployment of new technologies – this all costs money. The director of the IAEA estimated that the JPOA would require the agency to double its number of inspectors. The agency's 2014 costs to its extrabudgetary account increased by *a third (1/3) in one year* just to cover the cost of new verification in Iran. A dollar for an IAEA inspection is a dollar well spent, and the US Congress, keeper of the purse, should take a leadership role in providing IAEA with the resources it needs to not only implement today's safeguards but to develop and deploy advances in safeguards technology and methodology.

IV. An Agreement's Impact on Global and Regional Nonproliferation

A comprehensive agreement that prevents Iran from acquiring nuclear weapons will represent a significant win for the nonproliferation regime and will have positive nonproliferation effects in the region. The alternative, an Iran with an unconstrained nuclear program, would have a contrary effect, adding unwanted pressure on the nonproliferation regime.

A successful agreement sends the message that violating the NPT carries significant costs, but that if a country abandons its nuclear ambitions, it can avoid those costs. Often analysts focus on the first message (imposing costs) and forget the second, which is a mistake. The history of the nuclear age includes dozens of countries that started down the path to nuclear weapons but that stopped and reversed course. If countries, having decided to purse nuclear weapons, believe that there is no off ramp or alternative, then they will conclude that they have no choice but to continue down that path towards nuclear weapons.

In addition, it appears that this agreement will break new ground with respect to safeguards and verification. As new precedents, they offer the possibility of more widespread adoption and becoming a standard feature of the nonproliferation regime.

A nuclear agreement might also add modest momentum to international efforts to establish a Weapons of Mass Destruction Free Zone in the Middle East.

Some analysts have expressed the concern that a nuclear agreement that leaves Iran with any centrifuges will spur countries in the region to develop their own enrichment capabilities and following that, nuclear weapons.

This outcome appears unlikely for several reasons.

First, in 70 years of nuclear history, there is not a single case of proliferation caused by a safeguarded enrichment program. There have been 10 nuclear weapons states. Some weapons programs began in response to another country's nuclear weapons program, others not until nuclear tests, but none to a safeguarded enrichment program. Governments tend to be reactive by nature -- not proactive – and nuclear weapons are not a small undertaking. Non-nuclear weapons states that have safeguarded enrichment programs, like Japan and Brazil, have not caused neighboring countries to acquire nuclear weapons.

Second, if a limited enrichment infrastructure was viewed as a grave, proliferation-tripping threat, then why have the countries in the region failed to do anything for the last 10 years. Iran has had centrifuges since 2003, but Saudi Arabia and others have done virtually nothing. It is difficult to believe that after curtailing its centrifuge program and submitting to new and rigorous verification, the governments in the region would *then* decide to respond.

Third, the set of countries cited as potential proliferation threats -- Saudi Arabia, Turkey, and

Egypt -- appear far from a nuclear weapons option.[16] There are many reasons for this conclusion, not least being that since the Iran-Iraq War, many countries have come to believe that a strong military alliance with the United States is their preferred route to security. A bomb program would put that directly at risk.

V. Concluding Thoughts

A nuclear agreement with Iran, should it be concluded, could represent a pivotal moment for American nonproliferation policy, if not for the nuclear age. There are risks, as there are risks with inaction and with other policy alternatives. I cannot render a final judgment until seeing the provisions of the final agreement, but if an agreement is concluded along the lines of the framework described in April, this may well constitute one of the strongest multi-lateral nonproliferation agreements ever negotiated.

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[16] On Turkey see, Mark Hibbs, "The IAEA's Conclusion About Turkey," *Arms Control Wonk*, April 16, 2015, http://carnegieendowment.org/2015/04/16/iaea-s-conclusion-about-turkey/i799; On Saudi Arabia, see Colin H. Kahl, Melissa G. Dalton, and Matthew Irvine, "Atomic Kingdom: If Iran Builds the Bomb, Will Saudi Arabia Be Next?", Center for New American Security, February 2013, http://www.cnas.org/files/documents/publications/CNAS_AtomicKingdom_Kahl.pdf; Zachary Keck, "Why Pakistan Won't Sell Saudi the Bomb," *National Interest*, November 18, 2013,http://nationalinterest.org/commentary/why-pakistan-wont-sell-saudi-the-bomb-9416. On Egypt, see Dina Esfandiary and Ariane Tabatabai, "Why Nuclear Dominoes Won't Fall in the Middle East," *Bulletin of Atomic Scientists*, http://thebulletin.org/why-nuclear-dominoes-wont-fall-middle-east8236; Jessica C. Varnum, "Middle East Nuclear Race More Rhetoric Than Reality," *World Politics Review*, May 14, 2015, http://www.worldpoliticsreview.com/articles/15769/middle-east-nuclear-race-more-rhetoric-than-reality#; Jim Walsh, "Egypt's Nuclear Future: Proliferation or Restraint?", In *Forecasting Proliferation*, William Potter, ed, Palo Alto: Stanford University Press, 2010.

Even is that is true, however, it will mark the beginning, not the end. The real task ahead is locking Iran into a non-nuclear future such that it never again makes the decision to pursue nuclear weapons. That task will require the energetic efforts of both the Executive branch and the US Congress, and not least the Foreign Relations Committee.

It has been a great honor to appear before this august body. If I can be of service in the future, I stand ready to do so.

Thank you.