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President of the
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before the House Foreign Affairs Committee**

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The Joint Comprehensive Plan of Action (JCPOA) needs to be implemented more effectively, its nuclear conditions strengthened, and its verification improved. Its implementation has been too permissive and tolerant of Iran’s behavior to violate the deal, exploit loopholes, avoid critical verification requirements, and generally push the envelope of allowed behavior. Too often concessions have been made from a misplaced fear that Iran would walk away from the deal or somehow President Rouhani’s presidency needed protecting. However, the deal can be better enforced by the United States without leading to its termination. As a matter of policy, the Trump administration should close key loopholes in the agreement and move to correct its short- and long-term deficiencies.

At its heart, the Iran deal is a bet that by the time the nuclear limitations end, Iran, the region, or both will have changed so much that Iran will no longer seek nuclear weapons. But despite immense sanctions relief, Iran has been increasing its conventional military power and regional hegemony, and threatening its neighbors. The bet does not appear to be winnable under the current circumstances.

Those who argued that the nuclear deal would moderate Iran’s behavior in the region have sadly been disappointed. Moreover, a trade of prisoners for hostages only encouraged Iran to seize more Americans. Armed with substantial funds and a growing economy, Iran is challenging the United States in the region and appears as committed to maintaining the capability to pursue a nuclear weapons path as before, just a longer path.

When the major nuclear limitations end, Iran has stated it will have an industrial-size enrichment program, poised to break out within days or weeks. It will have developed advanced centrifuges that would enable a quick sneak out to nuclear weapons. It is mastering long-range, nuclear-capable ballistic missiles including possibly intercontinental nuclear-tipped ballistic missiles. This Iranian nuclear future is unacceptable. A solution needs to be thought through and a remediation path developed.

Dealing with the short-term implementation mistakes and fixing JCPOA loopholes and deficiencies need to be priorities. Although the nuclear deal should not be abrogated, as it has many benefits, the deal must be implemented differently and strengthened.

Taking Stock of Implementation

Iran continues to test ballistic missiles that are inconsistent with, or to some in the administration, in violation of UN Security Council resolution 2231. Iran's ongoing development of missiles capable of carrying nuclear weapons is a direct threat to the nuclear deal. A nuclear weapon should be properly defined as a nuclear warhead and a delivery system. This definition was used by South Africa for its nuclear weapons program back in the 1980s, when that program was active and engaged in intense secrecy and obfuscation to deceive the world. It too denied that its missiles would ever carry nuclear weapons, a fact it admitted only after it verifiably abandoned its nuclear weapons program in the early 1990s. As the administration and Congress chart a new Iran nuclear policy, Iran's ballistic missile program should be viewed as the other half of a nuclear weapon whose development continues unabated today and should be treated accordingly.

What are some of the specific problems in the nuclear deal's implementation? First, the workings of the deal have been far too secret. Some portions of the parallel or side deals and secret Joint Commission and Procurement Working Group (PWG) decisions and actions have been publicly revealed. Although the Joint Commission decided after Donald Trump won the presidency to release its major decisions, likely feeling increasing pressure to do so, much still remains secret. Moreover, the International Atomic Energy Agency (IAEA) continues to underreport the actual situation on the ground.

Many of the Joint Commission decisions are questionable. Too much low enriched uranium (LEU) was exempted from the JCPOA 300 kilogram LEU cap, and too many hot cells in violation of the deal's size limits were allowed to continue to operate. Iran was allowed to exceed its cap of 130 metric tons of heavy water by over 70 metric tons via a loophole in the JCPOA to secretly cache heavy water in Oman while awaiting its sale.¹ A sounder interpretation of the deal, and one more in U.S. interests, would have been to apply the 130 metric ton cap to all the heavy water under Iran's control or ownership regardless of location, thereby requiring Iran to blend at least 70 metric tons of heavy water down to normal water and not ship it out to Oman in the first place.

So far, Iran has resisted IAEA inspections of military sites. Although Iran has granted access to nuclear sites, it has reportedly resisted granting access to military locations associated with past undeclared nuclear activities or potentially involved in nuclear weapons development activities banned under the JCPOA. To this day, the IAEA has not been able to state that Iran has addressed its concerns and questions about past nuclear weapons activities or to determine the exact status of what Iran achieved and may have hidden away. In addition to past activities, the IAEA has not stated that it is successfully verifying the JCPOA's prohibitions on specific nuclear weapons development activities, which would require access to military sites.

¹ See for example, *Heavy Water Loophole in the Iran Deal*, by David Albright and Andrea Stricker, Institute for Science and International Security Report, December 21, 2016. <http://isis-online.org/isis-reports/detail/heavy-water-loophole-in-the-iran-deal>

The poorly designed arrangement between Iran and the IAEA on Parchin not surprisingly failed to resolve the issue. It also put the IAEA in a weak position to move forward on accessing the Parchin site to resolve this issue, which includes making sense out of uranium particles detected by environmental sampling at Parchin. The presence of these particles combined with all the previous, suspicious site alterations is dramatic evidence that Iran conducted secret nuclear weapons activities at Parchin, despite its on-going denials.

Iran's refusal to let the IAEA resolve Parchin issues or regularly visit military sites is a major blemish on the JCPOA. It undermines any argument that the Iran deal is adequately verified.

Moreover, out of a misplaced fear of negatively affecting the deal, the Obama administration also interfered in U.S. law enforcement efforts. During the negotiations and for some time afterwards, the administration blocked or did not process several extradition requests and lure memos aimed at arresting and convicting Iranians and their agents engaged in breaking U.S. export and sanctions laws. These actions, largely concentrated in the State Department, reportedly interfered with investigations and served to discourage new or on-going federal investigations of commodity trafficking involving Iran.

The Procurement Working Group recently allowed Iran to acquire 149 metric tons of natural uranium. Iran's nuclear chief said last week that Iran would have 60 percent more stockpiled uranium than it did prior to the deal. Ali Akbar Salehi, the head of the Atomic Energy Organization of Iran, was quoted by the semi-official Fars News Agency stating that Iran would receive a final batch of 149 tons of natural uranium, in addition to 210 tons already delivered since early 2016. The 149 metric tons was a swap for sending part of its cache of heavy water in Oman to Russia, heavy water that should have been blended down into normal water instead, if the deal had been seriously enforced. Interestingly, the caching of heavy water in Oman and the decision to approve sending natural uranium to Iran were considered secret by the Joint Commission and the Obama administration. These 149 metric tons, if enriched to weapon-grade uranium, would be enough for over 15 nuclear weapons.

The Atomic Energy Organization of Iran has sought sensitive nuclear-related materials and facilities, in at least two cases knowing that the supplier country would deny the exports. Under the deal, Iran can ask for whatever it wants overseas and does not have to report it. The supplier is the one that must seek the permission from its government and the Procurement Working Group. This loophole lays the basis for secret Iranian illicit procurement efforts with less scrupulous suppliers and countries.

Mechanisms for Obtaining Improvements

There are several mechanisms to better enforce and strengthen the Iran deal both in the short and long term. The United States can take unilateral steps within the context of the JCPOA, such as by blocking proposals for goods going to Iran via the Procurement Working Group or blocking further exemptions to the 300 kilogram cap. The United States can press for strengthening measures in the Joint Commission, the executive body of the JCPOA. In fact, under U.S. leadership, the Joint Commission did strengthen the condition in the JCPOA on near 20 percent enriched uranium. The Joint Commission added a new condition that any fuel containing near

20 percent LEU would have to be irradiated; none could be stored as fresh or unirradiated fuel. Although this step of irradiating the fuel will not affect breakout timelines that significantly, it is a precedent for the ability of the Joint Commission to add conditions to the deal.

The United States can encourage the IAEA to better verify conditions in the JCPOA. There are many possibilities, including the IAEA more thoroughly monitoring the use of several large hot cells in Iran exempted for use outside JCPOA size limitations and the inspectors cracking down on Iran's attempts to push the envelope on centrifuge R&D activities. The United States can press the IAEA to use its rights to access military sites or personnel in Iran in furtherance of effective JCPOA verification. In addition, parallel agreements between Iran and the IAEA can be negotiated that enshrine the IAEA's access to Parchin or other military sites or create work plans to settle outstanding verification issues associated with reaching a broader conclusion under the Additional Protocol.

A final option is to negotiate a JCPOA II and a new UN Security Council resolution. These efforts, which would take a while to launch, could focus on repairing major weaknesses in the deal associated with the duration of the nuclear limitations and ballistic missiles.

Short Term Priorities for the Administration

The administration should announce that the United States will demonstrate zero tolerance for Iranian violations of the JCPOA, no matter how small, and will respond both within and outside the context of the JCPOA. Where violations are significant or the frequency of minor infractions reach a threshold, the United States should snap back UN sanctions.

The administration should state that it now views the following as not allowed by, and even in some cases inconsistent with, the JCPOA: (1) heavy water excess being cached overseas, e.g. in Oman, awaiting sale, (2) Iran selling any heavy water without a proposal submitted to the PWG, (3) exemptions of low enriched uranium from the 300 kilogram cap, except in extraordinary circumstances (such as for a modified Arak reactor) (4) lack of regular IAEA access to Iranian military sites, (5) enrichment of depleted uranium to natural uranium outside the 300 kilogram cap, (6) Iran not reporting to the Joint Commission about any request for nuclear or nuclear-related goods, and (7) Iranian cooperation with North Korea.

Specific Steps to Ensure Stricter Enforcement and Strengthening of the JCPOA in the Short Term

- **Achieving Greater Transparency and IAEA Access**
 - Pressing the IAEA to include greater details in its quarterly reports to the Board of Governors.²

² The quarterly reports should include Iran's total inventory of enriched uranium stocks and their chemical forms and how much is included in the 300 kg cap and how much exempted from this cap; Iran's quarterly enrichment production output at Natanz; status of stable isotope production efforts at Fordow and elsewhere; natural uranium production and imports; heavy water quarterly production and total inventory domestically and in Oman or other off-shore locations; status and progress in centrifuge R&D and reporting on the number of manufactured centrifuges rotor assemblies; status of construction and operation of advanced centrifuge assembly facilities at Natanz;

- Pressing the IAEA to provide details about its plans and progress in reaching a broader conclusion and ensuring the absence of undeclared nuclear materials and activities in Iran.
 - Publicly releasing parallel agreements to the JCPOA, including Iran’s long term enrichment R&D plan and the agreement regarding Iran’s ability to limit inspections at Parchin.
 - Ensuring that Iran provides guaranteed, timely IAEA access to Iranian military facilities, consistent with the access timeframes in the Additional Protocol, where the IAEA suspects nuclear-related activities have occurred or it needs access to verify specified JCPOA bans on nuclear weapons development activities.
- **Preventing Iran Developing an Indigenous Enriched Uranium Fuel Fabrication Capability**
 - Ensuring and taking steps at the Joint Commission and Procurement Working Group so that Iran does not research, develop, or import a domestic enriched uranium fuel manufacturing capability. Toward that goal, further exemptions to the 300 kilogram enriched uranium cap should be deferred indefinitely.
 - Reviewing all civil reactor sales to Iran with the goal of ensuring that these sales include a minimum of a ten-year fuel supply that is renewable for the life of the reactor and do not include the transfer of fuel fabrication or hot cell facilities in whole or in part. The goal should be to ensure a lifetime of fuel for any reactor provided to Iran and the absence of the supply of fuel fabrication capabilities and hot cells associated with fuel development or testing.
- **Plugging Loopholes in the JCPOA**
 - Closing the Oman loophole for heavy water. To that end, all shipments of Iranian heavy water from Oman (or other overseas storage locations) would be subject to approval by the Procurement Working Group.
 - Banning research and development of naval reactors, including land prototypes.
 - Closing the loophole whereby Iran enriches depleted uranium to natural uranium, unless the product (albeit natural uranium) is considered part of the 300 kilogram LEU cap.
 - Investigating, reviewing, strictly interpreting, and ensuring Iran is abiding by restrictions on centrifuge R&D under the JCPOA. One example is allegations that Iran is exploiting allowed “quality assurance” criteria at Kalaye Electric and possibly elsewhere to conduct additional mechanical testing of centrifuges beyond that allowed under the JCPOA.

locations, characterizations, and monitoring of hot cells; work carried out to date on the Arak reactor; as well as other nuclear activities. The report should also discuss controversies with Iran over interpretation or implementation of JCPOA conditions and the comprehensive safeguards agreement and associated Additional Protocol, as well as progress or problems in reaching a broader conclusion.

- Reviewing the existing conditions on near 20 percent low enriched uranium to determine their adequacy, including evaluating the raising of the radiation limit imposed on fresh LEU fuel from its current relatively low level.
- **Strengthening the Procurement Working Group**
 - Reviewing the operation of the Procurement Working Group, including lengthening by several weeks the period for the review of submitted proposals.
 - Requiring that Iran report any requests for nuclear or nuclear-related goods to the Joint Commission and Procurement Working Group.
- **Creating an Iranian Export Control System**
 - Insisting that Iran create and implement a strategic trade control system that meets international standards and that will be subject to review by the Joint Commission. According to the JCPOA, “Iran *intends* to apply nuclear export policies and practices in line with the internationally established standards for the export of nuclear material, equipment and technology (emphasis added).”³ Iran has not committed to do so, and Tehran could interpret this condition far differently than the United States. As part of creating a strategic trade control regime in Iran, the United States should also interpret the JCPOA as stating that Iran will commit not to conduct illicit commodity trafficking for government controlled or owned military, missile, nuclear, or other industries and programs, and it will agree to enforce this ban on private Iranian companies. Conducting illicit commodity trafficking is not in line with internationally established standards for strategic trade control systems.
- **Creating More Effective Enforcement of Trading Bans and Sanctions**
 - Stepping up efforts with allies to detect, interdict, or otherwise thwart Iran’s illicit procurement efforts that violate national and international laws.
 - The Department of Justice committing to more aggressively investigating, indicting, and extraditing those involved in outfitting Iran’s nuclear, missile, or conventional weapons programs in defiance of U.S. laws and sanctions. As discussed above, during the last administration, there was excessive denial or non-processing of extradition requests and lure memos out of a misplaced concern about their effect on the Iran nuclear deal. These actions, largely concentrated in the State Department, reportedly interfered with investigations and served to discourage new or on-going federal investigations of commodity trafficking involving Iran. This trend needs to be reversed by an administration-wide policy to encourage investigations of Iranian (and other pariah state) commodity trafficking efforts that includes a determined extradition process.

³ JCPOA, Annex 1, par. 73: “Iran intends to apply nuclear export policies and practices in line with the internationally established standards for the export of nuclear material, equipment and technology. For 15 years, Iran will only engage, including through export of any enrichment or enrichment related equipment and technology, with any other country, or with any foreign entity in enrichment or enrichment related activities, including related research and development activities, following approval by the Joint Commission.”

- Reviewing past U.S. lure and extradition requests relating to Iran as to the feasibility and practicality of the State Department belatedly approving them.
- Taking steps to better detect and block Iranian cooperation with North Korea on ballistic missiles, cruise missiles, and conventional arms. Devoting more intelligence resources to determining if North Korea and Iran are cooperating on nuclear programs or transferring nuclear technology, equipment, or materials.

Longer Term Improvements

The Iran deal has fundamental long-term deficiencies that need to be addressed. Which problems to focus on and how to remedy them should be part of an Iran policy review by the Trump administration. A few recommended remedies are ensuring:

- Limits on the enrichment level and a 12 month breakout requirement remain in place in perpetuity. This would involve addressing the JCPOA's phased lifting of restrictions on Iran's enrichment capabilities at year 10 and after.
- Full resolution of the outstanding issues about Iran's past secret nuclear activities, including those associated with the "possible military dimensions" of Iran's nuclear programs.
- An effective verification regime able to ensure an absence of undeclared nuclear material and facilities in Iran and adequate warning of major violations.
- Limits on Iranian ballistic missile development, testing, and production.

Conclusion

The Trump administration appears committed to maintaining the JCPOA. This decision makes good sense. But the administration also recognizes that if the deal is to survive and serve U.S. national security interests, the JCPOA needs to be more strictly enforced and interpreted, and its most significant weaknesses need to be corrected.