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In early November, Secretary of State Kerry said of the ongoing negotiations with Iran: "...we need to get the right deal, no deal is better than a bad deal."¹ Unfortunately the November 24 "Joint Plan of Action" is a bad deal. This fact has been obscured by both the mischaracterization of the deal's benefits and the denial of the deal's great flaw.

President Obama has said that the Joint Plan of Action has "cut off Iran's most likely paths to a bomb."² This is not true. Before the current nuclear deal Iran could produce the highly enriched uranium (HEU) for a nuclear weapon in just six weeks. By the end of the Joint Plan of Action's six month period, Iran will be able to produce this material in just eight weeks.³ Iran will still remain perilously close to a nuclear weapon.

The Joint Plan of Action allows Iran to continue to produce 3.5% enriched uranium which is the key starting material for any Iranian effort to produce highly enriched uranium for weapons. Iran's stockpile of this material will continue to grow during the course of this nuclear deal though several White House statements as well as Secretary Kerry have incorrectly claimed otherwise.⁴ The amount of HEU for nuclear weapons that Iran could produce from its enriched uranium stockpile in November 2013 was 67 kilograms. By July 20, 2014, six months after the Joint Plan of Action has taken effect, Iran's enriched uranium stockpile will have grown sufficiently so that Iran will then be able to produce 76 kilograms of HEU—a 13% increase.

Under Secretary of State Wendy Sherman has made clear that it is Iran's stockpile of 3.5% enriched uranium in the form of uranium hexafluoride that is not supposed to grow, not its total stockpile of this material.⁵ Iran is supposed to convert the excess into an oxide form but it is unclear whether this will take place, as Iran has yet to get its conversion facility into operation.⁶ At any rate, Iran can easily convert this material back into hexafluoride once it begins to produce

¹ "Interview With David Gregory of Meet the Press," November 10, 2013.

² "Full text of President Obama's remarks on Iran agreement," November 23, 2013.

³ Gregory S. Jones, "Iran's Enriched Uranium Stocks Can Produce Enough HEU for 3 to 5 Nuclear Weapons, The World's Commitment to Nonproliferation is in Doubt, Centrifuge Enrichment and the IAEA August 28, 2013 Safeguards Update," Nonproliferation Policy Education Center, September 10, 2013, <http://npolicy.org/article.php?aid=1222&rid=4>

⁴ Office of the Press Secretary, The White House, "Summary of Technical Understandings Related to the Implementation of the Joint Plan of Action on the Islamic Republic of Iran's Nuclear Program, January 16, 2014; Office of the Press Secretary, The White House, "Fact Sheet: First Step Understandings Regarding the Islamic Republic of Iran's Nuclear Program, November 23, 2013; "The P5+1's First Step Agreement With Iran on its Nuclear Program," Testimony, John Kerry, Secretary of State, Opening Remarks Before the House Foreign Affairs Committee, Washington, DC, December 10, 2013

⁵ "Assessing the P5+1 Joint Plan of Action With Iran," Testimony, Wendy R. Sherman, Under Secretary of State for Political Affairs, Written Statement Before the Senate Committee on Banking, Housing and Urban Affairs, Washington, DC, December 12, 2013.

⁶ Fredrik Dahl, "Iran's nuclear stockpile may rise for now despite deal with powers-RTRS," *Reuters*, January 22, 2014.

nuclear weapons using existing facilities that Iran already uses to produce uranium hexafluoride for its centrifuge enrichment process. This fact is well known to U.S. technical experts but their input was apparently either not sought or heeded on this matter which is rather surprising given the technical nature of these negotiations.

The Joint Plan of Action does have some benefits and there are those who have argued that even limited benefits are better than no deal. But this view ignores the great flaw in the deal, it permits Iran to retain centrifuge enrichment. This fact has been denied by Secretary of State Kerry⁷ but the Joint Plan of Action says in two separate places that the follow-on Comprehensive Solution would “involve a mutually defined enrichment programme....” Note that the text says “would,” not “might” or “could.” That the Comprehensive Solution will permit Iranian centrifuge enrichment was later confirmed by the Obama administration national security spokeswoman Bernadette Meehan who said, “We are prepared to negotiate a strictly limited enrichment program.”⁸

It has been the policy of the U.S. and others to prevent the acquisition of enrichment and reprocessing technologies by non-nuclear weapon states. Indeed the Joint Plan of Action flatly prohibits Iran from developing reprocessing technologies and facilities so it is even more puzzling that this deal approves Iran’s continuing possession of centrifuge enrichment. Centrifuge technology puts any country within an arm’s reach of highly enriched uranium for nuclear weapons.

The Joint Plan of Action also provides that when the follow-on so-called Comprehensive Solution has expired, Iran “will be treated in the same manner as that of any non-nuclear weapon state party to the NPT.” This means that in say five or ten years, Iran’s nuclear program will be under no special restrictions. If the U.S. and the other P5+1 members have allowed Iran to keep its centrifuge enrichment program, then not only could Iran build as many centrifuges as it wants, it could also import centrifuges as part of normal nuclear trade. Iran could then have a larger, more robust centrifuge enrichment program and be much closer to acquiring nuclear weapons than it currently is.

What is worse, the Joint Plan of Action will be setting a precedent for all other non-nuclear weapon countries. After all, if Iran is to be treated in the same manner as that of any non-nuclear weapon state party to the NPT, then the reverse would be true as well. Other countries could claim the same treatment afforded to Iran. If Iran which has violated its International Atomic Energy Agency (IAEA) safeguards by conducting clandestine centrifuge enrichment and defied multiple U.N. Security Council resolutions demanding that it halt centrifuge enrichment, is allowed to retain this capability, on what basis can any country that has abided by its IAEA safeguard obligations be denied centrifuge enrichment? The Joint Plan of Action is setting the stage for many countries to acquire centrifuge enrichment, making it very easy for them to produce the HEU for nuclear weapons whenever they desire them.

⁷ Aaron Blake, “Kerry on Iran: ‘We do not recognize a right to enrich,’” *The Washington Post*, November 24, 2013.

⁸ Jim Acosta, “White House prepared to allow limited Iran nuclear enrichment,” CNN Political Ticker, December 4, 2013.

The only reasonable negotiating position is for the U.S. and the P5+1 to insist that Iran stops all uranium enrichment and dismantles its centrifuge enrichment facilities. President Obama and others have recognized that this would be the best outcome from the negotiations with Iran but have said that it is an unrealistic demand since Iran would never agree. However, the whole point of the negotiations is to reduce Iran's centrifuge enrichment facilities and enriched uranium stockpiles so that it would take Iran at least a year to be able to produce the HEU for a nuclear weapon. To accomplish this goal would require Iran to export over three quarters of its current 3.5% enriched uranium stockpile and reduce its number of centrifuges from the current 19,000 to only a few thousand. Is it any more likely that Iran will agree to this large-scale reduction of its centrifuge enrichment program? The real danger is that the so-called realists will, in order to achieve some kind of agreement, allow Iran to retain the bulk of its centrifuges and enriched uranium stockpile and Iran will remain within a few months of being able to acquire the HEU needed for nuclear weapons.

The U.S. Congress has been considering yet more sanctions to pressure Iran. However, these sanctions would not be supported by Russia and China. Since the fall of 2011 these two countries have refused to allow the United Nations to authorize any further sanctions on Iran, leaving the U.S. and EU to impose sanctions by themselves. Both Russia and China have refused to support what they consider unilateral U.S. and EU sanctions. Both countries have continued trading with Iran and China has continued to purchase oil from Iran. In an important development, Russia and Iran are negotiating an agreement that would allow Iran to increase its oil exports by 50% by creating a barter arrangement whereby Russia would receive 500,000 barrels a day of Iranian oil in exchange for Russian equipment and goods.⁹ Russia is essentially going to "launder" Iranian oil by hiding it in Russia's own large oil exports.

Nor are China and Russia the only countries that have not supported the U.S. and EU sanctions. India, with its important economy, has said that it will not follow unilateral sanctions but only those imposed by the UN. India has gone so far as to change its tax code so as to facilitate a method of payment for purchases of Iranian oil that involves using rupees rather than dollars. With such an attitude by non-Western countries, it is unlikely that U.S. and EU sanctions will have the necessary bite to compel Iran to give up its uranium enrichment program.

The Obama administration has repeatedly said that all options including a military strike against Iran's centrifuge enrichment program are on the table. In the past, the Israelis have destroyed nuclear reactors in both Iraq and Syria. However, attacking centrifuge enrichment facilities is quite different from attacking single nuclear reactors and Iran's enrichment program is already well into a zone of immunity with regard to a single air strike. At its main enrichment facility at Natanz, Iran has 96 completed cascades designed to operate in parallel.¹⁰ An air strike on Natanz that scored multiple bomb hits would shut down the entire facility. But the majority of the cascades would be undamaged and not able to operate only due to damage to piping and the loss of utilities. It would only take a few months of repairs before these undamaged cascades were back in operation. Even for the cascades that suffered bomb hits, the majority of the centrifuges would still be undamaged. Iran could pull out the undamaged centrifuges and use them to build

⁹ "Iranian minister says oil-goods swap deal not topic on Russia visit," *Reuters*, January 16, 2014.

¹⁰ Iran has declared to the IAEA that it has 52 of these cascades in operation.

new cascades. It would only take four to six months before Iran would return to nearly full production.

A further problem is that Iran's stockpiles of enriched uranium in November 2013 were about 4,600 kilograms of 3.5% enriched uranium and 132 kilograms of 19.7% enriched uranium.¹¹ These stockpiles represent years of centrifuge plant operation but would be very difficult to destroy by air attack. The combined volume of these two stockpiles is less than two cubic yards—making them very easy to hide or protect.

It is small wonder that, when discussing possible attacks on Iran's centrifuge enrichment program, U.S. officials have talked of bombing campaigns rather than single strikes.¹² By bombing Iran's facilities every few months, it would be possible to keep Iran's current enrichment facilities shutdown. Such a campaign would also have the advantage that the question of whether U.S. large bunker-buster bombs can actually penetrate and hit Iran's underground enrichment facility near Qom would largely be moot. No matter how deep and well protected a bunker is, it is always possible to collapse the entrance tunnels and cut off the utilities from the outside.

There are two problems with such an air bombing campaign. First, Iran could respond by dispersing its centrifuges. Indeed, centrifuge enrichment with its many parallel cascades would be ideal for such dispersal. The U.S. would be able to find and bomb some of these dispersed enrichment sites but many would continue in operation undetected. Second, such a prolonged bombing campaign would run a serious risk of turning into a large-scale war with Iran. Though no doubt the U.S. would eventually win such a war, I think that given the financially-weakened and war-weary condition of the U.S. such a war would be ill-advised.

There are no good options to head off a nuclear-armed Iran. However, this does not mean that I think Iran will become an overt nuclear weapons state in the near future. Iran is likely taking the long view. If the negotiations on the Comprehensive Solution fail, then Iran can quickly resume producing 20% enriched uranium and expanding its centrifuge enrichment facilities. If the negotiations succeed, Iran can claim the prize of having international approval of its possession of centrifuge enrichment, wait out the term of the restrictions of the Comprehensive Solution and then greatly expand its centrifuge facilities giving Iran easy access to the HEU for nuclear weapons. Recall that in the past other countries have outlasted U.S. efforts to stop their acquisition of nuclear weapons. For example, Pakistan developed nuclear weapons in the late 1980s but it was not until 1998 that Pakistan actually tested a nuclear weapon.

As bad as the Iranian situation is, an even worse problem is the potential unraveling of the entire nonproliferation system. In August 2013, Syria conducted large-scale chemical weapon attacks against rebel held areas using the nerve agent sarin, exposing many thousands and killing at least many hundreds. This attack was the first time in 25 years that a nation has employed chemical weapons on such a large scale.

¹¹ These are only the stockpiles of enriched uranium in the form of uranium hexafluoride.

¹² Joby Warrick, "Iran's underground nuclear sites not immune to U.S. bunker-busters, experts say," *The Washington Post*, February 29, 2012.

The world's reaction to this serious breach of nonproliferation norms was underwhelming. Though France came out strongly in favor of taking military action against Syria, the UK went "wobbly," as the late Margaret Thatcher would have said, with the British parliament voting against taking any military action against Syria. The U.S. took a very deliberate approach, with President Obama trying to get the support of Congress before taking any military action. But the statements of some U.S. lawmakers indicated that they did not see any value in taking military action to punish Syria for its use of chemical weapons and to deter Syria from any further use. Such statements indicate that these lawmakers saw no value in maintaining nonproliferation norms, which was a rather disturbing development. These events must certainly undermine the credibility of the Obama administration's claim that all options are on the table with regard to Iran.

Even before Syria's large-scale use of chemical weapons and the world's tepid response, the accumulation of decades of neglect and short-term "fixes" has put the nuclear nonproliferation regime under considerable stress. During this interval both Pakistan and North Korea have acquired nuclear arsenals and Iran has made steady progress toward nuclear weapons.

One result of the most recent North Korean nuclear test was to increase pressures in both Japan and South Korea to acquire their own nuclear weapons.¹³ Influential political figures in South Korea have suggested that now might be the time for South Korea to develop its own nuclear weapons or that at least the U.S. should return tactical nuclear weapons to South Korea.¹⁴ South Korea has strongly pressed the U.S. to allow it to extract the plutonium from its nuclear reactor spent fuel. This step would provide South Korea easy access to nuclear weapons.

Japan already has a plutonium stockpile of 44 metric tons produced as a result of its civil nuclear power program. About 35 metric tons are stored overseas but about 9 metric tons (enough to produce thousands of nuclear weapons) are stored in Japan.¹⁵ Recently a number of Japanese political figures have openly argued that Japan should continue its plutonium program as a nuclear weapon hedge and Japan's parliament has amended its atomic energy act to explicitly include "national security" as one of the prime missions of Japan's civilian nuclear energy program.

These developments in East Asia provide a preview of how events in the Middle East may play out. Though countries such as Egypt, Saudi Arabia and Turkey currently lack the necessary nuclear technology to be able to produce nuclear weapons any time soon, this may be changing. Saudi Arabia has said it plans to build 16 nuclear power reactors by 2030 and wants to have the first two in operation by 2023.¹⁶ With such a large nuclear power program, Saudi Arabia could easily say that it also requires a large centrifuge enrichment program to provide fuel for these reactors, which would provide it with easy access to the HEU needed for nuclear weapons. Questions have also been raised about Turkey's plans to acquire Japanese nuclear reactors.

¹³ Henry Sokolski, "After North Korea's Nuclear Test," *The National Review Online*, February 12, 2013.

¹⁴ Martin Fackler and Choe Sang-Han, "South Korea Flirts With Nuclear Ideas as North Blusters," *The New York Times*, March 10, 2013.

¹⁵ "The Current Situation of Plutonium Management in Japan," Cabinet Office, Secretariat of the Atomic Energy Commission, Japan, September 11, 2013.

¹⁶ "Saudi Arabia to have 16 nuclear reactors by 2030," *The Times of India*, August 27, 2013.

Turkey requested that a provision be added to its nuclear cooperation agreement with Japan that would allow Turkey to acquire enrichment or reprocessing technologies if both parties agree.¹⁷

The IAEA needs to stop being complicit in this problem. The IAEA must end the pretense that it can effectively safeguard all nuclear material and activities, no matter how dangerous. Nuclear safeguards are supposed to be more than an accounting system. Rather the purpose of IAEA safeguards "...is the timely detection of diversion of significant quantities of *nuclear material* from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices or for purposes unknown, and deterrence of such diversion by the risk of early detection."¹⁸ [Emphasis in original.]

For safeguards to be effective, non-nuclear weapon countries must be prohibited from possessing any materials or facilities that can quickly provide fissile material for nuclear weapons. This includes prohibiting not only enrichment and reprocessing facilities but also separated HEU, plutonium or U-233; and HEU, plutonium or U-233 that is contained in unirradiated reactor fuel (such as HEU fuel for research reactors or mixed oxide fuel for power reactors).¹⁹ Such restrictions would require shutting down enrichment facilities not only in Iran but also in Germany, the Netherlands, Brazil and Japan, as well as reprocessing facilities in Japan. Such restrictions would also require the removal of Japan's massive plutonium stockpile.

The U.S. needs to examine how it can strengthen the nuclear nonproliferation system as a whole. Key to this effort will be to stop countries from using nominally peaceful nuclear activities to acquire the HEU or plutonium needed for nuclear weapons. The U.S. needs to urge the IAEA to clarify which materials and facilities it can effectively safeguard and which it cannot. A negotiated agreement with Iran that legitimizes its centrifuge enrichment program would be a step in the wrong direction. It will also be important for the U.S. to continue to prohibit South Korea from producing separated plutonium and to help Japan find a way to dispose of its huge plutonium stockpile.

¹⁷ "Japan's energy pact with Turkey raises nuclear weapons concerns," *Asahi Shimbun*, January 7, 2014.

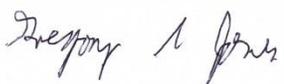
¹⁸ "The Structure and Content of Agreements Between The Agency and States Required in Connection With The Treaty on the Non-Proliferation of Nuclear Weapons," International Atomic Energy Agency, INFCIRC/153 (Corrected), June 1972, p.9.

¹⁹ U-233, like plutonium and HEU, can be used to manufacture nuclear weapons. It is produced by the irradiation of thorium. Mixed oxide power reactor fuel is a mixture of uranium and plutonium oxides.

**United States House of Representatives
Committee on Foreign Affairs**

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