



## Returning Iran to Compliance with the JCPOA

Diplomats from China, France, Germany, Russia, the United Kingdom, Iran and the United States have been meeting in Vienna for months to resolve the Iranian nuclear crisis. The delegations are attempting to negotiate the revival of the Iran nuclear deal, known formally as the Joint Comprehensive Plan of Action (JCPOA). The core bargain of the deal can still be revived—an exchange of sanctions relief for significantly constraining Iran’s nuclear program—but there is little time as Iran’s program marches forward. In May 2019, one year after the United States withdrew, Iran began [incrementally breaching](#) the limits of the JCPOA. Pursuant to legislation passed by the Iranian parliament to gather leverage in the negotiations and respond to the assassination of nuclear scientist Mohsen Fakrizadeh, Iran is now further downgrading compliance with the deal until it receives sanctions relief. Below are Iran’s JCPOA obligations, the status of those obligations and the steps needed to restore the deal’s nuclear limits.

|  | Allowed under the JCPOA  | Status report: February 19, 2022   | Steps to take  |
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| <b>Uranium stockpile and fuel</b>                                    | <ul style="list-style-type: none"> <li>Stockpile of uranium gas kept under 300 kg or about 202 kg of uranium by weight.</li> <li>Uranium enrichment capped at 3.67% Uranium-235 (U-235).</li> <li>Russia provided 20% enriched fuel plates for Tehran Research Reactor (TRR).</li> </ul>   | <ul style="list-style-type: none"> <li>Iran has accumulated 3,197.1 kg of uranium. Above the limit of 3.67%, Iran has enriched 1,278 kg at 5%; 182 kg at 20%; and 33 kg at 60%.</li> <li>Iran is conducting R&amp;D on uranium metal production and has manufactured 2 fuel plates for the TRR.</li> <li>Iran has produced 17 fuel assemblies for the TRR.</li> </ul>                              | <ul style="list-style-type: none"> <li>Excess stockpile can be shipped out or blended down. Iran shipped out 11,000 kg of uranium in 2015.</li> <li>Cease and desist R&amp;D on uranium metal production. The knowledge gained, however, cannot be unwound.</li> </ul> |
| <b>Centrifuges</b>   | <ul style="list-style-type: none"> <li>Operate 5,060 of Iran’s old IR-1 centrifuges in 30 cascades at Natanz.</li> <li>Fordow converted to stable isotope production facility with assistance from Russia.</li> <li>1,044 IR-1 centrifuges in 2 cascades will remain at Fordow.</li> </ul> | <ul style="list-style-type: none"> <li>Natanz fuel enrichment plant: installed 36 cascades of IR-1, 6 cascades of IR-2m, and 2 cascades of IR-4 centrifuges.</li> <li>Natanz pilot fuel enrichment plant: R&amp;D lines using IR-1, IR-2m, IR-4, IR-5, IR-6, IR-6s, IR-7, IR-8, IR-8b, IR-9 and IR-s centrifuges.</li> <li>Fordow facility: 2 cascades of IR-6 and 6 cascades of IR-1s.</li> </ul> | <ul style="list-style-type: none"> <li>Dismantle and store advanced centrifuges. The knowledge gained from R&amp;D, however, cannot be unwound.</li> <li>Stop enriching uranium at Fordow.</li> <li>Return Fordow to a strictly peaceful research facility.</li> </ul> |
| <b>Arak heavy water reactor (activities related to reprocessing)</b> | <ul style="list-style-type: none"> <li>Removed the calandria from the reactor and filled it with concrete.</li> <li>China to modify Arak with the United States.</li> <li>No reprocessing activity.</li> <li>Limit of 130 metric tons of heavy water.</li> </ul>                           | <ul style="list-style-type: none"> <li>Iran has not reverted Arak to its original threatening design.</li> <li>All natural uranium pellets and fuel assemblies remain in storage.</li> <li>Stockpile of heavy water above limit.</li> </ul>  | <ul style="list-style-type: none"> <li>Resume work with China and the UK to modify the Arak reactor so it does not pose a proliferation threat.</li> <li>Ship excess heavy water to Oman.</li> </ul>   |
| <b>Nuclear inspectors</b>  | <ul style="list-style-type: none"> <li>Provisionally apply the Additional Protocol.</li> <li>On-line enrichment monitors were installed.</li> </ul>  | <ul style="list-style-type: none"> <li>Suspend implementation of the Additional Protocol.</li> <li>Transparency measures reduced via technical agreement (unknown if agreement operational).</li> </ul>  | <ul style="list-style-type: none"> <li>Apply the Additional Protocol.</li> <li>Answer remaining IAEA queries about three locations in Iran.</li> </ul>   |