



## Parchin: Will the IAEA Verify the Absence of Nuclear Weapons Activities in Iran?

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*Will the IAEA gain access to military sites in Iran to verify Iran's safeguards obligations and the Joint Comprehensive Plan of Action's (JCPOA) ban on weaponization activities? Verifying this ban in particular will require Iran to offer much greater cooperation than it has so far been willing to offer. The IAEA's most recent safeguards report contains little information on these important topics. In its next quarterly safeguards report, the IAEA should fully report whether Iran is in compliance with the JCPOA's weaponization bans.*

On May 27, 2016, the International Atomic Energy Agency (IAEA) released its [second report](#) on Iran's compliance with United Nations Security Council (UNSC) resolution 2231 (2015), which codified into international law the Joint Comprehensive Plan of Action (JCPOA).<sup>1</sup> The report states that the IAEA conducted "complementary accesses under the Additional Protocol to sites and other locations in Iran." It is not specific about which sites the inspectors visited and does not provide any other information pertaining to Iran's compliance with the JCPOA ban on activities related to the design and development of a nuclear explosive device (see below).<sup>2</sup> In particular, the report does not state whether inspectors visited the Parchin military complex, which is the location of a site linked to high explosive work prior to 2004 related to the development of nuclear weapons. The IAEA was unable to form a conclusion about such nuclear weapons related activities when it visited the site during the fall of 2015 as part of its investigation into Iran's possible military nuclear activities.<sup>3</sup>

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<sup>1</sup> For an analysis of the content of the IAEA's second report see David Albright, Serena Kelleher-Vergantini, and Andrea Stricker, "IAEA's Second JCPOA Report: Key Information Still Missing," May 31, 2016, [http://isis-online.org/uploads/isis-reports/documents/Second\\_JCPOA\\_Post-Implementation\\_Day\\_Report\\_May\\_31\\_2016\\_Final.pdf](http://isis-online.org/uploads/isis-reports/documents/Second_JCPOA_Post-Implementation_Day_Report_May_31_2016_Final.pdf).

<sup>2</sup> These activities are banned by par.82, Annex I (T) of the Joint Comprehensive Plan of Action (JCPOA), July 14, 2015.

<sup>3</sup> For a comprehensive analysis of the Parchin issue and an overview of the site modifications see David Albright and Serena Kelleher-Vergantini, "Parchin in the IAEA's Final Assessment on the Possible Military Dimensions to Iran's Nuclear Program," December 3, 2015. [http://isis-online.org/uploads/isis-reports/documents/Parchin\\_Final\\_Assessment\\_on\\_PMD\\_Issues\\_3Dec2015-Final.pdf](http://isis-online.org/uploads/isis-reports/documents/Parchin_Final_Assessment_on_PMD_Issues_3Dec2015-Final.pdf).

Iran has continued modification work at the Parchin site that may complicate further investigations. DigitalGlobe commercial satellite imagery dated May 18, 2016 shows several signatures of new activity at the Parchin site, which could further complicate a retaking of environmental samples. In addition to signatures that have been spotted many times before, such as vehicles, debris, and water runoff near the main buildings, this recent image shows a new signature: Iran seems to be laying the foundations for a new building, or two adjacent buildings, at the site. As figure 1 shows, this activity is located between the alleged high explosive test building and the northern building. Construction materials are also visible nearby.

Despite the IAEA's use of a non-standard sampling approach at Parchin, environmental samples taken during the fall visit identified "chemically man-made particles of natural uranium." However, the IAEA did not make a definitive conclusion about the use of nuclear material at the site.<sup>4</sup> The IAEA only stated that the number of particles with this specific composition was not enough to assert the use of nuclear material there, and provided no further explanation for their presence in the last two safeguards reports. An ambiguous sampling result would normally trigger re-sampling at the main building of interest at the site and also at adjacent areas or buildings. However, there is no available information indicating that this re-sampling has taken place.

U.S. officials have stated to our Institute that this finding confirms that uranium was present at the Parchin site and indicates that nuclear weapons related experiments involving the use of uranium were indeed carried out there. The presence of these particles confirmed the U.S. government's suspicions that something nefarious happened at the Parchin site. However, the IAEA has not agreed with this conclusion and has appeared hesitant to seek a return visit to Parchin for additional samples. A senior IAEA official refused to answer a query on May 27, 2016 about whether Parchin or other military sites have been visited since Implementation Day. The IAEA also refused to state to the media which specific sites were visited under complementary access.

The lack of clarity on the Parchin issue remains an outstanding verification issue affecting the status of Iran's compliance with its safeguards obligations. The IAEA may be hesitant to seek additional access to the Parchin site to take additional samples given that Iran intensely opposed providing access last fall and required a special arrangement to allow access. The access that took place in the fall of 2015 was largely symbolic and did not involve IAEA inspectors physically visiting the buildings while collecting samples. Instead, senior leaders conducted a "walk through" visit, and the inspectors directed sample taking remotely. Given that the IAEA may not want to restart a conflict with Iran over this issue, it may not seek to re-visit the site.

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<sup>4</sup> For more details see "Parchin in the IAEA's Final Assessment on the Possible Military Dimensions to Iran's Nuclear Program," op. cit.

However, the IAEA needs to re-visit Parchin if this issue is to be settled. In addition to seeking a resolution of the uranium issue at Parchin, there is another reason to visit this site and other military sites: without access to military sites, important commitments under the JCPOA - namely whether Iran is working on key aspects of a nuclear explosive device - are unverifiable.

Iran has agreed not to engage in certain activities that could contribute to the design and development of a nuclear explosive device. These commitments require verification (see JCPOA, annex I, section T). In particular, these banned activities include:

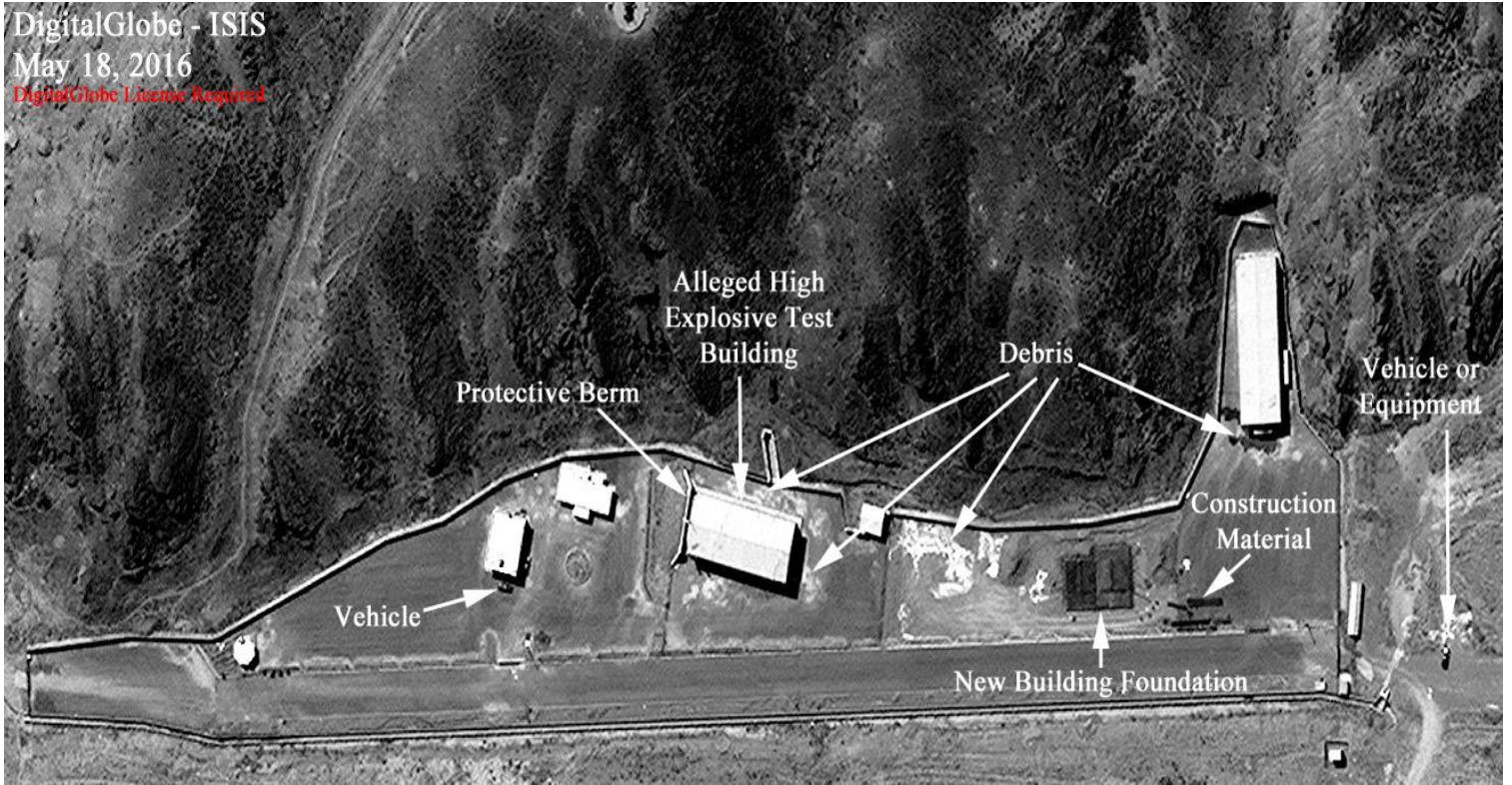
- Designing, developing, acquiring, or using computer models to simulate nuclear explosive devices;
- Designing, developing, fabricating, acquiring, or using multi-point explosive detonation systems suitable for a nuclear explosive device, unless approved by the Joint Commission for non-nuclear purposes and subject to monitoring;
- Designing, developing, fabricating, acquiring, or using explosive diagnostic systems (streak cameras, framing cameras and flash x-ray cameras) suitable for the development of a nuclear explosive device, unless approved by the Joint Commission for non-nuclear purposes and subject to monitoring; and
- Designing, developing, fabricating, acquiring, or using explosively driven neutron sources or specialized materials for explosively driven neutron sources.

Verifying the absence of such activities is difficult and will require the IAEA to gain access to military sites such as Parchin. To ensure that Iran is in compliance with the JCPOA and in particular not violating the above weaponization conditions, the IAEA needs to:

- Determine the fate of the high explosives chamber present inside the main building at this Parchin site; and
- Ascertain if Iran made more than one high explosive chamber, learn its (their) fate, and verify their non-use for nuclear weapons research and development activities.

More generally, verifying these weaponization bans will require much greater access and cooperation than Iran has so far been willing to offer. In future quarterly safeguards reports, the IAEA should fully report on the status of Iran's compliance with these bans.

DigitalGlobe - ISIS  
May 18, 2016  
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**Figure 1.** Digital Globe imagery dated May 18, 2016 showing a site at the Parchin Military Complex that has been linked to high explosive work related to the development of nuclear weapons.