

So it Really was a Reactor in Syria

Contributed by Asculai, Ephraim INSS Insight No. 81, The Institute for National Security Studies
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There are two outstanding issues on the table for the forthcoming IAEA Board of Governors meeting: the nuclear programs of Syria and Iran.

Syria

The IAEA report on the Syrian issue that finally came out on November 19, 2008 gave a detailed summary of its findings but omitted two important items: the technical details of the sampled uranium particles found in the vicinity of the Syrian reactor site at Dair Alzour (or al-Kibar, as called by US reports) and the unequivocal statement that the site housed a nuclear reactor under construction when it was destroyed on the night of September 6, 2007. By leaving out these two elements, the report gave everyone what it wanted: Syria and its supporters could happily claim that there was no reactor at the site, while others could vary in their conclusions from uncertainty to firm belief that the destruction of the construction prevented or at least delayed Syria from acquiring a military nuclear capability. This ambiguity on the part of the IAEA should have been expected, since it is in line with its organizational culture - try to have something nice to say about member states.

Not all the technical facts detailed in the report are needed to reach the conclusion that the installation housed a nuclear reactor that was nearing operation, much as the US claimed. It is sufficient to note that the report confirmed that the water pumping capacity was sufficient for removing 25 megawatts of energy. An energy source of this magnitude would need to burn either fossil or nuclear fuel, or it would have to consume electrical energy imported to the site. Since the Syrians confirmed "the unreliable and insufficient electricity supplies in the area," the last option is not viable. Since it is obvious that this was not a fossil fuel electricity producing station (and no one claimed that it was) the conclusion is unequivocal. In addition, a fossil fuel plant would have been constructed near the Euphrates River for efficiency reasons and not hidden inland, out of sight. The IAEA chose to state that "While it cannot be excluded that the building in question was intended for non-nuclear use, the features of the building, as described above, along with the connectivity of the site to adequate pumping capacity of cooling water, are similar to what may be found in connection with a reactor site." One cannot but wonder, what could have possibly been the "non-nuclear use"?

Although not essential for the evaluation, the visit to the site and the results of the samples taken showed the presence of a few natural uranium particles that had undergone chemical processing. Natural uranium is used in the North-Korean-type reactor, assessed by the US to have been constructed in Syria. The IAEA chose not to divulge the composition and other characteristics of the uranium particles (information it certainly has, since it assessed the chemical processes), yet thereby confirmed the relationship between the particles and nuclear fuel. Otherwise, it would have certainly noted it. Although the Syrians did their best to clean the area around the site, they evidently did not do a good enough job and a few particles remained on the surface, some of which were detected by the very sensitive analytical methods of the IAEA laboratories.

It is possible that the fact that no graphite particles were found indicates that the bombs did not penetrate the reactor's core, and the source of the uranium particles were the fuel rods waiting to be loaded into the core. If

true, this could indicate that the reactor was a short time away from its startup, when hitting it could already cause environmental damage.

The IAEA Director General reiterates his accusation that "the Agency was severely hampered in discharging its responsibilities under the NPT and under Syria's Safeguards Agreement by the unilateral use of force and by the late provision of information concerning the building at the Dair Alzour site." One can only speculate what would have been the international consequences of such a visit to an operating reactor, or much worse, whether Syria's nuclear program would have been confirmed by a Syrian nuclear explosion.

Iran

On the same day in November, the periodic IAEA report on Iran was sent to the Board of Governors. It is a pessimistic report, in which the Director General states that "Regrettably, as a result of the lack of cooperation by Iran in connection with the alleged studies and other associated key remaining issues of serious concern, the Agency has not been able to make substantive progress on these issues."

As expected, Iran has been proceeding tirelessly with its uranium enrichment program, in contravention of Security Council resolutions. It has been enriching uranium up to 5% U-235 enrichment while putting up many more uranium enrichment gas centrifuge machines in its underground Natanz facility and testing new, advanced gas centrifuge enrichment machines. It also prevented the IAEA inspectors from visiting the heavy-water natural uranium reactor under construction at the Arak site. The IAEA assessed that "from a review of such [satellite] imagery, the Agency can confirm that construction of the reactor is continuing."

The Director General concluded his short report by stating that he "continues to urge Iran to implement all measures required to build confidence in the exclusively peaceful nature of its nuclear programme at the earliest possible date." It is an almost ludicrous statement coming at a time when almost all cooperation has ground to a halt. Only the bare bones of the required cooperation under the "Full Scope" safeguards agreement remain in place. He stated that gone are the commitments to the Additional Protocol and the modified text of its Subsidiary Arrangements, and any requests for additional access to sites and people remain unheeded. Given the data published in the report, the assessment that Iran will have the potential to obtain 25 kilograms of Highly Enriched Uranium by the end of 2009 (give or take a few months) remains unchanged. It now seems that the international community is willing to let this happen.

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