

Iran's Centrifuge Program: Defiant but Delayed

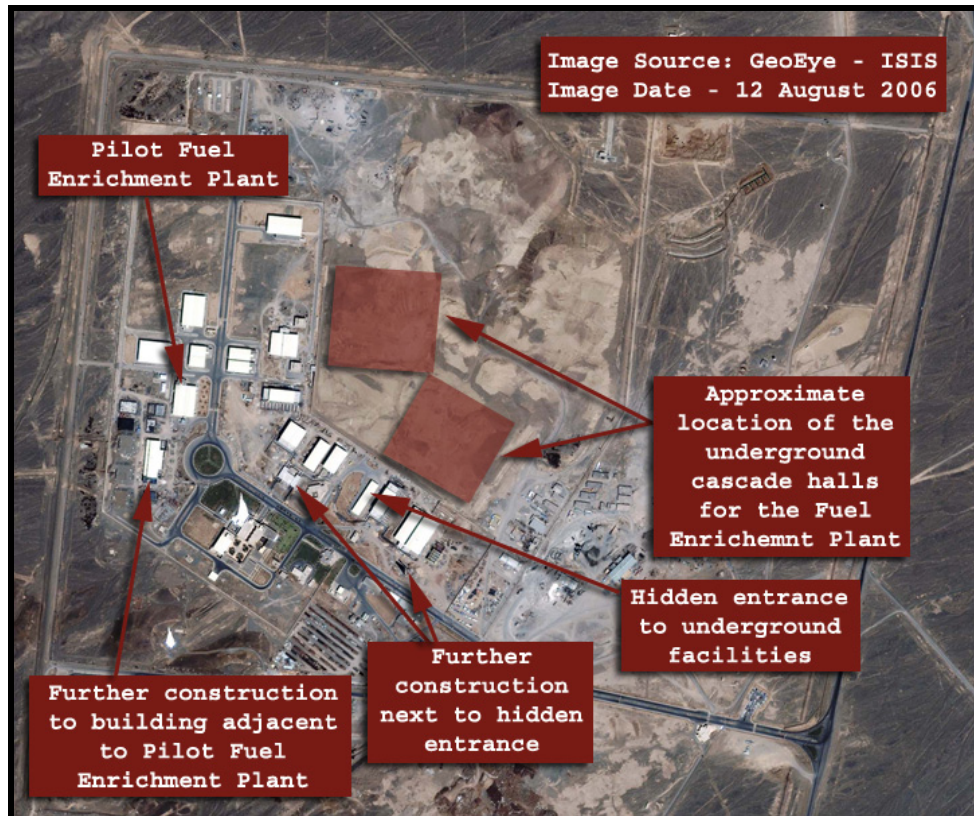
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Despite Iran failing to meet U.S. Security Council demands to halt enrichment, progress at Natanz is slower than expected.



Iran has made limited progress at its Natanz uranium enrichment plant, installing and operating fewer gas centrifuges than expected. Senior Vienna-based diplomats have confirmed to ISIS that Iran may be either delaying deliberately the pace of its work while diplomatic efforts are underway, or is experiencing technical problems with its centrifuge program. It continues to conduct small experiments, and to operate a 164-machine cascade with uranium hexafluoride, but it is not operating this cascade consistently over a sustained period. ISIS has reported previously that Iran appears to be operating the cascade at reduced efficiency and output, yielding smaller quantities of low enriched uranium.

Iran has also failed to install as many cascades in the Natanz pilot plant as expected. In April 2006, U.S. government and IAEA officials expected Iran to have installed five cascades, each containing 164 centrifuges, by August 2006 at Natanz's pilot fuel

enrichment plant (PFEP). (The PFEP is configured to hold a total of six cascades, but one "slot" holds five and ten machine cascades).

It now appears that Iran has not begun to operate the second and third cascades at the pilot plant, although they may be close to completion. There is no indication that Iran is close to installing the fourth and fifth cascades. To demonstrate proficiency in cascade operations, Iran must run these cascades together for an extended period of time.

Iran informed the IAEA of plans to begin installation of the first 3,000 centrifuges at Natanz's underground halls by the last quarter of 2006. It now appears that Iran will also not meet this deadline. It is possible that Iran's leadership has deferred installation out of concern that the facility would be a target of military strikes should diplomacy fail to resolve the nuclear issue. It is also possible that Iran has prepared undisclosed facilities for research and development of uranium centrifuges and deployment of additional cascades, although no evidence of such facilities currently operating has emerged from IAEA inspections.