Iraq's Nuclear Weapons Program:

Past, Present, and Future Challenges

Feb 18, 1998

Brief Analysis

Iraq's nuclear program consisted of two elements: a long-range program dating back to the early 1980's and a crash program initiated after the 1990 invasion of Kuwait. Has Iraq not invaded Kuwait, its long-range nuclear program, involving the enrichment of uranium by various means, probably would have yielded a small arsenal of nuclear weapons by the mid-1990's. The crash program involved plans to use safeguarded highly-enriched uranium to build one or two nuclear weapons. This project would have been completed no sooner than 1991 had the Gulf War not intervened earlier that year.

Most of the long range program and the crash program has been uncovered and dismantled as a result of inspection by the IAEA action team. The highly-enriched uranium that Iraq possessed (in the form of reactor fuel) has been removed from the country, and Iraq has revealed a good deal about the pre-1991 program-particularly after Husayn Kamil's defection in 1995. However, because of deception at the heart of Iraq's nuclear program from the beginning, it has been very difficult to get to the bottom of the matter. Moreover, there is reason to believe that Iraq remains committed to recreating its nuclear weapons program.

Gaps in Iraq's Nuclear Story. The most significant gap in the action team's knowledge concerns how close Iraq was to building a nuclear weapon. The action team lacks documents on the matter, much of the information provided by the Iraqis is inconsistent, and there is a great deal of reticence by the Iraqis to answer questions. As a result, there are varying assessments of how close they were to building a bomb, which range form months to several (three to four) years. The Iraqis refuse to provide any further progress in the area.

Another area where there remain major discrepancies concerns Iraq's effort to build gas centrifuges to enrich uranium. This program was created, with the help of German centrifuge experts. One of these experts is in jail in Brazil and has refused to cooperate with the IAEA. He has, however, raised significant doubts in television interviews about the Iraqi account of the program. As a result, major questions about the timetable of the centrifuge program remain: how close was Iraq to mastering centrifuge manufacturing techniques and technologies?

Finally, there are major information gaps concerning the location of bottlenecks in the Iraqi effort. In other words, where were they encountering problems in their effort to get the bomb? Knowing where the Iraqis were stuck and where they were making progress is crucial to designing an effective monitoring and verification regime in the future. Such knowledge would help determine where to deploy monitoring assets to uncover efforts to resolve these bottlenecks.

Iraq's efforts to obscure these basic facts about its nuclear weapons program, and the fact that it has kept various weapons design teams together, leads to the conclusion that it will again try to build a nuclear weapon if given the opportunity to do so.

Toward the Future. How long would it take for Iraq to resurrect its nuclear program? If Iraq were to pursue the enrichment of uranium using gas centrifuges, it may be several years before it succeeded. Moreover, there is a good

chance that these efforts would be discovered, though a centrifuge enrichment plant may not be easy to find. On the other hand, if Iraq were to obtain weapons grade uranium or plutonium form abroad, they may be able to turn this into a nuclear weapon fairly quickly-within a year. The problem with the latter scenario is that no verification system is likely to detect the import of small quantities of plutonium or highly-enriched uranium. While there is no evidence to date of the diversion of fissile material from the former Soviet union (or elsewhere) to Iraq, "no evidence" does not mean it has not happened.

The most important asset that Iraq retains is its nuclear know-how. Its nuclear scientists are the key to the future of the program. Thus, perhaps the best way to prevent the revival of this program is to insist that as a condition for the lifting of sanctions, several dozen key scientists and their families be allowed to leave Iraq for residence elsewhere. More than any other possible measure, this would set back Iraq's nuclear efforts for years to come.

This Special Policy Forum Report was prepared by Megan Fisher.

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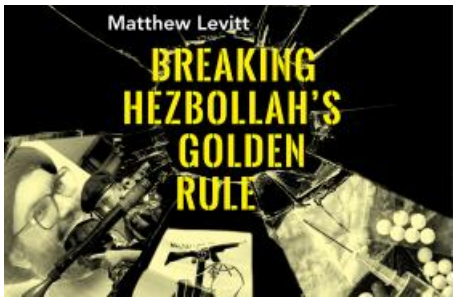

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