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For Iran, It's a Matter of Decision Taking

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The all-important matter of Iran's timetable for achieving a military nuclear capability surfaces periodically. The 2007 US National Intelligence Estimate (NIE), which was never formally modified, the pronouncements of various US officials and, more recently, Israel's deputy prime minister Yaalon and the retiring Mossad chief Dagan have all pointed to mid-decade as an approximate target date. On January 24, 2011, the new head of IDF Military Intelligence, Maj. Gen. Aviv Kohavi, said, that it was the Iranian leader's decisions that will determine the timescale of the project: "Based on their infrastructure, technical know-how and the amount of uranium they have, after he makes that decision, they will have nuclear weapons within a year or two." Dagan himself revised his previous estimate and stated that in a worst case scenario, Iran could have a nuclear device much sooner than 2015.

The contradictory assessments can be reconciled if one takes into account that different estimates may be based on different sources of information and on different scenarios. In the case of Iran, the International Atomic Energy Agency (IAEA) reports provide reliable and verified technical information on which some estimates can be based. According to the latest IAEA report, Iran has a sufficient amount of low-enriched uranium (LEU) that, if further enriched to military – high values (HEU), could be used to produce the cores for at least two nuclear explosive devices. Iran certainly has the technical capability to do so. It would take six months to produce the amount of HEU needed for the first core, and another six months to produce the core itself, meaning one year from the moment of decision.

Having the technical means is certainly a necessary condition for Iran's obtaining a military nuclear capability. However, this is not sufficient for the production of weapons, since essential decisions of the Iranian regime are needed to launch this activity, and these will determine the end result and its timetable. Strategic considerations and local political considerations will affect the Iranian decisions. The following factors will likely be taken into account before deciding to "go nuclear": what is the right moment to start producing nuclear weapons; what is the minimum number of weapons to be included in the Iranian

arsenal; can Iran afford to start producing these weapons before the materials for this minimal arsenal are available; does Iran want to demonstrate its capabilities by carrying out an underground nuclear test. On the political side, Iran will certainly evaluate the possible international repercussions; the regional Iranian benefits; the positive and negative effects on the internal situation in Iran; and the wish to introduce an Iranian "point of no return" where a nuclear Iran is a given fact.

The ability to demonstrate a nuclear capability is different from the accumulation of a nuclear arsenal. For proof of a nuclear capability it is sufficient to explode in an underground cave a single "primitive" nuclear explosive device, which is not packaged into a warhead. For the accumulation of an arsenal, several warheads must be produced, with all the trimmings attached to a military capability. However, both modes need HEU cores, and the decision to manufacture these is a very serious matter.

Since at present there is no indication that the sanctions are working to convince the Iranian regime to forego the military project, their imposed difficulties could also have a negative effect and convince Iran that a moment could arrive when they would be more comfortable with "breaking out" and proclaiming a military nuclear capability, and perhaps demonstrating this, rather than going on with the present political impasse. The current political situation reduces the fear of reprisals. Taking the India and Pakistan examples into account, where the world's reaction had fizzled out long ago, would be reasonable. The fact that Iran is party to the NPT should be a minor bother, since Iran can formally withdraw from the treaty without penalties. Iran would also not be bothered too much if it is eventually found to be in non-compliance with its treaties' obligations, including its signature of the Comprehensive Test Ban Treaty (CTBT).

The minimum arsenal is not an inconsiderable factor. For example, a decision could be taken that there is a need for at least four explosive devices: one for a nuclear explosion test; a second in case the first test explosion fails (this has some precedents); and two for deployment for possible future use, and as deterrent against aggressive action.

The IAEA reports have shown that the enrichment rate has been quite steady, and probably will be so in the near future. What probably has gone wrong, and this is also observable from the IAEA reports, is the wish to expand this project and to enrich uranium at a growing rate, which would greatly accelerate the accumulation of the enriched uranium stockpile. Unless Iran has concealed enrichment facilities, clandestinely producing HEU, the one year estimate would be a constant that could be defined, at present, as the worst case scenario, staying with us for a long time. At the present rate of enrichment, the Iranians could produce about 25 kilograms of HEU per year, or roughly a sufficient quantity for one core per year. Taking into account the present Iranian stocks of LEU and the estimated enrichment rates, they could first arrive at the required amount of LEU for the four cores by the end of 2012. Producing the first device could take another year, and thus the timetable for this example is clear: from these purely technical

considerations, the end of 2013 can be taken as the earliest date for an Iranian military nuclear capability.

However, these time estimates, especially where an arsenal is being considered, could change in a very short time if the technological difficulties are overcome, and if there is a breakthrough in the Iranian technology and the deployment of more advanced enrichment machines. It could also happen if there is an urgent Iranian need to demonstrate a military nuclear capability. It all boils down to the question whether the estimates are given for the more probable or for the worst case scenario. It is quite clear that the worst case scenario gives the time frame of a year, when a nuclear test could be carried out. For the “more probable” case, the publicized estimate of 2015 is as good as any other.