D/Strat Tech 13/2/7

27 March 2002

Policy Director : reply from Paul Roper.

ENCLOSURE 18 NUMBER

Policy Director

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CDI

IRAQ – NUCLEAR WEAPONS

1. You asked for a second opinion on the issue of IRAQ's nuclear weapons capability and how quickly IRAQ might acquire a deployable nuclear capability. I have reviewed the DIS paper and spoken to DI52 and in short I agree with it as a "best guess" broad based scientific judgement although I will introduce a caveat.

2. It is very important to distinguish between hard intelligence and best scientific judgement. As I understand it the former is a little thin on the ground so we have to look at the latter. Let me start with the key ingredient for a nuclear weapon or device which is a source of fissile material (Plutonium or Highly Enriched Uranium (HEU)). The scientific judgement is clear – without such material you cannot make a nuclear weapon. The domestic source of HEU that IRAQ was trying to establish was destroyed after the Gulf War. It is hard to believe that IRAQ has covertly established a domestic source given the relatively large signatures of the necessary facilities and it would almost certainly take a few years from start up to acquire enough material. If fissile material were acquired from abroad then much time would be saved but I suspect the likelihood of this is low but it's purely an intelligence matter.

3. [redacted]

4. Finally, let us assume that against all the odds IRAQ acquires HEU and a viable [redacted] from a third party. The nuclear component would have to be fabricated and integrated with the explosives system and the firing electronics and incorporated in a bomb case. This will all take some time and the one year "guestimate" is reasonable. However my caveat is that the clock does not necessarily start ticking from the moment of fissile material acquisition. Much of the engineering integration including any conventional explosive trials can be conducted in advance. Indeed it is possible to practice casting fissile material components using simulant material (natural or depleted uranium are ideal surrogates for HEU). If all this has been done ahead of time then it might take only a few weeks to complete assembly once fissile material is obtained. The signatures of some of these precursor activities is quite low but it is on intelligence judgement as to the likelihood of detecting it.

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5. A more advanced design suitable for deployment on a missile would almost certainly involve more development work and explosive trials. I have no feel for timescale but 2-3 years is a good guess. Again most of this work can be done in advance of acquiring the fissile material.

P W ROPER
D Strat Tech
5/26MT 87126MB