

21. Following the expulsion of weapons inspectors in 1998 there has been **an accumulation of intelligence** indicating that Iraq is making concerted covert efforts to acquire dual-use technology and materials with nuclear applications. Iraq's existing holdings of processed uranium are under IAEA supervision. But there is compelling evidence that Iraq has sought the supply of significant quantities of uranium from Africa. Iraqi has no known civil nuclear programme or nuclear power plants, therefore it has no legitimate reason to acquire uranium.

22. Other important procurement since 1998 includes attempts to purchase vacuum pumps, which could be used....an entire magnet production line of the correct specification for use in gas centrifuges, one large filament winding machine, which....and a large balancing machine which could be used in initial centrifuge balancing work. Of particular concern are the repeated attempts by Iraq covertly to acquire a very large quantity (60,000 pieces) of specialised aluminium tubes. The specialised aluminium in question is subject to international export controls because of its potential application in the construction of gas centrifuges used to enrich uranium. In the case of aluminium and magnets it appears **from intelligence** that Iraq is attempting to acquire a capability to produce these components on its own rather than rely on foreign procurement.

Nuclear weapons: timelines

23. The projected timeline contained in the JIC assessment of early 2002 (see paragraph...) for Iraq to acquire a nuclear weapon through indigenous production of fissile material depend on a number of variables including the effectiveness of sanctions and other export controls and Iraqi success (or otherwise) to date in procuring items such as those listed above.

24. The continuing existence of the specialist teams and back-up data means that, were Iraq to obtain fissile material from abroad, the timeline would be much shorter. In those circumstances, and depending on the effectiveness of Iraqi weapons designs, we judge that Iraq could produce a nuclear weapon in between one and two years.

Radiological dispersal device

A Radiological Dispersal Device (RDD) is designed to cause injury, or to deny, access to an area through the dissemination of radioactive material. An RDD can be made using material from medical or industrial facilities, but makes an ineffective weapon. Very large amounts of highly radioactive material are required before an RDD will cause many fatalities or significant injuries.

Iraq experimented with radiological dispersal devices (RDDs) during 1987, using Zirconium-95 as a dispersal material for area denial. This programme never progressed beyond the research stage, and was dropped.

BALLISTIC MISSILES

JIC Assessment: 1999-2002

25. In mid-2001 the JIC drew attention to what it described as a "step-change" in progress on Iraqi missile programme over the previous two years. It was clear from intelligence that the range of Iraqi missiles which was permitted by the UN and supposedly limited to 150 kilometres was being extended and that work was under way on larger engines for longer-range missiles.

26. In early 2002 the JIC concluded that Iraq had begun to develop missiles with a range of over 1,000 kilometres. If sanctions remained in place the Iraqis would not be able to produce such a missile before 2007. Sanctions and the earlier work of the inspectors had caused significant problems for Iraqi missile development. In the previous six months Iraqi foreign procurement efforts for the missile programme had been bolder. The JIC also assessed that Iraq retained up to 20 Al Hussein missiles from before the Gulf War.

The Iraqi ballistic missile programme since 1998

27. Since the Gulf War, Iraq has been openly developing two short-range missiles up to a range of 150km, which are permitted under UN Security Council Resolution 687. The Al-Samoud

liquid propellant missile has been extensively tested and is being deployed to military units. **Intelligence indicates** that at least fifty have been produced. **Intelligence also indicates** that Iraq has worked on extending its range to at least 200km in breach of UN Security Resolution 687. Production of the solid propellant Ababil-100 (Figure 4) is also underway, probably as an unguided rocket at this stage. There are also plans to extend its range to at least 200km.

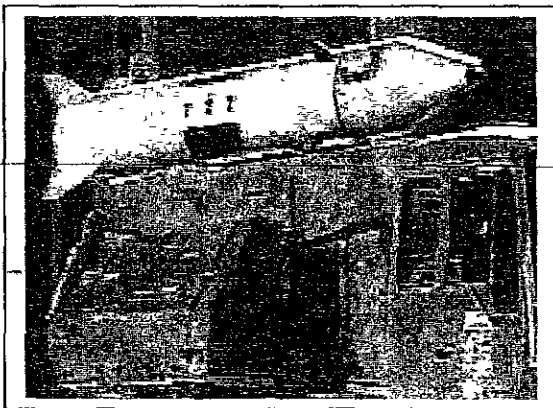


FIGURE 4: ABABIL-100

Compared to liquid propellant missiles, those powered by solid propellant offer greater ease of storage, handling and mobility. They are also quicker to take into and out of action and can stay at a high state of readiness for longer periods.

28. **According to intelligence**, Iraq has retained up to 20 Al Hussein missiles (Figure 5), in breach of UN Security Council Resolution 687. These missiles were either hidden from the UN as complete systems, or re-assembled using illegally retained engines and other components. We judge that the engineering expertise available would allow these missiles to be maintained effectively, although the fact that at least some require re-assembly makes it difficult to judge exactly how many could be available for use. They could be used with conventional, chemical or biological warheads and, with a range of up to 650km, are capable of reaching a

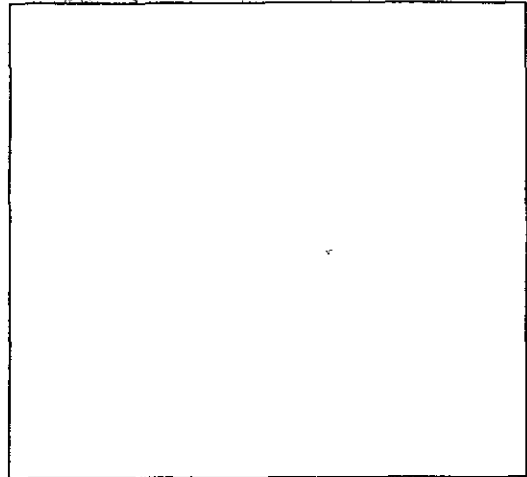


FIGURE 5: AL HUSSEIN

number of countries in the region including Cyprus, Turkey, Saudi Arabia, Iran and Israel.

29. **Intelligence has confirmed** that Iraq wants to extend the range of its missile systems to over 1000km, enabling it to threaten other regional neighbours. This work began in 1998, although efforts to regenerate the long range ballistic missile programme probably began in 1995. Iraq's missile programmes employ hundreds of people. **Satellite imagery** (Figure 6) has shown a new engine test stand being constructed (A), which is larger than the current one used for Al Samoud (B), and that formerly used for testing SCUD engines (C) which was dismantled under UNSCOM supervision. This new stand will be capable of testing engines for missiles with ranges over 1000km, which are not permitted under UN Security Council Resolution 687. Such a facility would not be needed for systems that fall within the UN permitted range of 150km. The Iraqis have recently taken measures to conceal activities at this site.