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"C"
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cc David Manning
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WMD PROGRAMMES OF CONCERN – PUBLIC VERSION

1. Thank you for all of the comments and contributions that we have received on the unclassified paper on WMD programmes of concern. Please find attached a final draft which further reflects the views of No 10 who had a chance to comment on an earlier version. No 10 were broadly content with the thrust of the paper. I would welcome any final comments by midday on Thursday 14 March.

2. There are still some reservations on a number of key points:

- continue to have concern about the particularly with reference to procurement activity in North Korea which relate to an enrichment capability.

- Going further than before in our statements especially on Iran and Libya nuclear weapons programmes. There are concerns here for bilateral relations and the position of the IAEA.

3. On future handling, I intend to hold a meeting of senior officials at 16.30 on Thursday to resolve any outstanding issues. The paper will then be forwarded to David Manning on Friday.

JOHN SCARLETT

13 March 2002

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WMD PROGRAMMES OF CONCERN

This document draws on information from a range of sources, including intelligence. Because of the need to protect the safety of sources, details underpinning intelligence judgements cannot be made public. But HMG is confident of the judgements set out in this paper.

Introduction

- Nuclear, chemical and biological weapons are collectively known as Weapons of Mass Destruction (WMD). Several countries have WMD programmes and missiles systems to deliver nuclear, chemical or biological warheads. They are working to develop more accurate and longer range missiles that will allow them to threaten more than just their immediate neighbours.

- Several countries that promised not to acquire nuclear weapons are trying to build them; North Korea has probably already succeeded.

- There are similar problems over chemical weapons. Most countries banned them long ago. But some countries have still not ratified the Chemical Weapons Convention and others are in breach of it. Saddam Hussein used chemical weapons against Iran, and against his own Kurdish people, as recently as the late 1980s.

- Some countries also have, or wish to acquire, biological weapons, some of which have the potential to cause casualties on the same scale as nuclear weapons.

- We know too that Usama Bin Laden's Al Qaida has for several years tried to get nuclear, chemical and biological agents. They had some success, and may even have obtained some chemical, biological and radiological materials, before being seriously disrupted by coalition action in Afghanistan. They will keep on trying.

- These facts are alarming. This paper sets out what the Government knows about them, consistent with the protection of sensitive sources of information.

Background

The Nuclear Non-Proliferation Treaty (NPT) provides an important framework for preventing the spread of nuclear weapons. Some 188 nations have signed and ratified it. Four nations have chosen not to. Three of whom we know have developed nuclear weapons. This is a matter of concern – not least in the context of the current tensions between two of them; India and Pakistan.

The position of the NPT non-signatories is a matter of serious concern. But it is well known. And these countries do not pose a threat to us. The focus of this paper is elsewhere. There is increasingly worrying evidence that several countries that have signed the NPT are nonetheless seeking to breach the Treaty and acquire nuclear weapons. Such actions are illegal and destabilising. The governments concerned are themselves volatile and unpredictable. If these countries succeed in bypassing their international obligations and acquire nuclear weapons, the world will become immeasurably more dangerous. These programmes are shrouded in secrecy. However, because these countries are dependent on external assistance to achieve their objectives, intelligence can be acquired through the activities of those who are supplying them with materials, components and expertise.

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Additionally these and other countries are attempting to acquire biological and chemical means of mass destruction and the necessary delivery systems to go with them, in some cases in breach of their obligations under the Biological and Toxin Weapons and Chemical Weapons Conventions which entered into force in 1975 and 1997 respectively. Chemical and biological weapons programmes can be hidden within legitimate civil industrial and medical programmes and are therefore easier to hide than nuclear weapons programmes, given the dual-use nature of much of the equipment and many precursors materials.

Aim

This paper sets out what we know about the efforts by states of concern to acquire weapons of mass destruction. We focus on four countries, which we judge pose a potential threat to our interests. It inevitably draws upon sensitive intelligence sources and there is a limit to the level of detail which can be revealed.

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Summary

North Korea:

- North Korea is currently the world's most prolific supplier of ballistic missile systems.
- It has sold hundreds of missiles and continues to do so.
- It has developed and produced a number of different types of missile for its own forces and also for export.
- North Korea probably has produced at least 1-2 nuclear weapons and continues with a covert nuclear weapons programme.
- It probably has both offensive chemical and biological weapons programmes.

Iraq:

- Iraq retains some prohibited missile systems.
- Iraq is developing longer-range ballistic missiles capable of delivering weapons of mass destruction through out the Middle East and Gulf Region.
- Iraq has a chemical and biological weapons capability.
- Iraq is seeking a nuclear weapons capability.

Iran:

- Iran is developing a range of ballistic missiles, and could have an intercontinental capability by the end of the decade.
- Iran's pursuit of a fully indigenous nuclear fuel cycle provides legitimate cover for procuring technology applicable to its nuclear weapons programme.
- Iran has a chemical weapons programme and is capable of producing a wide range of chemical weapons. Iran is also capable of producing biological agents.

Libya:

- Libya is seeking a nuclear weapons capability.
- Libya is seeking to extend the range of its ballistic missiles to cover more of southern Europe and Israel.
- Libya is seeking to re-establish a production capability for chemical weapons and is conducting research and development into biological weapons.

Al Qaida

- Al Qaida will continue with its efforts to acquire WMD and will use them if successful.

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NORTH KOREA

SUMMARY

Ballistic Missiles:

- SCUD B (300km range) and C (500km range);
- No Dong with range of 1300km;
- Taepo Dong 2 under development with range possibly up to 15,000km;
- World's biggest exporter of ballistic missiles.

Evidence:

- *Taepo Dong 1 Space Launch Vehicle test in 1998;*
- *Around 400 missiles have been sold in past 15 years.*

Nuclear:

- Plutonium production frozen in 1994;
- Believed to have covertly diverted sufficient fissile material for 1-2 nuclear devices in breach of its international obligations under the NPT;
- Concern over covert nuclear programme.

Evidence:

- *Failure to co-operate fully with the IAEA;*
- *[covert procurement activity]*

CBW:

- Possesses the chemical, biotechnological and military infrastructure to support the development and production of agents and weapons.

Evidence:

- *Has not signed CWC but has acceded to BTWC.*

Ballistic Missiles

North Korea's economy is in a state of collapse – it contracted by 30% in the 1990s. Floods and drought have left more than 13 million people, half of the population, without sufficient food. Despite this, North Korea is currently the world's most prolific supplier of ballistic missile systems. Indeed ballistic missiles are North Korea's only successful export. North Korea has exported around 400 ballistic missiles during the past 15 years and has used the cash derived from such sales in its missile development programmes. Exports of No Dong technology to Iran and Pakistan have enabled them to produce their own version of this 1300km range missile; and missile technology and expertise has also been provided to Syria and Libya.

SCUD missiles

The short-range mobile SCUD ballistic missile was developed by the Soviet Union in the 1950s, drawing from the technology of the German liquid-propellant V-2 which saw operational service towards the end of World War II.

For many years it was the mainstay of Soviet and Warsaw Pact tactical missile forces, and it was also widely exported. Recipients of Soviet-manufactured SCUDs included Iraq, North Korea, Iran, and Libya, although not all were sold directly by the Soviet Union.

North Korea has over 500 SCUD B and C missiles in its inventory and is producing the 1300km range No Dong missile for its own forces and for export.

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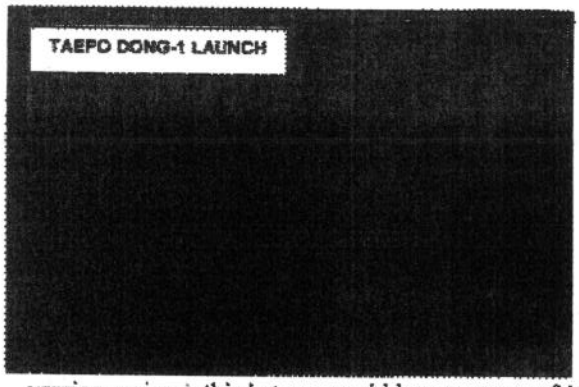
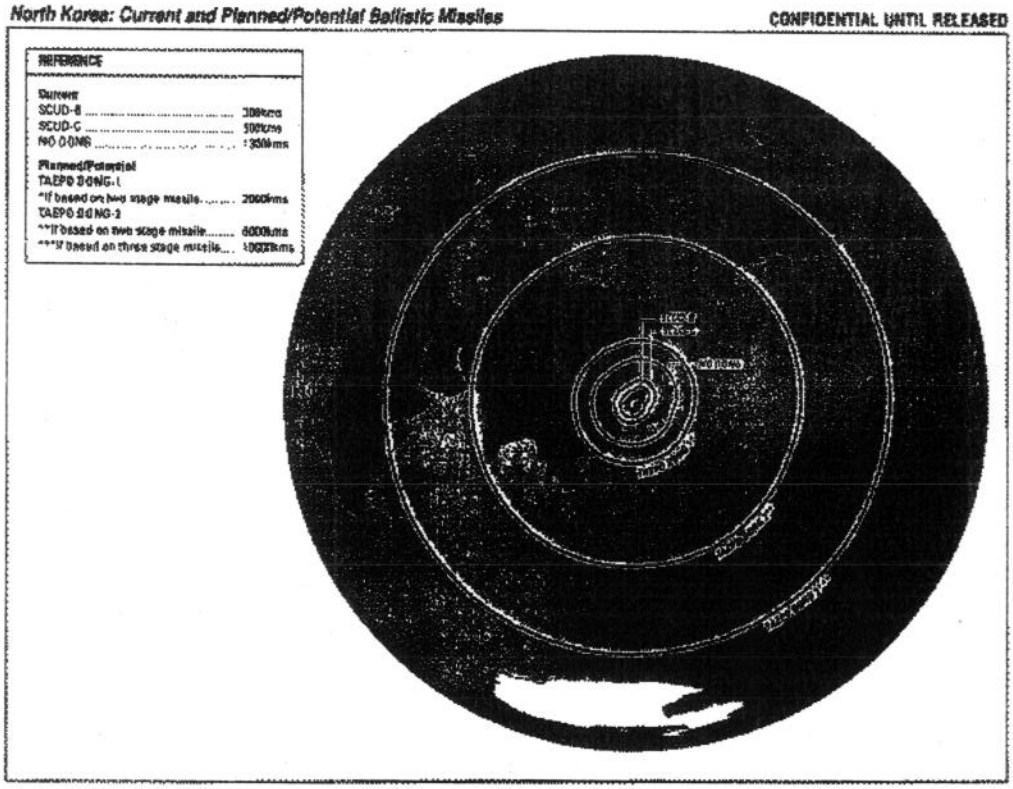


In August 1998 North Korea launched a three stage Taepo Dong-1 satellite launch vehicle (SLV), in an attempt to place a small satellite into orbit. The launch demonstrated a capability to produce a missile with a range of about 2000km, which would enable North Korea to reach wide areas of the Far East.

A two-stage Taepo Dong-2 missile is under development, which would have a range of 5-6000km, although it could go further depending on the payload. A modified version, using a third stage, could have a range of 10-15,000km, which would put the UK and US within reach. In 1999 in response to US pressure, North Korea agreed to a moratorium on missile flight tests, but it has continued with ground based tests. The Taepo Dong-2 may be ready for flight testing as soon as the moratorium ends.

North Korea: Current and Planned/Potential Ballistic Missiles CONFIDENTIAL UNTIL RELEASED



Nuclear Weapons

In breach of its obligations under the NPT, North Korea diverted plutonium at its Yongbyong nuclear facility. But production was frozen by agreement with the US in 1994 in return for US assistance with power generating equipment. Prior to that date, North Korea probably diverted sufficient fissile material for 1-2 nuclear weapons. If the agreement with the US collapses, North

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Korea could extract plutonium from spent fuel rods for additional nuclear weapons. North Korea also continues with a covert nuclear weapons programme.

[Recent procurement activity indicates that North Korea may be developing a capability to produce Highly Enriched Uranium (HEU). This can be used in nuclear weapons instead of plutonium. Such a development would circumvent the Agreed Framework and would breach North Korea's international obligations. *would prefer to delete*]

Chemical and Biological Weapons

North Korea has not signed the Chemical Weapons Convention but has acceded to the Biological and Toxin Weapons Convention. North Korea has a long-standing interest, going back to the 1960s, in both offensive chemical and biological weapons programmes. It has a significant but old chemical industry and a developing civil biotechnology industry which we judge could support the production of agents, including nerve, blister, blood and choking agents, as well as biological agents and toxins such as anthrax, cholera and plague.

Effects of chemical agents

Mustard is a liquid agent that causes burns and blisters to exposed skin. It attacks and damages the eyes, mucous membranes, lungs, skin, and blood-forming organs. When inhaled, mustard damages the respiratory tract; when ingested, it causes vomiting and diarrhoea.

Tabun, sarin and VX are all nerve agents of which VX is the most toxic. They all act in the same way by damaging the nervous system producing muscular spasms and paralysis. As little as 10 milligrammes of VX on the skin can cause death.

A chemical weapon is simply the agent combined with a means of dispersing it.

North Korea is likely to have weaponised agent in artillery, rockets, aerial bombs and missile warheads. We believe North Korea retains a stockpile of agents and weapons.

Conclusion

- **Ballistic missiles have been North Korea's only successful export. It has sold hundreds of missiles and remains ready and able to continue.**
- **It has developed and produced a number of different types of missile for its own forces and also for export.**
- **North Korea probably has produced at least 1-2 nuclear weapons and continues with a covert nuclear weapons programme.**
- **It probably has both offensive CW and BW weapons programmes.**

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IRAQ

SUMMARY

Ballistic Missiles:

- Retains more than a dozen prohibited Al Hussein (650km) missiles in breach of UNSCR 687;
- Working on designs for longer range missiles in breach of UNSCR 687;

Evidence:

- *Infrastructure damaged in Gulf War and Operation Desert Fox is now largely reconstituted.*
- *Infrastructure for longer range missiles is under construction*

Nuclear:

- Iraq has a nuclear weapons programme, in breach of its NPT obligations, but will find it difficult to produce fissile material while sanctions remain in place.

Evidence:

- *Comprehensive programme prior to Gulf War;*
- *Recalled scientists to work on a nuclear weapons programme;*
- *Covert efforts to procure nuclear related materials and technology.*

CBW

- Iraq has a capability to produce chemical and biological weapons in breach of UNSCR 687.

Evidence:

- *The amount of chemical and biological material, including weapons and agents, left unaccounted for when the UNSCOM inspections terminated would provide a significant offensive capability;*
- *Produced and used proficiently a variety of chemical weapons in 1980s against Iran and its own citizens;*
- *Concealed the development of the nerve agent VX until discovered by UNSCOM;*
- *Produced and weaponised at least three BW agents but concealed this capability until forced to declare in 1995;*
- *Failed to convince UNSCOM of the accuracy of its declarations.*

While the successful enforcement of the sanctions regimes and the UN arms embargo have impeded Iraq's reconstitution efforts, they have not halted them. Much of Iraq's missile infrastructure has been rebuilt; the nuclear weapons programme is been reconstituted; and Iraq continues to have the capability to produce chemical and biological weapons, and may already have done so. Since the withdrawal of inspectors in 1998, monitoring of Iraqi attempts to restore a WMD capability has become more difficult.

> **UNSCR 687, 3 April 1991**
> SCR 687 created the UN Special Commission (UNSCOM) and required Iraq to accept, unconditionally, "the destruction, removal or rendering harmless, under international supervision" of its CBW, ballistic missiles with a range greater than 150km, and their associated programmes, stocks, components, research and facilities. The International Atomic Energy Agency (IAEA) was charged with abolition of Iraq's nuclear weapons programme. UNSCOM and the IAEA must report that their mission has been achieved before the Security Council can end sanctions.

Ballistic Missiles

Prior to the Gulf War, Iraq had a well-developed missile industry. Iraq fired over 500 SCUD-type missiles at Iran during the Iran-Iraq War and 93 SCUD type-missiles during the Gulf War. The

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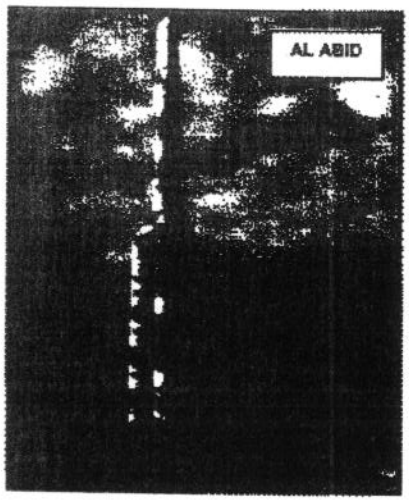
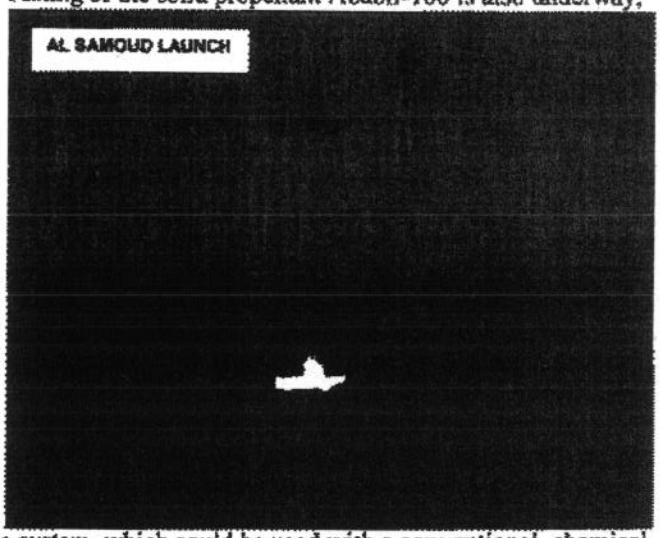
latter were targeted at Israel and Coalition forces stationed in the Gulf region. Armed with conventional warheads they did little damage. Iraq had chemical and biological warheads available but didn't use them. Most of the missiles fired in the Gulf War were an Iraqi produced stretched version of the SCUD missile, the Al Hussein, with an extended range of 650 km. Iraq was working on other longer-range stretched SCUD variants, such as the Al Abbas, which had a range of 900km. Iraq was also seeking to reverse engineer the SCUD engine with a view to producing new missiles; recent evidence indicates they succeeded. In particular Iraq had plans for a new SCUD-derived missile with a range of 1200km. Iraq also conducted a partial flight test of a multi-stage satellite launch vehicle based on SCUD technology, known as the Al Abid.



Also during this period, Iraq was developing the BADR-2000, a 700-1000km range two-stage solid propellant missile (based on the Iraqi part of the 1980s CONDOR-2 programme run in co-operation with Argentina and Egypt). There were plans for 1200-1500km range solid propellant follow-on systems.

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, has appeared on public parade in Baghdad and is judged to be nearing deployment. In the absence of UN inspectors, Iraq has also worked on extending its range to at least 200km. Testing of the solid propellant Ababil-100 is also underway, with plans to extend its range to at least 200km. We judge that Iraq has retained more than a dozen Al Hussein missiles, which were either hidden from the UN as complete systems, or could have been re-assembled using illegally retained engines and other components. We do not know the location of these missiles or their state of readiness, but judge that the engineering expertise available would allow these missiles to be effectively maintained. We assess that some of these missiles could be available for use. Although not very accurate when used against Iran, Israel and Saudi Arabia, they are still an effective system, which could be used with a conventional, chemical or biological warhead.



Defector reporting has recently confirmed that Iraq's priority is to develop longer-range missile systems, which we judge are likely to have ranges over 1000km, enabling it to threaten Israel, regional neighbours and some NATO members. Many hundreds of people are working on these programmes. Imagery has shown a new engine test stand being constructed (A), which is larger

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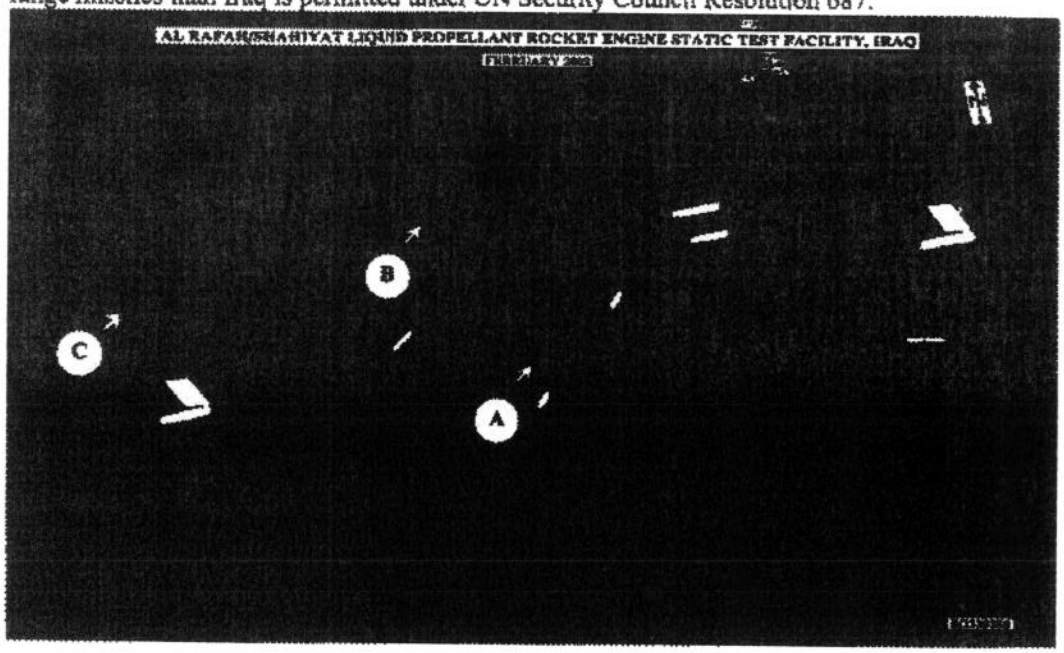
than the current one used for Al Samoud (B), and that formerly used for testing SCUD engines (C) which was destroyed. We judge that this stand will be capable of testing larger engines for longer range missiles than Iraq is permitted under UN Security Council Resolution 687.



Iraq is also working to obtain improved guidance technology to increase missile accuracy. However, the success of UN restrictions means the development of these systems is likely to be a slow process. These restrictions impact particularly on the:

- availability of foreign expertise;
- conduct of test flights to ranges above 150km;
- acquisition of guidance and control technology.

Saddam remains committed to developing longer-range missiles and at the earliest could achieve a limited medium range capability in 2007, but more likely before the end of the decade, even if sanctions remain in place.

Iraq has managed to rebuild much of the missile production infrastructure destroyed in the Gulf War and in Operation Desert Fox in 1998. New missile-related infrastructure is currently under construction, including a plant for indigenously producing ammonium perchlorate, which is a key ingredient in the production of solid propellant rocket motors. This was obtained through an Indian chemical engineering firm with extensive links in Iraq. Despite a UN embargo, Iraq has also made concerted efforts to acquire additional production technology, including machine tools, [and raw materials such as high-density graphite, suitable for use in missile nose cones and jet vanes -

UN Sanctions regime on Iraq
UNSCR 715: approved plans prepared by UNSCOM and the IAEA for the Ongoing Monitoring and Verification to prevent regeneration of Iraq's WMD programmes.

UNSCR 1051: designed to provide UNSCOM and the IAEA with data to monitor supplies of dual-use goods to Iraq.
Nuclear: NSG listed goods with additional constraints.
Ballistic missiles: most goods are controlled based on the provisions of the MTCR.
CBW: goods, agents and equipment which Iraq had previously used or which would have viability in any new BW or CW programmes.

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]. The embargo has succeeded in blocking many of these attempts, but we know some items have slipped through and will inevitably continue to do so.

Iraq: Current and Planned/Potential Ballistic Missiles

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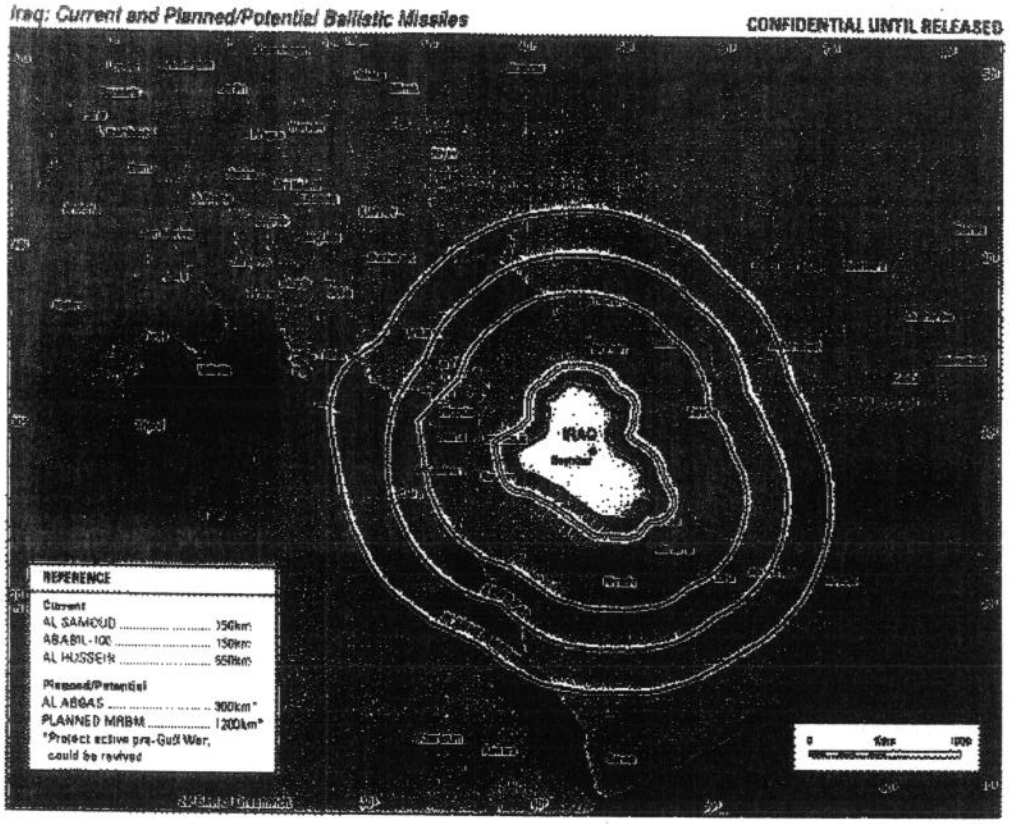

Nuclear

Before the Gulf war, Iraqi plans for the development of a nuclear weapon were well advanced. Iraq was planning and constructing fissile material production facilities and work on a weapon design was underway. Their declared aim was to produce a weapon with a 20 kiloton yield, which would ultimately be delivered in a ballistic missile warhead.

Effect of a 20 kiloton nuclear device in a built up area

A detonation occurring over London might flatten an area of approximately 3 square miles.

Within 1.6 miles of detonation, blast damage and radiation would cause 80% casualties, three-quarters of which would be fatal. Between 1.6 and 3.1 miles from the detonation, there would still be 10% casualties, 10% of which would be fatal injuries.

We assessed in 1991 that Iraq was less than three years away from possessing a nuclear weapon. We judge that Iraq still wants a nuclear weapons capability and is working to achieve it. Much of their former expertise has been retained. In the last year intelligence has indicated that specialists were recalled to work on a nuclear weapons programme in the autumn of 1998 as Iraq placed tighter restrictions on UNSCOM activity prior to their expulsion. But Iraq needs certain key equipment and materials for the production of fissile material, probably through uranium

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enrichment, which would be necessary before a nuclear bomb could be developed. Iraq is covertly attempting to acquire technology and materials with nuclear applications. [This includes specialised aluminium, which is prohibited under the terms of international non-proliferation agreements because of its potential application in gas centrifuges used to enrich uranium, as well as uses in a range of weapons systems -.

So long as sanctions continue to hinder the import of such crucial goods, Iraq would find it difficult to produce a nuclear weapon. After the lifting of sanctions we assess that Iraq would need at least five years to produce a weapon. Progress would be much quicker if Iraq was able to buy suitable fissile material. Prior to the Gulf War Iraq explored the use of radiological dispersal devices, but there is no evidence that they have maintained this interest.

Chemical and Biological Weapons

Iraq made frequent use of a variety of chemical weapons during the Iran-Iraq War. Iraq used significant quantities of mustard, tabun and sarin resulting in over 20,000 Iranian casualties. In 1988 Saddam also used mustard and nerve agents against the Kurds in northern Iraq, resulting in thousands of casualties, approximately 200-300 of which were deaths. Iraq's military maintains the capability to use these weapons. Iraq has admitted to the production of blister agent (mustard) and nerve agents (tabun, sarin, cyclo-sarin).

After years of denial Iraq admitted to producing about 4 tons of VX nerve agent, but only after the defection of Hussein Kamil. Iraq maintains that the chemical weapons programme was halted in January 1991 and all agents under its control were destroyed by the summer of 1991. However, there are inconsistencies in Iraqi documentation on destruction. UN weapons inspectors have been unable to account for:

- thousands of tons of declared precursor chemicals used in the production of chemical weapons;
- hundreds of tons of precursor chemicals used in the production of VX;
- tens of thousands of chemical weapons munitions.

Following four years of pressure from weapons inspectors and the information provided by the defection of Saddam's son-in-law, Hussein Kamil, Iraq finally admitted to the existence of a biological weapons programme in 1995. Iraq admitted to:

- producing anthrax spores, botulinum toxin and aflatoxin and to working on a number of other agents;
- weaponising some agents, which included the filling of warheads for its Al Hussein ballistic missiles;
- testing spraying devices for agents.

Iraq has claimed that all its biological agents and weapons have been destroyed, although no convincing proof of this has been offered. UN inspectors could not account for large quantities of growth media procured for biological agent production, enough to produce over three times the amount of anthrax Iraq admits to having manufactured. Reports that Iraq has conducted research on smallpox and other toxins cannot be corroborated. Iraq is assessed to be self-sufficient in the technology required to produce biological weapons.

We judge that Iraq has a covert chemical and biological weapons programme. All the necessary expertise has been retained. Iraq appears to be refurbishing sites formally associated with their chemical and biological programmes. This includes the Tareq facility near Habbaniyah. Iraq is

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assessed to have some chemical and biological agents available, either from pre-Gulf War stocks or more recent production. We judge Iraq has the capability to produce the chemical agents:

- sulphur mustard, tabun, sarin, GF, and VX.

and the biological agents:

- anthrax, botulinum toxin, and aflatoxin.

Iraq retains conventional delivery means for chemical and biological weapons such as free fall bombs and missile warheads. But given Iraq's admission of testing spray devices, we judge that the modification of the L-29 jet trainer is also designed for the delivery of chemical and biological agents. The L-29 was subject to UNSCOM inspection for this reason. Strategies that enable key parts of the chemical and biological weapons programme to survive a military attack have been developed, [including the use of transportable production facilities-]

Conclusion

- **Iraq has a chemical and biological weapons capability.**
- **Iraq is seeking a nuclear weapons capability.**
- **Iraq retains some prohibited missile systems.**
- **Iraq is developing longer-range ballistic missiles capable of delivering these weapons of mass destruction through out the Middle East and Gulf Region.**

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IRAN

SUMMARY

Ballistic Missiles:

- Present capability the 300km Shahab-1 (SCUD B) and 500km Shahab-2 (SCUD C);
- Developing a 1300km Shabab-3 missile based on North Korean No Dong technology;
- Further North Korean co-operation could lead to longer range capabilities up to 6,000km

Evidence:

- *Public display of Shahab-3, and flight tests;*
- *Defence Minister has claimed that the development of Shahab-4 is underway and mentioned plans for Shahab-5.*

Nuclear:

- Iran has a covert nuclear weapons programme.

Evidence:

- *Covert procurement activity.*

CBW:

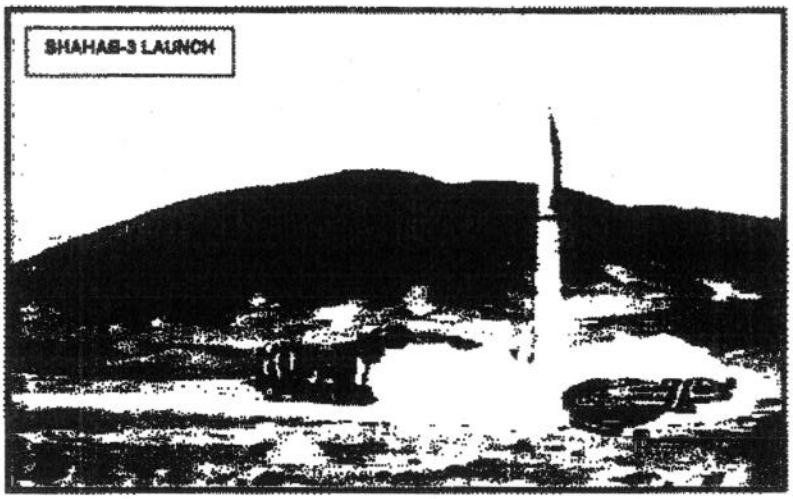
- Iran has admitted producing chemical weapons and has the capability to produce biological agents.

Evidence:

- *Civil infrastructure and expertise to support a programme;*
- *Striving towards self sufficiency in chemical precursor production capability;*
- *Covert procurement of dual use materials and equipment.*

Ballistic Missiles

Iran is putting significant resources in time, money and people into its ballistic missile programmes. Currently it has a force of several hundred SCUD B and C liquid propellant missiles and is producing its own variants with help from North Korea. This has given Iran a range capability of up to 500km, which allows it to reach the territory of its immediate neighbours. However it has ambitious plans to produce longer-range systems. Efforts are centred on the1300km range No Dong missile supplied by North Korea. Iran's plan to reverse engineer the No Dong and produce a domestic version, the Shahab 3, is nearing completion. Flight tests were held in 1998, 2000 and 2001. Iran has publicised its intention to field units of the Shahab-3, which would place the majority of the Middle East and some NATO members within range. Iran is working to deploy a substantial force of Shabab-3s. Iran is also looking to export missile technology to other countries.



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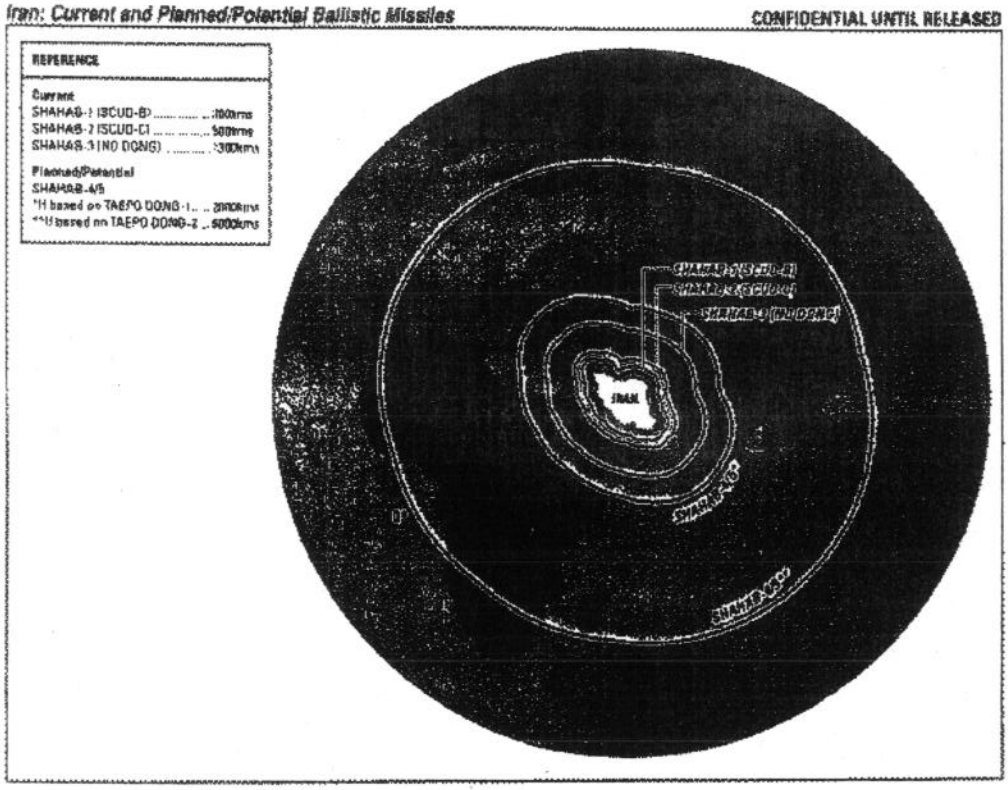
The Iranian defence minister has acknowledged publicly that Iran is working on a Shahab-4, described as a "space launch vehicle" and an unidentified Shahab-5. These could provide the basis for longer-range missiles, since the technologies for ballistic missiles and satellite launch vehicles are very similar. The development of these new systems could also benefit from North Korean assistance. If North Korea shares its Taepo Dong-1 and 2 technology, Iran could develop ballistic missiles with ranges of 2000km and 5000-6000 km or longer depending on the payload. Iran is also looking elsewhere for longer-range technology. A number of Russian firms were placed under US sanctions for assisting with liquid propellant rocket engine technology which could have a ballistic missile application. Iran could develop an intercontinental missile capability by the end of the decade.

Iran: Current and Planned/Potential Ballistic Missiles CONFIDENTIAL UNTIL RELEASED



Nuclear

Iran is seeking to master the full nuclear fuel cycle so that it can develop a totally indigenous civil nuclear power programme. This civil programme is based on the Bushehr nuclear reactor supplied by Russia. This reactor will be run under IAEA safeguards, which are designed to prohibit the diversion of fissile material from the reactor. However, Russian firms and individuals continue to provide expertise on various aspects of the nuclear fuel cycle. Russian authorities have made attempts to control such activities, which appear to be financially motivated, but they often fail to effectively implement these controls. The Iranians are also seeking Atomic Vapour Laser Isotope Separation from Russia, a new technology, which could provide Iran with another route to produce weapons grade uranium. Export of this equipment is held up pending investigation by the Russian authorities.

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Iran's development of an indigenous nuclear fuel cycle could be exploited for use in a covert weapons programme. The US has concluded that all the evidence points to the conclusion that Iran is pursuing a nuclear weapons capability under the guise of its developing civil nuclear programme - we agree.

Chemical and Biological Weapons

The impetus for Iran's chemical weapons programme came from the use by Iraq of chemical agents during the Iran-Iraq war. Iran acceded to the Chemical Weapons Convention in 1998 and acknowledged a past chemical weapons programme. Iran admitted to producing nitrogen and sulphur mustard, but claims to have terminated the programme in 1988. There is intelligence that Iran continues to have a chemical weapons programme. Efforts have been made to acquire the necessary precursor chemicals for making chemical weapons and Iran may be close to achieving self-sufficiency in their manufacture. If Iran can become independent from outside supply, detection of a chemical weapons programme would be more difficult in future. Iran's past experience will enable it to maintain and improve its capability to produce chemical weapons at short notice. Iran is capable of producing mustard and a range of blood and nerve agents.

Effects of biological agents

Anthrax

Anthrax is a disease caused by the bacterium Bacillus anthracis. Inhalation anthrax is the manifestation of the disease likely to be expected in biological warfare. The symptoms may vary. If the dose is large (8,000 to 10,000 spores) death is common. The incubation period for anthrax is 1 to 7 days, with most cases occurring within 2 days of exposure.

Botulinum toxin

Botulinum toxin is a neurotoxin produced by the bacterium Clostridium botulinum and is one of the most toxic substances known to man. The first symptoms of botulinum toxin A poisoning may appear as early as 1 hour post exposure or as long as 8 days after exposure, with the incubation period between 12 and 22 hours. Death is ultimately due to paralysis leading to death by suffocation.

Aflatoxin

Aflatoxins are fungal toxins, which are potent carcinogens. Aflatoxin contaminated food products can cause liver inflammation and cancer.

A biological weapon is simply the agent combined with a means of dispersing it.

Iran has a thriving biotechnology industry and an infrastructure capable of sustaining a biological weapons programme. Dual-use materials are being procured, ostensibly for the civilian industry. Iran is probably capable of producing a variety of biological agents, including anthrax. Intelligence indicates an interest to be able to respond in kind to a biological attack on Iran.

Conclusion

- **Iran is developing a range of ballistic missiles, and could have an intercontinental capability by the end of the decade.**
- **Iran's pursuit of a fully indigenous nuclear fuel cycle provides legitimate cover for procuring technology applicable to its nuclear weapons programme.**
- **Iran has a chemical weapons programme and is capable of producing a wide range of chemical weapons. Iran is also capable of producing biological weapons.**

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LIBYA

SUMMARY

Ballistic Missiles:

- Present capability of 300km SCUB-B;
- Producing 700-1000km SCUD variant with North Korean assistance;
- Interest in procuring longer range North Korean missiles.

Evidence:

- *Finance available for purchase;*
- *Trying to build propellant plant with Iranian assistance;*
- *Parts for new SCUD missile seized at Gatwick airport with similar equipment interdicted in Switzerland and India;*

Nuclear:

- [Libya continues to seek a nuclear weapons capability]

CBW:

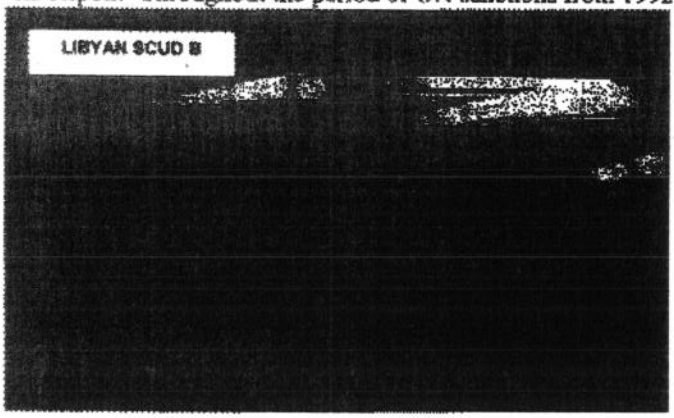
- Libya is seeking to re-establish a production capability for chemical weapons and is conducting research and development into biological weapons.

Evidence:

- *Produced chemical weapons agents at Rabta in the past.*
- *Contacting precursor suppliers.*

Ballistic Missiles

Libya is the only country since World War II to have fired a missile at Europe when in 1986 it launched a SCUD missile at the Italian island of Lampedusa in retaliation for the US bombing raid on Tripoli. Throughout the period of UN sanctions from 1992-1999 Libya sought ballistic missile equipment, material and expertise from various sources, with limited success. Since then, the availability of increased financial resources and lifting of sanctions in 1999, has made more foreign assistance acceptable, enabling Libya to move ahead with plans to augment its ageing 300km range SCUD-B force.



A long-running effort to develop an indigenous ballistic missile, the Al Fatah programme, has met with little success. However, Libya is now seeking to extend the range of its SCUD missiles with extensive North Korean assistance, which includes provision of components and equipment, as well as technology. With an estimated range of 700-1000km, these will bring more of southern Europe into range, including major NATO bases.

Evidence from Customs and Excise seizures shows that Libya is seeking in future to acquire the ability to produce its own engines for extended range SCUD-type missiles, rather than relying on supplies from North Korea. Libya is also constructing a plant to produce propellant suitable for its SCUD with help from Iran. While Slobodan Milosevic was in power Libya also received

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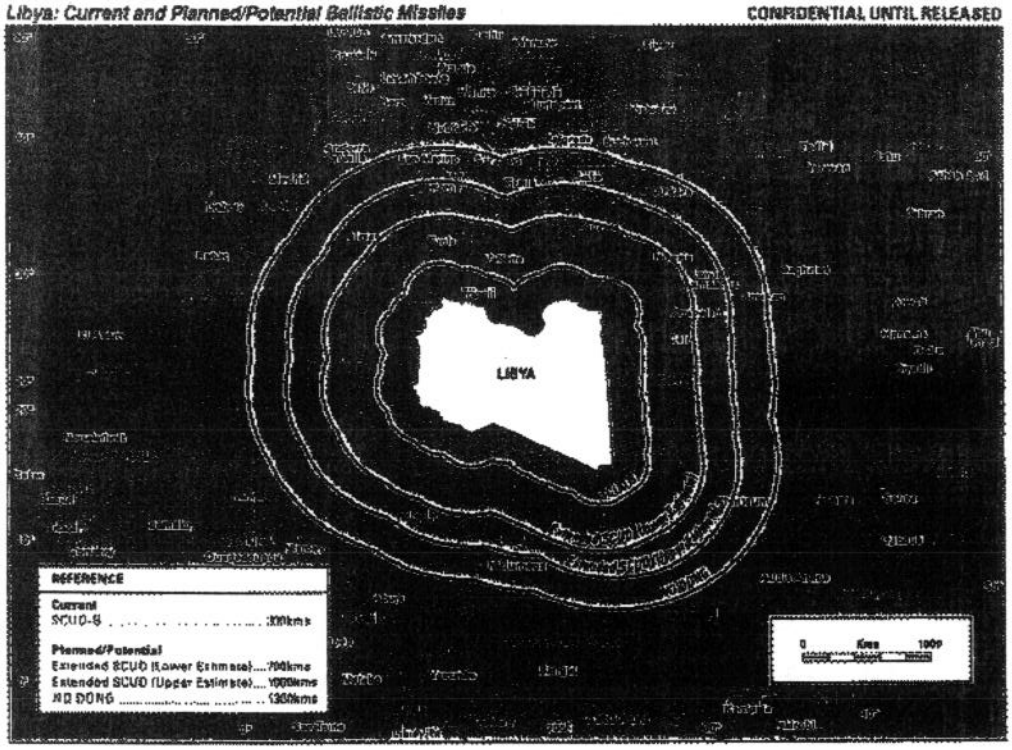
considerable help from Yugoslavia with miscellaneous missile related parts; some Belgrade arms dealers maintain links with Tripoli, albeit without the same official sanction. In the early 1990s, Libya was negotiating with North Korea for the purchase of 1300km range No Dong missiles, which would have brought Israel and much of southern Europe into range. Although we cannot verify media reports suggesting this deal has been revived, we judge that Qadhafi still wants a longer-range capability.

Libya: Current and Planned/Potential Ballistic Missiles CONFIDENTIAL UNTIL RELEASED



Nuclear

[Libya continues to develop a civil nuclear research and development programme under IAEA safeguards. Russia renewed discussions in late 2000 after the lifting of sanctions on co-operation with the Tajura Nuclear Research Centre in Tripoli. This would provide the Libyans with opportunities to exploit technologies with the potential for diversion to a nuclear programme to further this aim. We believe Qaddafi has a longstanding goal to obtain such a capability and is making progress, with the help of foreign scientists. With its financial resources, Libya would be in a position to pay for foreign assistance.]

Chemical and Biological Weapons

Libya has announced that it is negotiating to accede to the Chemical Weapons Convention. This will entail a declaration of its past chemical weapon programmes. Libya developed a chemical warfare agent production facility at Rabta during the 1980s, and produced a stockpile of 100 tons of blister and nerve agent. But since the ending of sanctions in 1999, Libya has again established contact with potential suppliers of precursor chemicals, and we judge it continues to work towards achieving a chemical weapons production capability. Libya also continues to conduct research into biological weapons, supported by procurement activity, and may have a small capability to produce biological agents.

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Conclusion

- **Libya is seeking to extend the range of its ballistic missiles to cover more of southern Europe and Israel.**
- **[Libya is seeking a nuclear weapons capability].**
- **Libya is seeking to re-establish a production capability for chemical weapons and is conducting research and development into biological weapons.**

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AL'QAIDA

SUMMARY
Nuclear:
- Long standing interest in acquiring nuclear materials for terrorist purposes.

Evidence:
Usama Bin Laden (UBL) declared it was his religious duty to do so.
CBW:
- Has obtained some chemical and biological agents and technology.
- AQ training has included preparation and use of poisons.

Evidence:
- *Information compiled from documents left behind in former Al Qa'ida safe houses in Afghanistan*
- *Interviews with Al Qa'ida members.*

General
Al Qaida's (AQ) interest in acquiring WMD for terrorist purposes is strong and undiminished. As the 11 September attacks show UBL and his associates would have had no compunction in using them. The success of the campaign against terrorism in Afghanistan has certainly disrupted AQ's efforts to acquire a nuclear capability but we judge that it remains committed to doing so. Documents recovered from former safe houses in Afghanistan show that AQ collected a large volume of documents, physics books, scientific journals and information from the internet to improve their background knowledge.

Nuclear and Radiological Weapons
In the 1990s a lack of real expertise meant that UBL wasted time and money on nuclear scams. But recently AQ has received technical help from two former Pakistani nuclear scientists. We have no evidence that UBL managed to obtain a complete nuclear weapon. Nor is there any evidence that AQ succeeded in obtaining the necessary fissile material to make an improvised nuclear device. AQ has investigated surrounding radiological material with conventional explosives in order to enhance the explosive effect. Such attempts could result in the dispersal of radioactive material. Such a device might not cause a lot of damage or deaths but would generate panic. Radiological material is readily available from hospitals or industrial facilities.

Chemical and Biological Weapons
AQ has sought technical experts and equipment to develop chemical and biological weapons. Technical reports found in Afghanistan reflect an interest in a wide range of agents including anthrax, ricin and botulism, indicating a strong interest in biological warfare and their dispersal. We have known for some time that AQ training included instruction in the use of poisons and other toxic materials.

Conclusion
- **AQ will continue with its efforts to acquire WMD and will use them if successful.**

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