

# **Iran's Nuclear Program:**

## **UN and IAEA Reporting and Developments**

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# Known Weapons Related Research

- **Beryllium (neutron reflector)**
- **Polonium (neutron initiator)**
- **Plutonium separation**
- **High Uranium enrichment**
- **Machining of Uranium**
- **Re-entry vehicle design**
- **Acquisition of North Korean (Chinese) weapons design? AQ Khan network transfers**
- **High explosive lenses**

# Concealment Activity - Part I

- **Uranium Imports:** Iran failed to report that it had purchased natural uranium (1,000 kg of UF<sub>6</sub>, 400 kg of UF<sub>4</sub>, and 400 kg of UO<sub>2</sub>) from China in 1991, and its subsequent transfer for further processing. Iran acknowledged the imports in February 2003.
- **Uranium conversion:** Iran did not inform the IAEA of its use of the imported uranium in tests of its uranium conversion processes, including “uranium dissolution, purification using pulse columns, and the production of uranium metal, and the associated production and loss of nuclear material.” Iran acknowledged this failure in February 2003.

This analysis of violations is taken from Jacqueline Shire and David Albright, “Iran’s NPT Violations – Numerous and Possibly On-Going?”, The Institute for Science and International Security (ISIS), September 29, 2006. It is also based on the IAEA report for 2004, <http://www.iaea.org/Publications/Documents/Board/2004/gov2004-83.pdf>, and International Atomic Energy Agency, “Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran,” GOV/2003/75, 10 November 2003, Annex 1, p. 2.

## Concealment Activity - Part II

- **Uranium enrichment:** Iran failed to report that it had used 1.9 kg of the imported UF<sub>6</sub> to test P-1 centrifuges at the Kalaye Electric Company centrifuge workshop in 1999 and 2002. In its October 2003 declaration to the IAEA, Iran first admitted to introducing UF<sub>6</sub> into a centrifuge in 1999, and into as many as 19 centrifuges in 2002. Iran also failed to declare the associated production of enriched and depleted uranium.
- **Hidden Sites:** Iran did not declare to the IAEA the existence of a pilot enrichment facility at the Kalaye Electric Company Workshop, and laser enrichment plants at the Tehran Nuclear Research center and at Lashkar Ab'ad. Because experiments at these sites involved the use of nuclear material in equipment, Iran was obligated to report them to the IAEA.

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## Concealment Activity - Part III

- **Laser Isotope Enrichment Experiments:** Iran failed to report that in 1993 it imported 50 kg of natural uranium metal, and that it used 8 kg of this for atomic vapor laser isotope separation (AVLIS) experiments at Tehran Nuclear Research Center between 1999 to 2000, and 22 kg of the metal for AVLIS experiments at Lashkar Ab'ad between 2002 to 2003. These activities were ultimately acknowledged in an October 2003 declaration.
- **Plutonium Experiments:** Iran did not report to the IAEA that it had produced uranium dioxide (UO<sub>2</sub>) targets, irradiated them in the Tehran Research Reactor, and then separated the plutonium from the irradiated targets. Iran also failed to report the production and transfer of waste associated with these activities and that it had stored unprocessed irradiated targets at the Tehran Nuclear Research Center. In later meetings with the IAEA, Iran said that it conducted the plutonium separation experiments between 1988 and 1993 using shielded glove boxes at the Tehran Nuclear Research Center.

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## Referral to the UNSC

- February 4, 2006: IAEA board votes to refer Iran to the UNSC
- IAEA expresses “serious concern” about Iran’s possession of a document on the production of uranium metal hemispheres.
- Iran “suspends all voluntary measure and extra cooperation with the Agency.”
- Iran leaves the door open to further cooperation with some countries.
- On December 23, 2006, UNSC Resolution 1737 calls for Iran to immediately suspend “all enrichment-related and reprocessing activities including research and development” as well as suspend “work on all heavy water-related projects”.
- UNSC calls for all nations to halt transfer goods and services that may aid Iran in its enrichment and heavy water development. However, political disagreements continue among the UNSC members on how to deal with these sanctions continue to be unresolved.

## Iranian Action: Winter & Spring 2006

- Early January: Iran removes 52 IAEA seals on Natanz, Pars Trash, and Farayand centrifuge projects.
- Renovates PFEP plant and centrifuge cascades at Natanz (installed up to 200 secretly, designed to hold six 164-machine cascades).
- Early March: 20 machine runs at Natanz and Farayand.
- Uranium Hexafluoride plant operating at Isfahan.
- April 2006: The Iranian parliament passed a resolution calling for Iran to withdraw from the NPT.

# Green Salt Project

- US intelligence estimates reveal a new “military-nuclear dimension.”
- Assessment was reportedly based on information provided by the US to the IAEA, and it referred to a secret program called “the Green Salt Project” to produce UF<sub>4</sub>, which, according to the IAEA Deputy Director General for Safeguards “could have a nuclear military dimension”.
- This project worked on uranium enrichment, high explosives, and on adapting nuclear warheads to Iranians missiles.
- The report suggested that there were evidence of “administrative interconnections” between weaponization and nuclear experts in Iran’s nuclear program.
- Tehran argued that these claims were “baseless.”

## Other Nuclear Issues

- US officials claimed that these estimates tracked with the comments made by then Secretary of State Collin Powell in November 2004 about Iran's delivery system to carry nukes.
- The uranium mine in Gchine is believed to be under IRGC control.
- There is a high degree of organizational and personnel overlap between state-owned defense industries, the military and even more so the IRGC.
- The Annex to UNSCR 1737 identifies a number of companies and individuals involved in the ballistic missile and nuclear programs that are mainly the Atomic Energy Organization of Iran (AEOI) and Defense Industries Organization (DIO).

## IAEA DG Report of February 27, 2006

- Still tracking enriched Uranium activity.
- Status of P-1 centrifuge program uncertain.
- P-2 centrifuge acquisition uncertain.
- UF<sub>4</sub> to Uranium metal conversion issues.
- Status of Plutonium experiments; level of Pu-239 versus Pu-240.
- Still assessing mining, Polonium, Beryllium.
- Site inspection “transparency” issues (e.g. Lavisan-Shian) dating back to 2004.

# IAEA DG Report of April 28, 2006

- No clarification on enrichment.
- HEU contamination issues remain.
- P-1 and P-2 centrifuge issues not addressed; new issues over P-2 designs.
- New issues over UF<sub>6</sub> to metal and casting of Uranium hemispheres. (15 page document discovered.)
- No clarification of Plutonium experiments.
- Heavy water reactor at Arak still under construction.
- New transparency issues.
- Iran is building second and third cascades at the PFEP.

# US (Secretary Rice) Statement of May 31, 2006

- Acknowledges right to Iranian civil nuclear energy.
- Supports European (British, French, German) offer to Iran.
- Offers “new and positive relationship...looks forward to a new relationship.”
- “...as soon as Iran fully and verifiably suspends its enrichment and reprocessing activities, the US will come to the table with our EU-3 colleagues and meet with Iran’s representatives.”
- Rice repeats willingness to talk on August 29th.
- El-Baradei stated on May 30 that Iran “does not present an immediate threat”

## Preparing for an Eventual Test? February 2006

- Washington Post reports on February 8, 2006 that Tehran completed sophisticated drawings of *a deep subterranean shaft* with:
  - remote-controlled sensors to measure pressure and heat,
  - plans for the 400-meter tunnel appear designed for an underground atomic test).
  - a test control team parked a safe 10 kilometers from the shaft
  - US official was quoted as saying “The diagram is consistent with a nuclear test-site schematic.”
- According to US officials, the source was a set of documents received from a laptop obtained by US intelligence in 2004
  - US believes this is “nearest” to a “smoking gun.”
  - British believe information authentic
  - German & French believe the information are “troubling”
  - Russians believe information inconclusive

## IAEA DG Report of June 8, 2006

- No further resolution on contamination, P-1, P-2, or Uranium metal and casting.
- Warning Iran has started centrifuge cascade activity for 164-machine cascade and started work on second 164 machine unit (second cascade launched on October 23, 2006, but without UF6 insertion).
- No improvement in transparency, especially Plutonium and heavy water reactor.
- New UF6 conversion campaign began in Isfahan UCF on June 6, 2006.
- Following up on “Green Salt” Project.
- Investigating high explosives testing and design of missile re-entry vehicle.

## UNSCR 1696 (July 31, 2006)

- “Serious concern” over IAEA DG reports of 27 February, April 28, June 8
- “Demands...that Iran shall suspend all enrichment-related and reprocessing activities, including research and development...”
- Expresses intention (if Iran does not comply by August 31) to adopt appropriate measures under Article 41 of Chapter VII of Charter of UN to “persuade Iran to comply...and underlines that further decisions will be required should such additional measures prove necessary.”

# Key Points in Resolution 1696

- called upon Iran without further delay to take the steps required by the Board of Governors in its resolution 1696, which are essential to build confidence in the exclusively peaceful purpose of its nuclear programme and to resolve outstanding questions;
- demanded, in this context, that Iran shall suspend all enrichment-related and reprocessing activities, including research and development, to be verified by the Agency;
- underlined the necessity of the Agency continuing its work to clarify all outstanding issues relating to Iran's nuclear programme;
- called upon Iran to act in accordance with the provisions of the Additional Protocol and to implement without delay all transparency measures as the Agency may request in support of its ongoing investigations; and
- requested by August a report from the Director General primarily on whether Iran has established full and sustained suspension of all activities mentioned in this resolution, as well as on the process of Iranian compliance with all the steps required by the Board and with the above provisions of this resolution, to the Board of Governors and in parallel to the Security Council for its consideration.

# Arak Heavy Water Production Plant Announcement in August 2006

- Ahmadinejad inaugurates on August 26.
- Heavy water production plant with reactor to be completed in 2009.
- Reactor can use natural uranium mined by Iran without outside enrichment.
- Spent fuel can be reprocessed to extract Plutonium for bomb.
- Claim to diagnose and treat AIDS and cancer, medical and agricultural research.
- Iran admitted to procurement of hot cells for Arak, which would be suitable for the production of plutonium.

# Iranian Statements About UN August 31, 2006 Deadlines

- Call UNSCR deadline “illegal.”
- Khameni says Iran “will continue its path” on August 20.
- Foreign Ministry spokesman Asefi claims “ we are not going to suspend enrichment” on August 22.
- Chief nuclear negotiator Larijani rejects UN deadline on August 27.
- Ahmadinejad says Iran will never abandon purely peaceful program. Repeats rejection of deadline on August 29. Attacks Britain and US.
- Iranian diplomats then say Iran’s position “flexible.”

# IAEA DG Report of August 31, 2006

- Iran tested 164-machine cascade to 5% enrichment.
- Second 164 centrifuge cascade to start in September (**did start on October 23**)
- Limiting access to Natanz, possibly in future to Arak and Isfahan.
- No indications of ongoing reprocessing.
- No resolution of contamination, P-1, and P-2 issues.
- Machining of Uranium remains unresolved.
- Uranium conversion stepping up but is inspected.
- Transparency issues on environmental sampling and missile re-entry vehicles (Green Salt) unresolved.

# IAEA Board of Governors Report November 14, 2006

- Testing of the second 164-machine cascade with UF<sub>6</sub> had begun.
- As of November 7, Iran had produced 55 tons of uranium (in the form of UF<sub>6</sub>) out of the 160 tons of uranium ore it started processing at its Isfahan UCF in June 2006.

## **IAEA Board of Governors Report on the Cooperation between Iran and the IAEA, February 9, 2007**

- Following the passing of UNSCR 1737, the IAEA evaluated all existing cooperation programs with Iran. On February 9, 2007, the Director General issued a report that evaluated each existing program in the light of the requirements of UNSCR 1737
- Recommended the continuation or termination of all cooperation programs between the IAEA and Iran.

# Unresolved Issues - I

- **P-1 Centrifuges and the Khan Network:** Iran showed the IAEA a copy of a hand-written one page document dating from contacts with the Khan network in 1987, discussing the supply of 2000 centrifuges, drawings and specifications for a “complete plant” including a workshop for the manufacture of supporting equipment. Iran claims that it had no contact with the Khan network again until 1993 and that this single document is all that remains of the 1987 offer. Iran has refused to provide the IAEA with a copy of the document and insists that no additional documentation exists regarding those earlier exchanges. IAEA officials have interviewed members of the Khan network and reported that “statements made by Iran and key members of the network.... are still at variance with one another.”
- **P-2 Centrifuges:** Iran told the IAEA that it received drawings for P-2 components via the Khan network in 1995 but claims that it conducted no work on the machines until 2002, when it contracted for the local manufacture of at least seven P-2 rotors. In a discussion with IAEA inspectors, the Iranian engineer responsible for the rotors said that because the P-2 design required maraging steel cylinders with bellows, which Iran could not manufacture indigenously, he modified the design for carbon composite rotors. Other officials explain the seven year gap in conducting R&D by pointing to staffing shortages and a decision to pursue the P-1 program. The IAEA is struck, however, by the short time it took for engineers to make design modifications to the P-2 rotors after reportedly seeing the drawings for the first time, stating that Iran’s reasons for the delay “do not give sufficient assurance that there were no related activities carried out during that period....” Iran has informed the IAEA that work on P-2 centrifuges amounts to “an ongoing and progressing R&D activity without using nuclear materials.”

## Unresolved Issues II

- **Documents about Work with Uranium Metal:** The IAEA first reported the existence of this document in November 2005, describing it as containing “procedural requirements for the reduction of UF<sub>6</sub> to metal in small quantities, and on the casting and machining of enriched, natural and depleted uranium metal into hemispherical forms....” Iran claims that it received this document, which concerns the process necessary to machine uranium metal into a form suitable for use in a nuclear weapon, unsolicited from the Khan network, and that it has not performed any such research. Though the document has been placed under IAEA seal, Iran has denied IAEA requests for a copy. Most recently IAEA inspectors were told they could not take notes from the document, and that some notes already taken must be destroyed.
- **HEU and LEU Contamination:** IAEA sampling in 2003 has turned up evidence of LEU and HEU particles (36% U-235 to 70% U-235 enrichment levels) at several nuclear facilities, in particular the Natanz plant and the Kalaye Electric Company. The IAEA calls this a “long outstanding issue” and notes that Iran’s decision to stop adhering to the Additional Protocol (which allows IAEA inspectors access to Iran’s centrifuge manufacturing and storage facilities) makes it impossible to rule out Iran as the source for some of the particles found. Iran maintains that any HEU particles found are the result of cross contamination from its suppliers. Sample analysis by the IAEA “tends, on balance, to support Iran’s statement about the foreign origin of most of the HEU contamination....”

## Unresolved Issues - III

- **Lavisan-Shian:** One outstanding issue of contamination involves the Physics Research Center at Lavisan-Shian. Environmental samples taken in January 2006 revealed a “small number of particles of natural and high enriched uranium.” Iran has “not yet responded” to IAEA requests for further sampling or for an interview with one of the former directors of the center. Also in January, Iran was asked to explain documentation it provided the IAEA regarding procurement of specialized equipment related to uranium enrichment. The IAEA continues to await further information about this and related procurement.
- **Experiments with Plutonium:** Like the matter of HEU and LEU contamination, this is a long outstanding issue with the IAEA, involving multiple iterations of IAEA requests for information, Iranian explanations and subsequent IAEA requests for clarification. The IAEA’s conclusion, expressed in its report of April 28, 2006, is that “the Agency cannot exclude the possibility— notwithstanding the explanations provided by Iran—that plutonium analyzed by the Agency was derived from source(s) other than the ones declared by Iran.” Simply stated, this could mean that Iran either acquired undeclared plutonium from foreign sources, or separated indigenously more than it has declared to the IAEA.

## Unresolved Issues - IV

- **Laptop Documents:** The existence of a laptop computer, reportedly containing extensive documentary evidence indicating Iranian work on a re-entry vehicle with a “black box” consistent with many of the technical parameters for a nuclear warhead, was first disclosed by the *Washington Post* and *Wall Street Journal*. Also found on the computer were drawings for a part of a uranium conversion facility involved in producing uranium tetrafluoride, or “green salt,” documents about high explosive work, and what appears to be a test shaft, possibly for a nuclear device. According to media reports, the laptop was acquired through an intelligence operation and its contents forensically analyzed by experts at the U.S. Department of Energy, who have deemed them credible. The IAEA has sought to question Iranian officials about the programs, entities and individuals mentioned in the documents. Iran denies outright the existence of any such programs, claims the documents are forgeries, and refuses to discuss the matter further with IAEA inspectors. (Carla Anne Robbins, “Atomic Test: As Evidence Grows Of Iran's Program, U.S. Hits Quandary,” *Wall Street Journal*, March 18, 2005, A1; Dafna Linzer, “Nuclear Disclosures on Iran Unverified,” *Washington Post*, November 19, 2004, A1.)

This analysis of violations is taken from [Jacqueline Shire and David Albright, “Iran’s NPT Violations – Numerous and Possibly On-Going?”, The Institute for Science and International Security \(ISIS\), September 29, 2006.](#)

- (1). IAEA Report, GOV/2006/15, February 27, 2006, para 15; (2) IAEA Report, GOV/2004/83, November 15, 2004, para 48. (3). IAEA Report, GOV/2005/87, November 18, 2005, para 6. (4) IAEA Report, GOV/2006/53, August 31, 2006, para 14. (5) IAEA Report, GOV/2006/15, February 27, 2006, para 9. (6) IAEA Report, GOV/2006/53, August 31, 2006, para 24. (7) IAEA Report, GOV/2006/15, February 27, 2006, para 34. (8) IAEA Report, GOV/2006/27, April 28, 2006, para 17.

# USNSCR 1747 (2007), March 24, 2007

- **Re-affirms that the Islamic Republic of Iran (Iran) shall without further delay take the steps..essential to build confidence in the exclusively peaceful purpose of its nuclear programme and to resolve outstanding questions,**
- **... in this context, affirmed its decision that Iran shall without further delay take the steps required in paragraph 2 of Security Council resolution 1737 (2006);**
- **...requested within 60 days a report from the Director General on whether Iran had established full and sustained suspension of all activities mentioned in resolution 1737 (2006), as well as on the process of Iranian compliance with all the steps required by the Board of Governors**
- **and with the other provisions of resolution 1737 (2006) and resolution 1747 (2007), to the Board and in parallel to the Security Council for its consideration.**

# Limits Imposed by USNSCR 1747

- Reaffirms that Iran shall without further delay take the steps required by the IAEA Board of Governors (2006);
- Calls upon all States also to exercise vigilance and restraint regarding the entry into or transit through their territories of individuals who are engaged in, directly associated with or providing support for Iran's proliferation sensitive nuclear activities or for the development of nuclear weapon delivery systems, and decides in this regard that all States shall notify the Committee...of the entry into or transit through their territories of the persons designated ...as being engaged in, directly associated with or providing support for Iran's proliferation sensitive nuclear activities or for the development of nuclear weapon delivery systems, including through the involvement in procurement of the prohibited items, goods, equipment, materials and technology...
- Decides that Iran shall not supply, sell or transfer directly or indirectly from its territory or by its nationals or using its flag vessels or aircraft any arms or related materiel, and that all States shall prohibit the procurement of such items from Iran by their nationals, or using their flag vessels or aircraft, and whether or not originating in the territory of Iran;
- Calls upon all States to exercise vigilance and restraint in the supply, sale or transfer directly or indirectly from their territories or by their nationals or using their flag vessels or aircraft of any battle tanks, armored combat vehicles, large caliber artillery systems, combat aircraft, attack helicopters, warships, missiles or missile systems ... and in the provision to Iran of any technical assistance or training, financial assistance, investment, brokering or other services, and the transfer of financial resources or services, related to the supply, sale, transfer, manufacture or use of such items ...
- Calls upon all States and international financial institutions not to enter into new commitments for grants, financial assistance, and concessional loans, to the government of the Islamic Republic of Iran, except for humanitarian and developmental purposes;

## Incentives in USNSCR 1747 *if* Iran Complies - I

- Reaffirm Iran's inalienable right to nuclear energy for peaceful purposes without discrimination and in conformity with articles I and II of NPT, and cooperate with Iran in the development by Iran of a civil nuclear power programme.
- Negotiate and implement a Euratom/Iran nuclear cooperation agreement.
- Actively support the building of new light water power reactors in Iran through international joint projects, in accordance with the IAEA statute and NPT, using state-of-the-art technology
- Provide cooperation with the management of spent nuclear fuel and radioactive waste through appropriate arrangements.
- Provide a substantive package of research and development cooperation, including possible provision of light water research reactors, notably in the fields of radioisotope production, basic research and nuclear applications in medicine and agriculture.
- Give legally binding, multilayered fuel assurances to Iran, based on: Participation as a partner in an international facility in Russia to provide enrichment services for a reliable supply of fuel to Iran's nuclear reactors. Subject to negotiations, such a facility could enrich all uranium hexafluoride (UF<sub>6</sub>) produced in Iran.
- Establishment on commercial terms of a buffer stock to hold a reserve of up to five years' supply of nuclear fuel dedicated to Iran, with the participation and under supervision of IAEA.

## **Incentives in USNSCR 1747 *if* Iran Complies - I**

- **Development with IAEA of a standing multilateral mechanism for reliable access to nuclear fuel, based on ideas to be considered at the next meeting of the Board of Governors.**
- **Support for a new conference to promote dialogue and cooperation on regional security issues.**
- **Improving Iran's access to the international economy, markets and capital, through practical support for full integration into international structures, including the World Trade Organization and to create the framework for increased direct investment in Iran and trade with Iran (including a trade and economic cooperation agreement with the European Union). Civil aviation cooperation, including the possible removal of restrictions on United States and European manufacturers in regard to the export of civil aircraft to Iran, thereby widening the prospect of Iran renewing its fleet of civil airliners.**
- **Establishment of a long-term energy partnership between Iran and the European Union and other willing partners, with concrete and practical applications.**
- **Support for the modernization of Iran's telecommunication infrastructure and advanced Internet provision, including by possible removal of relevant United States and other export restrictions.**
- **Cooperation in fields of high technology and other areas to be agreed upon.**
- **Support for agricultural development in Iran, including possible access to United States and European agricultural products, technology and farm equipment.**

# Designated Entities

## Entities Involved in Nuclear or Ballistic Missile Activities

1. Ammunition and Metallurgy Industries Group (AMIG) (aka Ammunition Industries Group) (AMIG controls 7th of Tir, which is designated under resolution 1737 (2006) for its role in Iran's centrifuge programme. AMIG is in turn owned and controlled by the Defence Industries Organisation (DIO), which is designated under resolution 1737 (2006))
2. Esfahan Nuclear Fuel Research and Production Centre (NFRPC) and Esfahan Nuclear Technology Centre (ENTC) (Parts of the Atomic Energy Organisation of Iran's (AEOI) Nuclear Fuel Production and Procurement Company, which is involved in enrichment-related activities. AEOI is designated under resolution 1737 (2006))
3. Kavoshyar Company (Subsidiary company of AEOI, which has sought glass fibres, vacuum chamber furnaces and laboratory equipment for Iran's nuclear programme)
4. Parchin Chemical Industries (Branch of DIO, which produces ammunition, explosives, as well as solid propellants for rockets and missiles)
5. Karaj Nuclear Research Centre (Part of AEOI's research division)
6. Novin Energy Company (aka Pars Novin) (Operates within AEOI and has transferred funds on behalf of AEOI to entities associated with Iran's nuclear programme)
7. Cruise Missile Industry Group (aka Naval Defence Missile Industry Group) (Production and development of cruise missiles. Responsible for naval missiles including cruise missiles)
8. Bank Sepah and Bank Sepah International (Bank Sepah provides support for the Aerospace Industries Organisation (AIO) and subordinates, including Shahid Hemmat Industrial Group (SHIG) and Shahid Bagheri Industrial Group (SBIG), both of which were designated under resolution 1737 (2006))
9. Sanam Industrial Group (subordinate to AIO, which has purchased equipment on AIO's behalf for the missile programme)
10. Ya Mahdi Industries Group (subordinate to AIO, which is involved in international purchases of missile equipment)

## Iranian Revolutionary Guard Corps entities

1. Qods Aeronautics Industries (Produces unmanned aerial vehicles (UAVs), parachutes, para-gliders, para-motors, etc. Iranian Revolutionary Guard Corps (IRGC) has boasted of using these products as part of its asymmetric warfare doctrine)
2. Pars Aviation Services Company (Maintains various aircraft including MI-171, used by IRGC Air Force)
3. Sho'a' Aviation (Produces micro-lights which IRGC has claimed it is using as part of its asymmetric warfare doctrine)

# Designated Persons

## Persons involved in nuclear or ballistic missile activities

1. Fereidoun Abbasi-Davani (Senior Ministry of Defence and Armed Forces Logistics (MODAFL) scientist with links to the Institute of Applied Physics, working closely with Mohsen Fakhrizadeh-Mahabadi, designated below)
2. Mohsen Fakhrizadeh-Mahabadi (Senior MODAFL scientist and former head of the Physics Research Centre (PHRC). The IAEA have asked to interview him about the activities of the PHRC over the period he was head but Iran has refused)
3. Seyed Jaber Safdari (Manager of the Natanz Enrichment Facilities)
4. Amir Rahimi (Head of Esfahan Nuclear Fuel Research and Production Center, which is part of the AEOI's Nuclear Fuel Production and Procurement Company, which is involved in enrichment-related activities)
5. Mohsen Hojati (Head of Fajr Industrial Group, which is designated under resolution 1737 (2006) for its role in the ballistic missile programme)
6. Mehrdada Akhlaghi Ketabachi (Head of SBIG, which is designated under resolution 1737 (2006) for its role in the ballistic missile programme)
7. Naser Maleki (Head of SHIG, which is designated under resolution 1737 (2006) for its role in Iran's ballistic missile programme. Naser Maleki is also a MODAFL official overseeing work on the Shahab-3 ballistic missile programme. The Shahab-3 is Iran's long range ballistic missile currently in service)
8. Ahmad Derakhshandeh (Chairman and Managing Director of Bank Sepah, which provides support for the AIO and subordinates, including SHIG and SBIG, both of which were designated under resolution 1737 (2006))

## Iranian Revolutionary Guard Corps key persons

1. Brigadier General Morteza Rezaie (Deputy Commander of IRGC)
2. Vice Admiral Ali Akbar Ahmadian (Chief of IRGC Joint Staff.)
3. Brigadier General Mohammad Reza Zahedi (Commander of IRGC Ground Forces)
4. Rear Admiral Morteza Safari (Commander of IRGC Navy)
5. Brigadier General Mohammad Hejazi (Commander of Bassij resistance force)
6. Brigadier General Qasem Soleimani (Commander of Qods force)
7. General Zolqadr (IRGC officer, Deputy Interior Minister for Security Affairs)

## Iranian Reaction to UNSCR

April 5, 2007: Iran's head of its Atomic Energy Agency, Ali Larijani, tells a European Union group that,

“The Islamic Republic of Iran is ready to negotiate only on non-diversion of its nuclear program for military purposes, and not on its nuclear rights...Iran will not accept any preconditions or suspension for a time. Nor can suspending enrichment be a precondition or the result of negotiations (with the Permanent Members of the UN Security Council)...”

— Agence France Press, Tehran, April 5, 2007.

## **Agreement and Relevant Provisions of Security Council Resolutions in the Islamic Republic of Iran: May 23 2007**

- Since early 2006, the Agency has not received the type of information that Iran had previously been providing, including pursuant to the Additional Protocol, for example information relevant to the assembly of centrifuges, the manufacture of centrifuge components or associated equipment and research and development of centrifuges or enrichment techniques.
- The follow-up on the construction of hot cells at the Iran Nuclear Research Reactor (IR-40 Reactor) at Arak has been limited, however, to the analysis of satellite imagery since, as of 13 April 2007, Iran has not provided the Agency with access to the reactor site to carry out design information verification
- Iran has not responded to the Agency's long standing requests related to the uranium contamination at the Physics Research Centre, Iran's acquisition of P-1 and P-2 centrifuge technology; and the documentation concerning uranium metal and its casting into hemispheres .
- Iran has taken issue with the Agency's right to verify design information which had been provided by Iran pursuant to the modified Code 3.1 concerning the IR-40 reactor at Arak.
- Iran has not agreed to any of the required transparency measures, which are essential for the clarification of certain aspects of the scope and nature of its nuclear programme. These measures include discussions about information provided to the Agency concerning alleged studies related to the conversion of uranium dioxide into UF<sub>4</sub>, to high explosives testing and to the design of a missile re-entry vehicle.

## **Report of Board of Governors of IAEA On Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran : August 30 2007**

- **The Agency is able to verify the non-diversion of declared nuclear material in Iran. Iran has been providing the Agency with access to declared nuclear material, and has provided the required nuclear material accountancy reports in connection with declared nuclear material and facilities. However, the Agency remains unable to verify certain aspects relevant to the scope and nature of Iran's nuclear programme. It should be noted that since early 2006, the Agency has not received the type of information that Iran had previously been providing, including pursuant to the Additional Protocol, for example information relevant to ongoing advanced centrifuge research.**
- **...the Agency considers it essential that Iran adheres to the time line defined therein and implements all the necessary safeguards and transparency measures, including the measures provided for in the Additional Protocol.**
- **...Once Iran's past nuclear programme has been clarified, Iran would need to continue to build confidence about the scope and nature of its present and future nuclear programme. Confidence in the exclusively peaceful nature of Iran's nuclear programme requires that the Agency be able to provide assurances not only regarding declared nuclear material, but, equally important, regarding the absence of undeclared nuclear material and activities in Iran, through the implementation of the Additional Protocol.**
- **...Contrary to the decisions of the Security Council, Iran has not suspended its enrichment related activities, having continued with the operation of PFEP, and with the construction and operation of FEP. Iran is also continuing with its construction of the IR-40 reactor and operation of the Heavy Water Production Plant.**

## **New Tunneling Near Natanz: June 2007**

- **Digital Globe commercial satellite photos show two new roads leading to a construction site on the side of a mountain closest to the Natanz site southern boundary. There are no signs of construction in similar photos taken six months earlier.**
- **Institute for Science and International Security (ISIS) compares the new Natanz construction with a tunnel built by Iran inside a mountain near another key nuclear site. That site is located at Esfahan, about 80 miles to the south, and houses a nuclear research center and facility to convert uranium to a form that can be enriched at Natanz.**
- **ISIS speculates that, "such a tunnel inside a mountain would offer excellent protection from an aerial attack...This new facility would be ideal for safely storing" natural and enriched uranium and the specialized equipment needed to make it.**

## **Ali Larijani's Resignation as Iran's Chief Nuclear Negotiator and Secretary of the Supreme National Security Council (SNSC) : October 20, 2007**

- **Ali Larijani, former presidential candidate and Iran's key nuclear negotiator, resigns.**
- **Larijani is a conservative, who replaced a "moderate -- Hasan Rowhani -- but is said to find the statements and position of President Mahmoud Ahmadinejad to be too hard-line and extreme.**
- **Resigns during Putin's visit to Tehran on October 15. After Putin meets Khamenei, Larijani announces Russia offered the Supreme Leader a new nuclear fuel deal. Russian sources confirm, but Ahmadinejad says that there was no new offer. and that the main purpose of Putin's visit was to enhance the relationship between the two countries.**
- **He is replaced by another conservative, Saeed Jalili, a confidant of Ahmadinejad who has no nuclear background and no real foreign affairs experience, although he is Deputy Foreign Minister for European and American affairs.**
- **Ali Akbar Velayati, foreign policy advisor to the Supreme Leader and ex-foreign minister gives ISNA interview on October 22nd, saying "Amidst the existing negative climate against Iran, the country's officials have to be more circumspect; it would have been better if this resignation had not taken place."**

## IAEA Board of Governors Report of November 15, 2007

### Summary

- ...since early 2006, the Agency has not received the type of information that Iran had previously been providing, pursuant to the Additional Protocol and as a transparency measure. As a result, **the Agency's knowledge about Iran's current nuclear programme is diminishing.**
- **Contrary to the decisions of the Security Council, Iran has not suspended its enrichment related activities, having continued the operation of PFEP and FEP. Iran has also continued the construction of the IR-40 and operation of the Heavy Water Production Plant.**
- There are two remaining major issues relevant to the scope and nature of Iran's nuclear programme: Iran's past and current centrifuge enrichment programme and the alleged studies. The Agency has been able to conclude that answers provided on the declared past P-1 and P-2 centrifuge programmes are consistent with its findings. The Agency will, however, continue to seek corroboration and is continuing to verify the completeness of Iran's declarations.
- The Agency intends in the next few weeks to focus on the contamination issue as well as the alleged studies and other activities that could have military applications.
- Iran has provided sufficient access to individuals and has responded in a timely manner to questions and provided clarifications and amplifications on issues raised in the context of the work plan. However, its cooperation has been reactive rather than proactive. As previously stated, Iran's active cooperation and full transparency are indispensable for full and prompt implementation of the work plan.

## IAEA Board of Governors Report of November 15, 2007- II

### Summary continued

- In addition, Iran needs to continue to build confidence about the scope and nature of its present programme. Confidence in the exclusively peaceful nature of Iran's nuclear programme requires that the Agency be able to provide assurances not only regarding declared nuclear material, but, equally importantly, regarding the absence of undeclared nuclear material and activities in Iran.
- Although the Agency has no concrete information, other than that addressed through the work plan, about possible current undeclared nuclear material and activities in Iran, **the Agency is not in a position to provide credible assurances about the absence of undeclared nuclear material and activities in Iran without full implementation of the Additional Protocol.**
- **This is especially important in the light of Iran's undeclared activities for almost two decades and the need to restore confidence in the exclusively peaceful nature of its nuclear programme.** Therefore, the Director General again urges Iran to implement the Additional Protocol at the earliest possible date.
- The Director General also urges Iran to implement all the confidence building measures required by the Security Council, including the suspension of all enrichment related activities.

# IAEA Board of Governors Report of November 15, 2007 - III

## History

- ... apart from uranium conversion technology acquired from an entity in China, Iran was not able to acquire other nuclear fuel cycle facilities or technology from abroad. As a result, according to Iran, a decision was made in the mid-1980s to acquire uranium enrichment technology on the black market.
- To assess the detailed information provided by Iran, the Agency held discussions with senior current and former Iranian officials. The Agency also examined supporting documentation, including Iranian legislation, contracts with foreign companies, agreements with other States and nuclear site surveys.
- Bearing in mind the long history and complexity of the programme and the dual nature of enrichment technology, the Agency is not in a position, based on the information currently available to it, to draw conclusions about the original underlying nature of parts of the programme. Further light may be shed on this question when other aspects of the work plan have been addressed and when the Agency has been able to verify the completeness of Iran's declarations.

# IAEA Board of Governors Report of November 15, 2007 - IV

## P-1 Centrifuges

- On 5 November 2007, Iran provided the Agency with an updated chronology of meetings between Iran and the supply network covering the period 1986 to 1987. Iran maintains that only some components of two disassembled centrifuges, plus supporting drawings and specifications, were delivered in 1987 by the network. Iran reiterated that it did not acquire uranium casting and re-conversion technology or equipment from the network, nor did it ask for the 15-page document describing the procedures for the reduction of UF<sub>6</sub> to uranium metal, and its casting into hemispheres
- ...According to Iran, the decision to acquire centrifuge technology was taken by the President of the AEOI and endorsed by the Prime Minister of Iran. In response to its enquiries about possible additional documentation relevant to the 1987 offer, the Agency was provided on 8 November 2007 with a copy of a confidential communication from the President of the AEOI to the Prime Minister, dated 28 February 1987, which also carried the Prime Minister's endorsement, dated 5 March 1987. In his communication, the AEOI President indicated that the activities should be treated fully confidentially.
- In response to the Agency's enquiry as to whether there was any military involvement in the programme, Iran has stated that no institution other than the AEOI was involved in the decision-making process or in the implementation of the centrifuge enrichment programme.
- Based on interviews with available Iranian officials and members of the supply network, limited documentation provided by Iran and procurement information collected through the Agency's independent investigations, the Agency has concluded that Iran's statements are consistent with other information available to the Agency concerning Iran's acquisition of declared P-1 centrifuge enrichment technology in 1987.

# IAEA Board of Governors Report of November 15, 2007 - V

## P-1 Centrifuges

- **As previously reported to the Board ...statements made by Iran and key members of the supply network about the events leading up to the mid-1990s offer have been at variance with each other.**
- Over the course of meetings held in October 2007, Iran provided the Agency with an updated chronology of events from 1993 to 1999 which clarified certain details concerning meetings, participants and deliveries of P-1 centrifuge equipment by the network during this period. 15. Iran stated again that in 1993 the supply network, on its own initiative, had approached an Iranian company with an offer to sell enrichment technology. This offer was brought to the attention of the Head of Iran's Budget and Planning Organization, who was also a member of the country's Atomic Energy Council. The offer was then further pursued by the AEOI
- **The Agency has so far not been able to confirm Iran's statement that the supply network initiated the 1993 offer. Information provided by Iran on the deliveries and technical meetings after 1993 is consistent with that given to the Agency in interviews with some of the network members. Based on interviews with Libyan officials and supply network members and information from other sources, the Agency has concluded that most of the items related to the 1993 offer had originally been ordered by the Libyan Arab Jamahiriya but were in fact delivered to Iran in the period 1994-1996.**
- ...Iran stated that it successfully tested P-1 centrifuges at the end of the 1990s and that a decision was made to go ahead with larger-scale R&D and eventually with an enrichment plant. To that end, Iran stated that it considered locations at Hashtgerd Karaj, Natanz and Esfahan before deciding to build the enrichment plant at Natanz. During this period, procurement activities were intensified and vacuum equipment, as well as special raw materials such as maraging steel and high strength aluminum, were acquired from abroad. **Iran has provided names, locations and activities of the workshops involved in the domestic production of centrifuge components, most of which are owned by military industrial organizations...Information provided by Iran on the timing of these purchases and the quantities involved is consistent with the Agency's findings.**

# IAEA Board of Governors Report of November 15, 2007 - VI

## P-2 Centrifuges

- **Iran has stated that, in order to compensate it for the poor quality of the P-1 centrifuge components provided by the supply network, the network provided Iran at a meeting in Dubai in 1996 with a full set of general P-2 centrifuge drawings.** This statement was confirmed to the Agency in interviews with key members of the network. 20. Iran has reiterated that, although the drawings were acquired in 1996, no work on P-2 centrifuges was begun until 2002. According to the former and current senior management of the AEOI, Iran did not yet have the technical and scientific capabilities to master centrifuge manufacturing during this period. **The Agency does not have credible procurement related information pointing to the actual acquisition by Iran of P-2 centrifuges or components during this period (an earlier indication which appeared to support this (GOV/2006/15, para. 18) could not be substantiated).**
- In 2002, the AEOI concluded a contract with a private company to manufacture a modified P-2 centrifuge...On 5 November 2007, the Agency received a copy of the contract, the content of which is consistent with earlier interviews with the company owner, who was not available for interview on this occasion. The contract was terminated in March 2003, but the company owner has stated that he continued to work on his own initiative until June 2003.. The owner of the company stated in earlier interviews that he was able to obtain all raw materials and minor items, with the exception of bearings, oils and magnets, from domestic sources, which is consistent with the procurement information currently available to the Agency. The owner stated that he acquired 150 magnets with P-2 specifications and attempted to buy tens of thousands more, but these orders were cancelled by the suppliers. The AEOI stated that, after termination of his contract with the AEOI, the company owner sought to secure the supply of additional magnets for the AEOI but that his attempts to do so failed, which is consistent with the information available to the Agency through its investigations. Iran acknowledged that composite rotors for P-2 centrifuges had been manufactured in a workshop situated on a Defence Industries Organisation (DIO) site
- ...Based on visits made by Agency inspectors to the P-2 workshop in 2004, examination of the company owner's contract, progress reports and logbooks, and information available on procurement enquiries, the Agency has concluded that Iran's statements on the content of the declared P-2 R&D activities are consistent with the Agency's findings. Environmental samples taken at declared R&D locations and from equipment did not indicate that nuclear material was used in these experiments.
- **There have been several press reports about statements by high level Iranian officials concerning R&D and testing of P-2 centrifuges by Iran...In a communication to the Agency received on 8 November 2007, Iran wrote: Iran voluntarily has informed the IAEA on the status of mechanical test (without UF6 feeding) of new generation of centrifuge design. In the communication, Iran added that it agreed that exchanging of the new centrifuge generation information would be discussed with the Agency in December 2007.**

# IAEA Board of Governors Report of November 15, 2007 - VII

## Enrichment Related Activities

- On 3 November 2007, the Agency verified that Iran had finished installing eighteen 164-machine cascades at FEP and that UF<sub>6</sub> had been fed into all 18 cascades. There has been no installation of centrifuges or centrifuge pipework outside the original 18-cascade area. Work to install feed and withdrawal infrastructure and auxiliary systems is continuing.
- Since February 2007, Iran has fed approximately 1240 kg of UF<sub>6</sub> into the cascades at FEP. The feed rate has remained below the expected quantity for a facility of this design. While Iran has stated that it has reached enrichment levels up to 4.8% U-235 at FEP, the highest U-235 enrichment measured so far from the environmental samples taken by the Agency from cascade components and related equipment is 4.0%.
- Detailed nuclear material accountancy will be carried out during the annual physical inventory taking which is scheduled from 16 to 19 December 2007. Since March 2007, a total of seven unannounced inspections have been carried out at FEP.
- Since August 2007, Iran has continued to test single centrifuge machines, the 10- and 20- machine cascades and one 164-machine cascade at the Pilot Fuel Enrichment Plant (PFEP). Between 23 July and 22 October 2007, Iran fed 5 kg of UF<sub>6</sub> into the single machines; no nuclear material was fed into the cascades. From 15 to 18 September 2007, the Agency performed a physical inventory verification at PFEP. Although some of the sample results are not yet available, the Agency's provisional evaluation tends to confirm the physical inventory as declared by Iran.

# IAEA Board of Governors Report of November 15, 2007 - VIII

## Possible Weapons Components

- **Uranium Metal:** On 8 November 2007, the Agency received a copy of the 15-page document describing the procedures for **the reduction of UF<sub>6</sub> to uranium metal and casting it into hemispheres**. Iran has reiterated that this document was received along with the P-1 centrifuge documentation in 1987. The Agency has shared this document with Pakistan, the purported country of origin, and is seeking more information. Iran stated that the reconversion unit with casting equipment mentioned in the one-page 1987 offer was not pursued with the supply network. Apart from the conversion experiments of UF<sub>4</sub> to uranium metal at the Tehran Nuclear Research Centre, the Agency has seen no indication of any UF<sub>6</sub> reconversion and casting activity in Iran. It should be noted, however, that a small UF<sub>6</sub> to uranium metal conversion line in the Uranium Conversion Facility (UCF) was declared by Iran in the design information questionnaire for the UCF. This line has not been built, as verified by the Agency's inspectors.
- **Polonium-210:** On 15 September 2007, the Agency provided questions in writing to Iran concerning Iran's activities involving polonium and requested access to relevant documentation, individuals and equipment. The questions were, inter alia, about the scope and objectives of the polonium-210 studies, ...whether any bismuth acquisitions from abroad had been made or attempted and whether any related theoretical or R&D studies had been carried out in Iran. **In accordance with the work plan, Iran should provide answers to the questions and the requested access in the next few weeks.**
- **Reprocessing Activities:** The Agency has continued monitoring the use and construction of hot cells at the Tehran Research Reactor (TRR), the Molybdenum, Iodine and Xenon Radioisotope Production Facility (the MIX Facility) and the Iran Nuclear Research Reactor (IR-40) through inspections and design information verification. There have been no indications of ongoing reprocessing related activities at those facilities.
- **Heavy Water Reactor Related Projects:** On 11 November 2007, the Agency conducted design information verification at the IR-40 and noted that construction of the facility was proceeding. **Satellite imagery appears to indicate that the Heavy Water Production Plant is operating. The Agency must rely on satellite imagery of this plant as it does not have routine access to it while the Additional Protocol remains unimplemented.**

# IAEA Board of Governors Report of November 15, 2007 - IX

## Alleged Studies Relating to Nuclear Weapons

- **The Agency has urged Iran to address at an early date the alleged studies concerning the conversion of uranium dioxide into UF<sub>4</sub>(the green salt project), high explosive testing and the design of a missile re-entry vehicle.**
- **In accordance with the work plan, Iran should address this topic in the next few weeks. In the meantime, the Agency is working on arrangements for sharing with Iran documents provided by third parties related to the alleged studies.**

## IAEA Board of Governors Report of November 15, 2007 - US Mission to IAEA Reaction

- ...Iran's cooperation with the IAEA remains selective and incomplete. Iran has not met the world's expectation of full disclosure.
- Under international pressure, Iran has finally shed more light on the history of its program. However, Iran still refuses to fully disclose the past and present as the IAEA expects and to suspend fully its proliferation-sensitive activities as the Security Council requires.
- ... despite their best efforts, the Director General reports that Iran's cooperation "remains reactive rather than proactive." Iran refused to implement the Additional Protocol and to provide early information on new nuclear facilities. The Board of Governors will be distressed to learn that "the Agency's knowledge of Iran's current nuclear program is diminishing."
- **Diplomacy remains our preferred course. The Security Council process must continue in order to reinforce diplomacy and encourage Iran to comply with its international obligations.**
- Even as the Security Council moves towards a third sanctions resolution, the door remains open to suspension of sanctions for suspension of enrichment, and a negotiated settlement that would give Iran access to nuclear energy while assuring the world of its peaceful intent.

# **President Ahmadinejad Statement at Ardabil**

## **November 21, 2007**

**Ahmadinejad says no concessions beyond transparent cooperation with the UN's International Atomic Energy Agency (IAEA) should be expected.**

**"The Iranian nation has resisted over the nuclear issue until today and will resist later on too**

**We will under no circumstances allow anyone to get even a minor advantage over the Iranian nuclear issue by violating the law**

**"We do not refuse to negotiate in a just atmosphere while both sides enjoy equal and same rights. Nevertheless, we believe that nuclear energy is our right, we own that today and no one is able to deprive our nation of that,"**

**"Enemies of the Iranian nation have hope in what? Do they rely on their armed forces? We see that their troops are stuck in mud to the neck and are struggling for their life in quagmires."**

**"The world should know that our enemies' weapons are broken and rusty in front of the Iranian nation."**

## Statement by Director General Dr. Mohamed El Baradei on Verification in the Islamic Republic of Iran, November 22, 2007: Part One

The report before you provides an update on the implementation of Agency safeguards in the Islamic Republic of Iran. As you know, **the Agency has so far not been able to verify some important aspects of Iran's nuclear programme: those relevant to the scope and nature of Iran's centrifuge enrichment activities, as well as those relevant to alleged studies and other activities that could have military applications. Iran's past undeclared nuclear activities, together with these verification issues, resulted in the Agency's inability to make progress in providing assurance about the absence of undeclared nuclear material and activities in Iran, and created a confidence deficit about the nature of Iran's nuclear programme. This prompted the Security Council to adopt a number of resolutions calling on Iran to clarify these outstanding verification issues, and to undertake simultaneously confidence building measures, including the implementation of the additional protocol and the suspension of uranium enrichment activities.**

The work plan agreed by the Secretariat and Iran in August, in which Iran has finally committed itself to address the outstanding issues relevant to its nuclear activities, is proceeding according to schedule. The report outlines, inter alia, our progress to date.

As the report makes clear, as regards the first outstanding issue - the scope and nature of Iran's centrifuge enrichment activities - there has been good progress in connection with the verification of Iran's past acquisition of P-1 and P-2 centrifuge enrichment technologies. The Agency has concluded that the information provided by Iran in that regard is consistent with the Agency's own investigation. **However, as in all verification cases, the Agency will continue to seek corroboration of this conclusion as we continue to verify the completeness of Iran's declarations concerning its nuclear material and activities, and as we investigate the remaining outstanding issues - namely, the uranium particle contamination at a technical university, as well as the alleged studies and other activities that could have military applications. In accordance with the work plan, this will take place over the next several weeks. I would note that Iran has provided the Agency with a copy of the 15 -page document on uranium metal, which the Agency is currently examining. The Agency is also continuing to work on arrangements to make copies of the alleged studies available to Iran.**

## Statement by Director General Dr. Mohamed El Baradei on Verification in the Islamic Republic of Iran, November 22, 2007: Part Two

Our progress over the past two months has been made possible by an increased level of cooperation on the part of Iran, in accordance with the work plan. However, **I would urge Iran to be more proactive in providing information, and in accelerating the pace of this cooperation, in order for the Agency to be able to clarify all major remaining outstanding issues by the end of the year.**

With regard to Iran's current nuclear activities, we have been able to verify the non-diversion of all declared nuclear material. **We also have in place a safeguards approach for the Natanz facility that enables us to credibly verify all enrichment activities there.**

However, as with all States that do not have an additional protocol in force, **we are unable to provide credible assurance about the absence of undeclared nuclear material and activities. This is especially crucial in the case of Iran, because of its history of undeclared activities, and the corresponding need to restore confidence in the peaceful nature of Iran's nuclear programme. As the report indicates, the Agency's knowledge about specific aspects of Iran's current programme has diminished since 2006, when Iran ceased to provide the Agency with information under the additional protocol and additional transparency measures. This relates especially to current procurement, R&D and possible manufacturing of centrifuges. I urge Iran, therefore, to resume without delay the implementation of the additional protocol. The Agency needs to have maximum clarity not only about Iran's past programme but, equally or more important, about the present. I should note, however, that the Agency has no concrete information about possible undeclared nuclear material or weaponization activities in Iran, other than the outstanding issues I have already mentioned.**

Naturally, as we go through our own investigation of Iran's past and present nuclear programme, **I continue to urge Iran to take all the confidence building measures called for by the Security Council, including the suspension of enrichment related activities. This will be in the best interests of both Iran and the international community, and should facilitate the return by all parties to dialogue and negotiations. The earlier that negotiations are resumed, the better the prospects of defusing this crisis. It is only through such negotiations that a comprehensive and durable solution can be reached, and that confidence in the future direction of Iran's nuclear programme can be built.**

## **President Ahmadinejad Statement at Press Conference in Tehran: November 28, 2007**

**"The Iranian nation should be aware that the IAEA (International Atomic Energy Agency) report is a big political victory for the Iranian nation. In our opinion, the political standoff of the Iranian nuclear issue is over. The legal process of the case is a constant issue.**

**We are a member of an organization that has constant cooperation and nothing new has happened. In terms of technical progress, our atomic program is in a much better condition than a couple of years ago and the IAEA has confirmed and approved of this progress too."**

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# US Estimates 2005 versus 2007

## Key Differences Between May 2005 IC Assessment and December 2007 National Intelligence Estimate

### 2005 IC Estimate

Assess with high confidence that Iran currently is determined to develop nuclear weapons despite its international obligations and international pressure, but we do not assess that Iran is immovable.

We have moderate confidence in projecting when Iran is likely to make a nuclear weapon; we assess that it is unlikely before early-to-mid next decade.

Iran could produce enough fissile material for a weapon by the end of this decade if it were to make more rapid and successful progress than we have seen to date.

### 2007 NIE

Judge with high confidence that in fall 2003, Tehran halted its nuclear weapons program. Judge with high confidence that the halt lasted at least several years. (DOE and the NIC have moderate confidence that the halt to those activities represents a halt to Iran's entire nuclear weapons program.) Assess with moderate confidence Tehran had not restarted its nuclear weapons program as of mid-2007, but we do not know whether it currently intends to develop nuclear weapons. Judge with high confidence that the halt was directed primarily in response to increasing international scrutiny and pressure resulting from exposure of Iran's previously undeclared nuclear work. Assess with moderate-to-high confidence that Tehran at a minimum is keeping open the option to develop nuclear weapons.

We judge with moderate confidence that the earliest possible date Iran would be technically capable of producing enough highly enriched uranium (HEU) for a weapon is late 2009, but that this is very unlikely.

We judge with moderate confidence that the earliest possible date Iran would be technically capable of producing enough highly enriched uranium (HEU) for a weapon is late 2009, but that this is very unlikely. We judge with moderate confidence Iran probably would be technically capable of producing enough HEU for a weapon sometime during the 2010-2015 time frame. (INR judges that Iran is unlikely to achieve this capability before 2013 because of foreseeable technical and programmatic problems.)

# US NIE - December 2007 - I

- **NIE (December 2007):** We judge with high confidence that in fall 2003, Tehran halted its nuclear weapons Program (For the purposes of this Estimate, by “nuclear weapons program” we mean Iran’s nuclear weapon design and weaponization work and covert uranium conversion-related and uranium enrichment-related work; **we do not mean Iran’s declared civil work related to uranium conversion and enrichment.**);
- ...we also assess with moderate-to-high confidence that Tehran at a minimum is keeping open the option to develop nuclear weapons.
- We judge with high confidence that the halt, and Tehran’s announcement of its decision to suspend its declared uranium enrichment program and sign an Additional Protocol to its Nuclear Non-Proliferation Treaty Safeguards Agreement, **was directed primarily in response to increasing international scrutiny and pressure resulting from exposure of Iran’s previously undeclared nuclear work.**
- **We assess with high confidence that until fall 2003, Iranian military entities were working under government direction to develop nuclear weapons.**
- We judge with high confidence that the halt lasted at least several years. **(Because of intelligence gaps discussed elsewhere in this Estimate, however, DOE and the NIC assess with only moderate confidence that the halt to those activities represents a halt to Iran's entire nuclear weapons program.)**
- We assess with **moderate confidence** Tehran had not restarted its nuclear weapons program as of mid-2007, **but we do not know whether it currently intends to develop nuclear weapons.**
- We continue to assess with moderate-to-high confidence that Iran does not currently have a nuclear weapon.
- **Tehran’s decision to halt its nuclear weapons program suggests it is less determined to develop nuclear weapons than we have been judging since 2005. Our assessment that the program probably was halted primarily in response to international pressure suggests Iran may be more vulnerable to influence on the issue than we judged previously.**

# US NIE - December 2007 - II

- **NIE (December 2007 Continued):** We continue to assess with **low confidence that Iran probably has imported at least some weapons-usable fissile material**, but still judge with moderate-to-high confidence it has not obtained enough for a nuclear weapon. We cannot rule out that Iran has acquired from abroad—or will acquire in the future—a nuclear weapon or enough fissile material for a weapon. **Barring such acquisitions, if Iran wants to have nuclear weapons it would need to produce sufficient amounts of fissile material indigenously—which we judge with high confidence it has not yet done.**
- We assess centrifuge enrichment is how Iran probably could first produce enough fissile material for a weapon, if it decides to do so. Iran resumed its declared centrifuge enrichment activities in January 2006, despite the continued halt in the nuclear weapons program. **Iran made significant progress in 2007 installing centrifuges at Natanz, but we judge with moderate confidence it still faces significant technical problems operating them.**
- We judge with moderate confidence that the earliest possible date Iran would be technically capable of producing enough HEU for a weapon is late 2009, but that this is very unlikely.
- **We judge with moderate confidence Iran probably would be technically capable of producing enough HEU for a weapon sometime during the 2010-2015 time frame. (INR judges Iran is unlikely to achieve this capability before 2013 because of foreseeable technical and programmatic problems.)** All agencies recognize the possibility that this capability may not be attained **until after 2015.**
- **Iranian entities are continuing to develop a range of technical capabilities that could be applied to producing nuclear weapons**, if a decision is made to do so. For example, Iran's civilian uranium enrichment program is continuing. We also assess with high confidence that since fall 2003, **Iran has been conducting research and development projects with commercial and conventional military applications—some of which would also be of limited use for nuclear weapons.**
- **We do not have sufficient intelligence to judge confidently whether Tehran is willing to maintain the halt of its nuclear weapons program indefinitely** while it weighs its options, or whether it will or already has set specific deadlines or criteria that will prompt it to restart the program.
- Our assessment that Iran halted the program in 2003 primarily in response to international pressure indicates **Tehran's decisions are guided by a cost-benefit approach rather than a rush to a weapon irrespective of the political, economic, and military costs.** This, in turn, suggests that some combination of threats of intensified international scrutiny and pressures, along with opportunities for Iran to achieve its security, prestige, and goals for regional influence in other ways, might—if perceived by Iran's leaders as credible—prompt Tehran to extend the current halt to its nuclear weapons program. It is difficult to specify what such a combination might be.

# US NIE - December 2007 - III

- **NIE (December 2007 Continued):** We continue to assess with **low confidence that Iran probably has imported at least some weapons-usable fissile material**, but still judge with moderate-to-high confidence it has not obtained enough for a nuclear weapon. We cannot rule out that Iran has acquired from abroad—or will acquire in the future—a nuclear weapon or enough fissile material for a weapon. **Barring such acquisitions, if Iran wants to have nuclear weapons it would need to produce sufficient amounts of fissile material indigenously—which we judge with high confidence it has not yet done.**
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- **We do not have sufficient intelligence to judge confidently whether Tehran is willing to maintain the halt of its nuclear weapons program indefinitely** while it weighs its options, or whether it will or already has set specific deadlines or criteria that will prompt it to restart the program.
- Our assessment that Iran halted the program in 2003 primarily in response to international pressure indicates **Tehran's decisions are guided by a cost-benefit approach rather than a rush to a weapon irrespective of the political, economic, and military costs.** This, in turn, suggests that some combination of threats of intensified international scrutiny and pressures, along with opportunities for Iran to achieve its security, prestige, and goals for regional influence in other ways, might—if perceived by Iran's leaders as credible—prompt Tehran to extend the current halt to its nuclear weapons program. It is difficult to specify what such a combination might be.

## US NIE - December 2007 - IV

- **NIE (December 2007 Continued ):** We assess with moderate confidence that convincing the Iranian leadership to forgo the eventual development of nuclear weapons will be difficult given the linkage many within the leadership probably see between nuclear weapons development and Iran's key national security and foreign policy objectives, and given Iran's considerable effort from at least the late 1980s to 2003 to develop such weapons. **In our judgment, only an Iranian political decision to abandon a nuclear weapons objective would plausibly keep Iran from eventually producing nuclear weapons—and such a decision is inherently reversible.**
- We assess with moderate confidence that Iran probably would use covert facilities—rather than its declared nuclear sites—for the production of highly enriched uranium for a weapon. A growing amount of intelligence indicates Iran was engaged in covert uranium conversion and uranium enrichment activity, but we judge that these efforts probably were halted in response to the fall 2003 halt, and that these efforts probably had not been restarted through at least mid-2007.
- We judge with high confidence that Iran will not be technically capable of producing and reprocessing enough plutonium for a weapon before about 2015.
- We assess with high confidence that Iran has the scientific, technical and industrial capacity eventually to produce nuclear weapons if it decides to do so.

# El Baradei Statement on US 2007 NIE

IAEA - December 4, 2007

IAEA Director General Mohamed ElBaradei received with great interest the new U.S. National Intelligence Estimate about Iran's nuclear program which concludes that there has been no ongoing nuclear weapons program in Iran since the fall of 2003. He notes in particular that the Estimate tallies with the Agency's consistent statements over the last few years that, although Iran still needs to clarify some important aspects of its past and present nuclear activities, the Agency has no concrete evidence of an ongoing nuclear weapons program or undeclared nuclear facilities in Iran.

The Director General believes that this new assessment by the U.S. should help to defuse the current crisis. At the same time, it should prompt Iran to work actively with the IAEA to clarify specific aspects of its past and present nuclear program as outlined in the work plan and through the implementation of the additional protocol. This would allow the Agency to provide the required assurances regarding the nature of the program.

While calling on Iran to accelerate its cooperation with the Agency, in view of the new U.S. Estimate, the Director General urges all parties concerned to enter without delay into negotiations. Such negotiations are needed to build confidence about the future direction of Iran's nuclear program - concern about which has been repeatedly expressed by the Security Council. They are also needed to bring about a comprehensive and durable solution that would normalise the relationship between Iran and the international community.

# Iranian Views on US 2007 NIE

- Foreign Minister Manouchehr Mottaki says: "It's natural that we welcome it when those countries who in the past have questions and ambiguities about this case ... now amend their views realistically. The condition of Iran's peaceful nuclear activities is becoming clear to the world."
- Alaeddin Boroujerdi, head of the Iranian parliament's foreign policy and national security committee a senior Iranian deputy, says. "This report will be another factor in line with strengthening the positions of these countries (Russia and China) and weakening the positions of the group who were pursuing... the issue of the third resolution... I believe that from the beginning American intelligence organizations knew Iran did not have deviations (from peaceful atomic aims)."

Reuters 4-12-2007

# Present IAEA Understanding of Known Weapons Related Research

- Beryllium (neutron reflector): No details
- Polonium (neutron initiator): Only “peaceful” programs reported.
- Plutonium separation: Limited data related to discovered activities.
- High Uranium enrichment: : Limited data related to discovered activities.
- Machining of Uranium: : Limited data related to discovered activities.
- Re-entry vehicle and warhead design: ): No details
- Acquisition of North Korean (Chinese) weapons design? AQ Khan network transfers: ): No details
- High explosive lenses: ): No details

# The Overall Climate of Uncertainty

- No simple or reliable way to characterize Iran's ability to acquire nuclear weapons and the means to deliver them.
- El Baradei said: "We at the IAEA lack conclusive evidence. We have yet to see a *smoking gun* that would convict Tehran. I can make assumptions about intentions, but I cannot verify intentions, just facts,"
- Hard to discuss the case against Iran without raising questions about the mistakes the US and UK made in characterizing Iraq's efforts to acquire weapons of mass destruction. The US in particular, has problems in convincing the international community that Iran is a grave threat to global security.

# What Is Known

- There are strong indications of an active Iranian interest in acquiring nuclear weapons since the time of the Shah, and that Khomeini revived such efforts after Iraq invaded Iran and began to use chemical weapons.
- The EU-3 and the US stated that Iran is actively pursuing nuclear weapons
- Iran's missile development problems only make sense if they are equipped with CBRN warheads.
- Analyses and estimates are cloaked with uncertainty
- There are no risk-free options: military, sanctions, do nothing

## Key Unknowns

- Iran's intentions regarding force size and character, strategy, political use, targeting, escalation, and war fighting.
- When Iran could get a nuclear weapon and rate of production.
- C4I/BM, safety, release and reliability issues.
- Test plans, if any.
- Capability of missile programs.
- Capability to go from basic fission to boosted and thermonuclear weapons.
- Status of biological warfare programs, if any.
- Current status of chemical weapons programs.

# **What the IAEA May Never Be Able to Determine (Even with Protocol)**

- **Clandestine elements of nuclear weapons research.**
- **Passive (non-fissile) testing of nuclear weapons designs and warheads/bombs/reentry vehicles.**
- **Clandestine R&D activity in centrifuges, reactors, plutonium separation, LIS.**
- **Existence and nature of undisclosed facilities.**
- **“Breakout” plans for nuclear power reactors and fuel cycle.**
- **True intention of disclosed and inspected activities.**
- **Level of North Korean (Chinese) weapons and warhead designs.**
- **Existence and validity of national intelligence data.**
- **MEK truths vs. half-truths vs. lies.**