

Issue Brief

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Truth Behind Iran's Nuclear Weapons Programme

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The controversy surrounding Iran's nuclear weapon programme has been going on for the past two years. The initial cause of concern for the International Atomic Energy Agency (IAEA) was whether Iran had the capacity to produce nuclear weapons. At present however, the Iranians suspect that the IAEA, instigated in large measure by their arch adversary, the United States, is determined to prove that Iran is a potential nuclear weapon producing state.

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An analysis of the situation shows that even though the Iranians have not been entirely truthful in their dealings with the IAEA,

they cannot be blamed solely for the present state of affairs. The repeated stance taken by the IAEA that the Iranian situation has in no way been "politicized" is supported by a contrary situation as depicted in the various resolutions passed by the Agency. The various IAEA resolutions not only reveal repetitiveness and regression but also opposing views between the IAEA, Iran and the US.

Nuclear History

Iran's quest for nuclear energy was initiated in the pre-Revolutionary era. The credit for the setting up of the first nuclear power plant at Bushehr, presently being built with

Russian assistance, goes to Mohammed Reza Shah. He initiated the project in 1967 with the purchase of a five-megawatt research reactor from the US. He was instrumental in setting up the Atomic Energy Organisation of Iran in 1974. Had the Islamic Revolution not taken place, the Shah had plans of building 23 nuclear power plants by 1994¹. The Shah declared that countries like Afghanistan (after the Soviet invasion), Egypt, Saudi Arabia and Iraq were a threat to Iran. National pride and self-dependency was, and remains, the *raison d'être* for the Iranian nuclear development programme. The only difference in today's context is that Iran has narrowed down the list of potential threats to include the US and Israel. Increasing domestic energy consumption, a need to preserve oil resources and earn more revenue by exporting power generated by nuclear power stations are some of the other reasons cited to justify the nuclear development programme. Iran has plans of generating 6000-7,000 megawatts of electricity by 2020².

Existing Facilities

The following table would provide an insight into the existing nuclear facilities in Iran as declared by the IAEA. At present, two different methods are used for enriching uranium, the gas centrifuges enrichment and laser enrichment

Gas Centrifuge Enrichment

Plant	Location	Description
Natanz	Esfahan	Activities at this plant began in 1985 and are the primary uranium enrichment plant. Has a capacity to produce upto 1000 P-1 centrifuges according to IAEA and they also found particles of highly enriched uranium (HEU)
Kalaye Electric Company	Tehran	In 2003 Iran said centrifuge components were produced here and machines were also assembled but no enrichment activities occurred.
Jabr Ibn Hayan Lab- Tehran Nuclear Research Centre	Tehran	An undisclosed site till recently, Uranium tetrafluoride (U4) was converted into Uranium metal. Undeclared material from

		China was stored here.
Esfahan Conversion Facility	Esfahan	Capable of converting uranium yellow cake into uranium hexafluoride (UF ₆), uranium dioxide (UO ₂), and uranium metal. UF ₆ from this plant will be shipped to Natanz for enrichment

Laser Enrichment- Two techniques are adopted, Atomic vapour laser isotope separation (AVLIS) and Molecular isotope separation (MLIS)

Plant	Location	Description
Lashkar Ab'ad	Lashkar Ab'ad, 40 Kms from Tehran	Between Oct 2002 and Jan 2003, 22 kgs of natural uranium were used to produce small amounts of reactor grade uranium
Karaj	Karaj	Contained dismantled equipment from Lashkar Ab'ad, laser enrichment waste

Plutonium Programme- Less advanced than the Uranium facilities but four known facilities are present.

Plant	Location	Description
Arak Heavy Water Facility	Arak	This facility was initially planned

		to produce heavy water for export but now it would be used as a coolant and moderator
Arak Heavy Water Reactor	Arak	A 40 MW thermal heavy water reactor, construction on this reactor is scheduled to begin. This reactor will use uranium dioxide (UO ₂) and heavy water and will be capable of producing weapon grade plutonium
Esfahan Fuel Manufacturing Plant	Esfahan	Under construction-will supply fuel for the Arak reactor and possibly also for the reactor at Bushehr
Bushehr Reactor	Bushehr	Light water reactor complex, to be completed by Russia in 2005. All spent fuel is to be sent back to Russia.

Source: (Carnegie Fact Sheet, 2004) and (IAEA GOV/2003/32, 2003)

Reprocessing Activities

Iran admitted that between 1988 and 1992, out of 7 kgs of uranium dioxide that was irradiated, 3 kgs were reprocessed for the separation of plutonium. According to Iran,

about 200 micrograms of plutonium was produced in the process. The IAEA was, however, skeptical as they felt a higher amount should have been obtained³.

Chronology of events

It was in the year 2002 when an Iranian opposition group, the National Council of Resistance of Iran (NCR) disclosed information about Iran's undeclared nuclear sites at Natanz and Arak. Since then the IAEA and Iran have become the epicenter for all controversies.

2002/ 2003

In a statement to the IAEA on 16 September 2002 after the initial accusations were made against Iran, Reza Aghazadeh, President of the Atomic Energy Organisation of Iran, said his country had no intention of focusing on the negative aspects of nuclear energy and all its efforts were directed towards the development of a nuclear power plant⁴. He said Iran had the right to pursue peaceful uses of nuclear energy under Article IV of the Nuclear Non-Proliferation Treaty (NPT) which stated, "all the parties have the right to participate in the

fullest exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy."⁵

IAEA Director General Mohamed ElBaradei made his first trip to Iran in February 2003 on the invitation of the Iranian government. The Iranians assured him that they would be transparent in all their dealings with the Agency.⁶ ElBaradei visited the two recently exposed facilities at Natanz. One was a pilot fuel enrichment plant (PFEP) and the other a large commercial scale fuel enrichment plant (FEP), both under construction. The Agency took environmental samples to determine the status of uranium enrichment at Natanz. Iran declared that it had imported 1000kgs of uranium hexafluoride (UF₆), 400kgs of uranium tetrafluoride (UF₄) and 400kgs of uranium dioxide (UO₂) in 1991 from an undisclosed state. China is believed to have supplied Iran with natural uranium. They also admitted to converting most of the UF₄ into uranium metal.

During ElBaradei's visit, Iran committed itself to providing the design information for

any new facility, any modifications made to the existing ones and to offer information on new locations where nuclear material might be used.⁷

Some of the phrases that appear persistently in all the statements passed by ElBaradei since 2002 till date urge Iran “to cooperate fully and be transparent” as well as include the promise made by the agency to “resolve this issue to the earliest” and “be completely insulated from political speculation.”⁸ In a letter dated May 5 2003, Iran informed the Agency they were planning to construct a heavy water research reactor at Arak and a fuel manufacturing plant at Esfahan in 2003.⁹ Hence in accordance with the above-mentioned points, Iran was living up to its part of the deal. It was providing the IAEA with the promised information and was trying to be “transparent”. Two technical points that were raised by the Agency at that point of time was the question regarding Iranian requirement for uranium metal and in what way the heavy water programme at Arak fell within the overall fuel cycle.

In the IAEA resolution passed in June 2003, ElBaradei, with reference to Iran’s position under the NPT, said, “Iran has failed to meet its obligations under its Safeguard Agreement with respect to the reporting of nuclear material, the subsequent processing and use of that material and the declaration of facilities where the material was stored and processed.”¹⁰

Regarding the imported uranium, the Iranians said they had not violated the article under the NPT, as the imported amount was only 0.13kg which did not exceed the designated limit of 1kg as specified under Article 37 of the NPT that specified, “Agency shall exempt one kilogram in total of special fissionable material.”¹¹ They, however, admitted that they should have informed the Agency. In self-defence they pointed out that there was hardly any State that can display a flawless record in its dealing with the Agency.¹² The IAEA also mentioned, “although the quantities of nuclear material involved have not been large, and the material would need further processing before being suitable for use as the fissile material, the number of failures by

Iran to report the material, facilities and activities in question in a timely manner as it is obliged to do pursuant to its safeguards agreement is a matter of concern.”¹³ By issuing this statement the IAEA believed even though the Iranian situation was tense, it had not reached its point of graveness.

As a follow up to the resolution passed in June, ElBaradei went to Iran in July 2003 and asked President Khatami to think conclusively about signing the Additional Protocol. Subsequently the IAEA members adopted a resolution in September 2003 which said though Iran had been cooperative and had allowed access to the Agency members, further investigation into the environmental samples taken at Natanz revealed the presence of two types of highly enriched uranium and further investigation was in progress to reach any conclusion. As a confidence building measure, the Agency had asked Iran to not introduce nuclear material into its pilot centrifuge enrichment cascade at Natanz.¹⁴ Iran, however did not abide by this request.

Iran was asked to submit all relevant information by October 2003. The Agency wanted a complete list of the imported equipment and the components that were said to be contaminated with highly enriched uranium. Iran said this was caused by the residue of the imported uranium. They also wanted information regarding the conduct of uranium conversion experiments undertaken in Iran. According to the Agency, Iran must have tested gas centrifuges for it to develop its enrichment technology. This allegation was denied by Iran.¹⁵

Meanwhile, the IAEA felt it necessary to repeat that, “we are on this as on other issues politically blind, because political assessment is not the role of the Secretariat.”¹⁶ The US discontent against Iran was reflected in its report when in addition to the questions posed by the IAEA, they added, “Iran on a number of occasions first providing the IAEA with false information and then changing its story, attempted to cover up traces of its activities to avoid detection by the Agency.”¹⁷

The European Union (EU) espoused a similar kind of attitude, however not as severe as the US. They reaffirmed the stance taken by the IAEA. Though they did not side with Iran, they did not complicate matters further for them either.¹⁸ The Non-Aligned Movement (NAM) members adopted a softer stance and hoped that an agreement could be reached through dialogue.¹⁹ They raised their voice against the deadline and told the Agency, “the deadline gives the wrong impression that Iran’s co-operation is no longer required after this date.”²⁰

Iran retaliated against the resolution as well as the statement issued by the US. According to Iran, the issue was being steered into two different directions. One opinion was that their case should be reported immediately to the UN Security Council and the IAEA should be kept out of this scene, while the other wanted the IAEA to analyse the situation thoroughly before taking any steps. Notably Iran was referring to the US who they felt preferred the former option. Ambassador Ali A. Salehi, the

Iranian representative at the IAEA session in September 2003, said, “despite my deep personal distaste for political talk, I find it now inevitable to address the misconceptions and convolutions that lie behind some hawkish perception. There is no surprise, of course, to hear such roar from the United States. At present nothing pervades their appetite for vengeance short of confrontation and war.”²¹ He said even though this attitude was expected from the US, Iran could not comprehend why countries like Canada and Australia were supporting the resolution and the US’s faulty perceptions. The Iranian Ambassador, in his country’s defence, said since for the past twenty- four years Iran was subjected to the harshest of restrictions and was refused access to material required for pursuing a peaceful nuclear programme, it had no choice but to be discreet about its programme. Although Iran had not abided by the instructions under the NPT and was not entirely candid, the fault also lies in the way the whole situation was portrayed.

The Iranians knew that if they let this situation grow out of proportion it could

harm them, not only politically but economically as well. Hence they invited the Foreign Ministers of Britain, France and Germany to visit Iran in October 2003. Iran decided that it would sign the Additional Protocol to the NPT, under which they would, “have to provide an expanded declaration of their nuclear activities and grants the Agency broader rights of access to sites in the country.”²² Even though it was not required under the NPT, they decided to suspend all uranium enrichment and processing activities as a gesture of goodwill. They also said till the period the Additional Protocol was not ratified, they would act as if it was in force. The Foreign Ministers for their part said the protocol would not harm Iran’s national interest and they would have full right to pursue a peaceful use of nuclear energy. They declared that once this issue was resolved Iran could gain easier access to modern technology.²³

Consequently the IAEA received a detailed report from Iran regarding all queries and ElBaradei said the Agency was pleased with their progress.²⁴ On December 18, 2003 Iran

signed the Additional Protocol at the IAEA headquarters in Vienna.

2004

Peace, for Iran, was short lived. In February 2004, information regarding Iran’s failure to disclose the designs of the ‘P2 centrifuges’ in the report submitted in October surfaced. In addition, the resolution passed in March 2004 said that even though Iran had signed the Additional Protocol, they still had to ratify it. They only halted enrichment related and reprocessing activities in February 2004, contrary to the statement made in October 2003. Designs for the construction of hot cells at the Arak water research reactor were also omitted.²⁵

Iran’s response was that they could not ratify the protocol as the ratification had to endure a political process which involved the approval of the Iranian parliament, government and the Guardian Council.²⁶ The Iranians felt the case of P2 centrifuges was one of miscommunication on both sides as they thought they were not obliged to declare this information since the Additional Protocol had not been ratified. Regarding

the issue of the hot cells, Iran said it was due to the “unavailability of manipulators for hot cells on the basis of which the exact dimension of the hot cells could not be declared.”²⁷ Rather than being simplified, the process was getting more complicated and time consuming.

In the last resolution passed in June, a slightly positive signal was sent as ElBaradei said Iran had been cooperating with the Agency and was also acting as if the Additional Protocol had been ratified. Nevertheless, the Iranians felt the blow when the Agency reiterated that questions regarding Iran’s uranium enrichment and the origins of the particles of highly enriched and lowly enriched uranium were still unsolved. The history surrounding the case of P2 centrifuges also remained a mystery. The Agency said they did not want Iran to, “begin production testing at the Uranium Conversion Facility and also not to start the construction of a research reactor moderator by heavy water.”²⁸ This resolution was not in accordance with Iranian expectations as they hoped their dossier would have been closed by June. During the drafting of this report,

reports regarding internal discontent among the IAEA board of governors emerged, as they could not come to an agreement over the degree of severity to be used in the resolution.

Negligence was also committed by the IAEA. The Agency reported in June that Iran had not declared information regarding the P2 centrifuges until April 2004. Records produced by the Iranians, however, proved that they had submitted the information verbally in January. The only explanation given by ElBaradei was that since they were dealing with a vast amount of paperwork, such kind of slip-up was unavoidable.²⁹ Comments by various IAEA members pointed out that Iran could use this as an opportunity to question the Agency’s authenticity regarding all Iranian findings.

POLITICAL SCENARIO

Iran, USA and Israel

This matter was nothing less than a political rift between the US and Iran. Iran was pointing fingers at the US for supporting Israel. The only benefit that Israel had over Iran in this situation was that since it was

not a signatory to the NPT, it could not be subjected to a similar kind of inspection. Israel reportedly has the “world’s sixth-largest stockpile of nuclear weapons, including some 300 nuclear warheads.”³⁰ The Israeli issue was never given the importance it deserved by the Agency until very recently when ElBaradei paid a visit to Israel in July 2004. Israel has been constantly urged by the IAEA to become a signatory to the NPT. However even in a meeting with ElBaradei, Israel was more worried about the Iranian stance rather the ambiguity existing about their own weapons programme. The Israeli- Iranian hatred is not a concealed fact. Israel is deeply worried about Iran’s nuclear capability and keeps constant vigilance on its status. A recent report made by the Israeli intelligence chief to Israeli Prime Minister Ariel Sharon stated that Iran would be able to produce a nuclear weapon on its own by the year 2007.³¹

Doubts linger over the possibility that Israel might launch a strike against the nuclear reactor sites of Natanz, Arak and Bushehr in Iran, just as they had conducted one against Iraq’s Osirak nuclear reactor in 1981. Israel

was trying to exert pressure on Iran via the US to ensure that Iran would not pose further danger to Israel. Chances of the US supporting an air strike against Iran does not seem very likely especially after the Iraqi situation yet it does not mean the US would take things lightly. On May 6 2003, a US House of Representative resolution “had authorized all appropriate means to end Iranian nuclear weapons development.” This resolution still has to be passed by the Senate.³² Among the primary reasons why the US does not want Iran to go nuclear is the fear that Iran would pass on this knowledge to terrorist organisations such as Hamas and Hezbollah. According to the US, this possibility cannot be ruled out especially since Iran has been labeled as maintaining liaisons with these groups.³³ ElBaradei admitted that it would be difficult to pursue Iran to give up its weapon capability till the time they know Israel has not done the same.³⁴ The political and cyclical relationship existing between Iran, Israel and US is a complex one wherein both US and Israel share the similar ambition of making sure that Iran would have no opportunity of becoming a threat to this duo.

Iran and Russia

Russia is the only country that has been supporting Iran in its endeavor. When Germany refused to help Iran in building the nuclear reactor at Bushehr, Russia stepped in and signed a contract worth \$800 million in 1995 to complete the construction of one of the reactors at Bushehr in 2005.³⁵ This plant is expected to produce 1000 megawatt of energy. However due to technical reasons and because of the pressure exerted on Russia by the IAEA and the US, the plant has not been able to achieve its target production level and the expected date of completion has moved to 2006. Russia has since then been dragged into the controversy and is being constantly pressurised by the US not to pursue the project with Iran. Russia has so far tried to deal with the situation as diplomatically as possible and is drawing up an agreement with Iran which states that Iran will have to return all the spent fuel used in the reactor to Russia, so that there is no ambiguity left in thinking that Iran could utilise the fuel in the enrichment process. Russia and Iran are working around this issue and a contract will

be finalised` in October or November this year.³⁶ After a lot of speculation by all parties, ElBaradei cleared Bushehr of any uncertainties in July 2004, and said this plant was never a cause of concern to the IAEA. As a means of reinstating their unanimity towards Iran, Russia has agreed to sign an agreement to undertake the construction of the second power unit at Bushehr.³⁷

Conclusion

There is no doubt Iran has been highly secretive about its nuclear programme and has breached certain rules and regulations mentioned under the NPT. It is however, imperative for Iran to find a peaceful resolution to this issue as its consequences are directly linked to their domestic situation. Unlike Israel, Iran cannot afford to be out of the NPT and still enjoy the privileges. Unfortunately, Iran in context to the present geo-political situation has singled out the wrong nation, the US, as its enemy. Hence it is in its best interest to resolve this controversy diplomatically. The IAEA on the other hand despite making claims about taking a neutral stance was getting caught in a political wrangle. ElBaradei in an interview

admitted, “the problem concerning Iran is that the United States has concluded, after conducting their investigations that Iran possesses a military nuclear programme. However, the agency did not find any specific proof that the programme is designed for non- peaceful purposes and we cannot rely on mere speculation in a case like this. We can only base our conclusions on the agency’s specific mechanisms for monitoring, inspection and investigation.”³⁸

The Iranians, meanwhile, have resumed their talks with the European Foreign Ministers on July 31 and are hoping that this issue will be resolved when the Agency holds its session in September but no concrete solution has so far come out of the talks. US Secretary of State Colin Powell recently reaffirmed the US stance on this issue and said the present situation warranted that Iran’s case would be referred to the Security Council for the implementation of sanctions.³⁹ Meanwhile, Iran in a letter to the Agency informed that it has resumed building centrifuges from the end of June but has refrained from enriching uranium as of now.⁴⁰ President Khatami said

Iran has been cooperating with the Agency all along, but after the June resolution they do not feel compelled to stop its quest for peaceful energy especially since the IAEA and the European Foreign Ministers have not lived up to their part of the deal. In response to US National Security Adviser Condeleeza Rice’s statement, “President Bush would look at all the tools that are available to him to stop Iran’s programme,”⁴¹ Iran’s Ambassador to the UN Mohammad Zarif said, “what is important is that our integrity is not to be bargained or up for sale. You don’t expect a country like Iran to be pushed around and take it sitting down.”⁴² Such kind of statements illustrates the possibility of Iran resorting to drastic measures if unfair action is taken against them. The Agency, to resolve this situation, has to decide if it can withstand pressure from super powers and also whether it can deal with Iran entirely on technical plane, and not at political level.

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² Chubin, Shahram and Litruk, S. Robert (2003) ‘Debating Iran’s Nuclear Aspirations’, The Washington Quarterly, Vol. 26, No.4, pp. 99-114.

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- ⁵ IAEA Information Circular, INFCIRC/140, 22 April 1970
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- ⁹ IAEA Report by the Director General, GOV/2003/40, 6 June 2003
- ¹⁰ Ibid
- ¹¹ The Text of Agreement between Iran and the Agency, INFCIRC/214, 13 December 1974
- ¹² Iranian statement at the IAEA meeting, 20 June 2003
- ¹³ IAEA Report by the Director General, GOV/2003/40, 6 June 2003
- ¹⁴ IAEA Report by the Director General, GOV/2003/69, 12 September 2003
- ¹⁵ IAEA Report by the Director General, GOV/2003/69, 12 September 2003
- ¹⁶ Statement of the Director General, September 9 2003
- ¹⁷ Statement by Amb. Kenneth C. Brill, United States of America, 8 September 2003
- ¹⁸ Statement by European Union, 8 September 2003
- ¹⁹ Statement by Non- Aligned Movement (NAM), 8 September 2003 and 12 September 2003
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- ²¹ Statement by Amb. Ali Salehi, Islamic Republic of Iran 12 September 2003
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- ²⁶ BBC, 18 October 2003, 'Iran Signs up to nuclear checks'
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- ³⁰ Khaleej Times, 6 July 2004 'Israel will not change 'no show, no tell' nuke policy'
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- ⁴¹ The New York Times, 9 August 2004 'Rice says Iran must not be allowed to Develop Nuclear Arms,'
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