Questions and Answers about Iran's Nuclear Proliferation

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The Chicago Jewish community has taken the important step of identifying Iran's nuclear proliferation as a fundamental threat to global security and the State of Israel's very existence. The relative complexity of nuclear proliferation often makes the issues surrounding Iran seem daunting. The material below should make it easier for individuals to follow the news and understand the underlying allegations made against Iran.

Why does the greater international community believe that Iran is attempting to manufacture nuclear weapons?

For many years now, Western and Israeli intelligence officials have suspected that Iran has been conducting nuclear weapons research in secret. The intelligence services of Germany, Israel, the UK and the United States have all publicly taken the position that Iran has a long-term program to manufacture nuclear weapons. However, the first publicly accessible evidence regarding Iran's nuclear program was made available in 2003 when the International Atomic Energy Agency (IAEA), the principle international regulator of nuclear weapons and technology, reported that Iran had hidden a uranium enrichment program for 18 years. Iran's clandestine enrichment and history of cover-ups led many in the international community to seriously doubt Iran's peaceful intentions.

What is uranium enrichment and what it is used for?

Uranium occurs in two natural forms, or isotopes. These isotopes are chemically identical, only differing slightly in their mass. Natural uranium contains 99.3% of the uranium-238 isotope, the rest being uranium-235. However, uranium-235 is the only fissile isotope of uranium. This means that uranium-235 the only isotope easily capable of sustaining nuclear fission, the process underlying the tremendous release of energy in a nuclear bomb. Therefore, natural uranium must have its concentration of uranium-235 increased to approximately 3% before it can be used in a civil power reactor, or increased to approximately 90% before it can be used in a nuclear bomb. This process is called enrichment.

How does the international community know if Iran is enriching uranium for peaceful or military purposes?

One of the trickiest aspects of policing the nuclear nonproliferation regime is the fact that a large proportion of enrichment technology is dual use. Enrichment facilities can have both civilian and military purposes. Any uranium enrichment facility can produce either low enriched uranium for use in civil nuclear reactors, providing energy, or highly enriched uranium, which is suitable for use in nuclear weapons. Furthermore, spent fuel rods from civil nuclear reactors can be reprocessed for conversion into materials also usable for making nuclear weapons. Therefore, in any nuclear program, a high degree of transparency and independent oversight is essential for ensuring the program's civilian intent.

Transparency is the one aspect of Iran's nuclear program that is most lacking. For 18 years prior to 2003, Iran had hidden its enrichment program from the IAEA. Iran still has not implemented the more stringent safeguards it signed in 2003, and while the IAEA has nominal oversight at a handful of Iran's nuclear facilities, the IAEA has stated that it cannot "conclude that there are no undeclared nuclear materials or activities in Iran". It could be concluded that if Iran were developing nuclear technology for peaceful purposes, it would have nothing to hide. However, Iran's constant and consistent policy of concealing its nuclear program makes it difficult for the international community to trust its claims that it is only producing nuclear energy rather than nuclear weapons. If Iran is risking economic sanctions and potentially a military confrontation to hide aspects of its enrichment program, it is certainly reasonable to suggest that Iran has something to hide.

What is Iran's official position on its enrichment program?

Iran claims that it is exercising its right under the NPT to enrich uranium for peaceful purposes.

What is the NPT and is Iran a party to the treaty?

The NPT, or Nuclear Nonproliferation Treaty, is an international agreement written in 1968, proposed by Ireland, and eventually signed by 189 countries, designed to regulate and prevent the international proliferation of nuclear weapons. The NPT divides the world into two categories: nuclear states, which are the U.S, the U.K, France, China and Russia, and non-nuclear states, who are everybody else. The recognized nuclear states are prohibited from helping non-nuclear states to obtain nuclear weapons technology, and likewise, non-nuclear states are prohibited from seeking nuclear weapons. An important aspect of this agreement is the fact that peaceful nuclear technology can never be withheld from a NTP member state, but that at the same time, all non-nuclear states must agree to a safeguard agreement carried out by the IAEA before pursuing peaceful nuclear technology. Iran is indeed a signatory to the NPT as a **non-nuclear** state, and has not publicly made any indication of its desire to leave the treaty.

Iran says that it is enriching uranium for peaceful purposes. Doesn't Iran, as a member of the Nuclear Nonproliferation Treaty, have a right to develop nuclear technology as source of energy?

It is true that as a party to the NPT, Iran has the right to enrich nuclear fuel for civilian use. However, this *must* be done under the auspices of a safeguard agreement satisfactory to the IAEA. The current, and until now, successful, nonproliferation regime is propped up on the essential principle of the IAEA being able to monitor any non-nuclear state's enrichment program in order to determine that it does not cross the fine line between enriching nuclear fuel for civilian purposes and military enrichment. Iran, by dint of its policy of ambiguity and obstruction towards the IAEA safeguard regime, has *not* upheld this essential aspect of the bargain.

In fact, other countries that have wished to enrich uranium for civilian purposes have had no problems, as long as their program was under the auspices of a satisfactory safeguard agreement with the IAEA. Such agreements are designed to be negotiable. Recently, Brazil, which has just started its own uranium enrichment program, denied access of several machines and buildings to the IAEA, citing concerns about protecting its proprietary technology and investments. However, Brazil and the IAEA were able to come to a mutually acceptable agreement that protects Brazil's intellectual property and satisfies the IAEA and the world that Brazil is only using nuclear enrichment for civilian purposes. Iran has made no such satisfactory overtures to the IAEA, opting instead to stonewall the IAEA and delay the creation of a substantial safeguard regime.

Furthermore, any country that wishes to develop civilian nuclear power doesn't even need to enrich its own uranium. Any uranium needed as fuel stock for use in obtaining nuclear power can be purchased on the open market. More than 40 countries operate nuclear reactors, however; the vast majority purchase their uranium from either one of the six countries that produce fuel, or more commonly, from an international consortium, URENCO (Uranium Enrichment Company). In fact, developing indigenous enrichment capabilities is extremely expensive and fraught with technological obstacles. It is much cheaper to buy uranium from the international community. Yet still, Iran is girding its weak economy and risking international confrontation to continue its renegade enrichment program. These facts lend legitimacy to the international community's skepticism regarding the supposedly peaceful intentions of Iran's nuclear weapons program.

Has the international community offered to help Iran develop civilian nuclear technology?

The international community has indeed offered to help Iran develop civilian nuclear technology. As part of United Nations Security Council resolution 1737, Iran was offered help building a light water nuclear reactor, nuclear fuel from Russia, an offer to join the World Trade Organization and even a lifting of U.S sanctions.

How soon will Iran have the capability to manufacture a nuclear weapon?

There are a variety of estimates regarding Iran's ability to produce working nuclear weapons. These estimates range from, at the earliest, 2009 (last year's estimate of Israel's intelligence community) to 5 to 10 years (the U.S. National Intelligence Estimate). In 2007 the IAEA made an official estimate that it would take Iran between 3 to 8 years to enrich enough weapons grade uranium to make a bomb. Iran however has had many recent setbacks. Uranium enrichment is technologically complicated, and Iran has had problems ramping up its program. However, several events can increase the likelihood of Iran quickly being able to assemble a nuclear weapon: 1) if Iran were to gain access to already enriched uranium; 2) if Iran has a secret parallel enrichment program; or 3) if Iran acquires nuclear weapons stock from a foreign country the time frame of Iran's nuclear capabilities would be substantially reduced.