

Safeguards in Iran: prospects and challenges

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The controversy surrounding Iran's nuclear programme continues into its fifth consecutive year. The country's uranium enrichment programme continues to thrive, despite several diplomatic initiatives attempting to suspend it. Diplomatic channels seemed to have frozen somewhat after the 2005 election of President Mahmoud Ahmadinejad. At the same time, unofficial channels have remained open. A number of those were organized by the Pugwash movement in 2008.

This article outlines some impressions from that dialogue, which produced some valuable results. For instance, the concept of a US interests section in Iran was extensively discussed there, along with the idea to allow direct flights between Tehran and New York. There was also considerable interest for increased cooperation in naval matters—especially in respect to confidence building between Iranian and US forces in the Persian Gulf. However, the emphasis of this article will be the discussion on Iran's nuclear programme.

The article will put emphasis on what can be done in the area of nuclear safeguards and confidence-building. It will begin with a short discussion of what the status of verification in Iran is today.

Losing knowledge

The state of safeguards in Iran can be summarized in one word: *inadequate*. This is because Iran is applying so-called 'comprehensive safeguards' which, as a matter of fact, are not comprehensive at all. These safeguards were designed in the 1970s as a verification tool under the 1968 Nuclear Non-Proliferation Treaty (NPT). They are based on material accountancy at declared facilities. There are activities that fall outside the scope of these safeguards; e.g. the construction of centrifuge rotors, the scale of mining activities, or the construction of new nuclear infrastructure. It is internationally recognized that the International Atomic Energy Agency (IAEA) is virtually unable to detect clandestine fuel cycle activities under this type of safeguards.

Revelations that Iraq had developed a nuclear programme throughout the 1980s led to a safeguards reformation, which culminated with the adoption of the so-called Additional Protocol in 1997. The new safeguards system is designed to have a reasonable chance of detecting undeclared facilities in the state. However, Iran never signed the Additional Protocol in 1997. This meant that the Agency had no knowledge of the undeclared construction of a substantial nuclear fuel cycle within the country. The revelations that Iran was conducting clandestine research and development of centrifuge enrichment technology took many by surprise.

Iran reacted by showing transparency. Presumably, the Iranian calculus was that if they were completely transparent about their operations, the IAEA investigation could close quite quickly. Therefore, on 18 December 2003, it signed the Additional Protocol. Shortly thereafter, it brought it into force provisionally. Inspectors were allowed in to examine the country's nuclear fuel cycle in greater detail. In

the period 2003 to 2005, allowed a number of inspections under article 5.c. of the Protocol to a number of sites outside the nuclear fuel cycle. However, this was done on an ad-hoc basis, and Iran's cooperation was reactive rather than proactive. The IAEA had to tease information out of the Iranians one bit at a time.

Despite this, the Agency developed a relatively clear picture of Iran's nuclear activities. For instance, it was confirmed that Pakistan had offered much assistance to the country, the state of Iran's mining activities became clearer as well as the direction of nuclear research and development. Yet, many questions continued to plague the programme. The Agency did not get access to all individuals and documentation. Some sites were drastically modified or even razed before inspections could occur. And there were troubling military connections to the civilian nuclear industry.

Not all these issues had been resolved by the time relations between Iran and the European Union broke down in 2005. Iran stopped applying the Additional Protocol, and reverted back to the old, inadequate, safeguards system. Therefore, the IAEA has lost a lot of knowledge about what has happened inside Iran's nuclear programme over the past four years. This is why the IAEA Director-General never ceases to call on Iran to show transparency going beyond its present obligations. The argument is that confidence cannot be restored unless Iran opens up its books and shows everyone what has been going on over the last two decades.

The politics of verification

Iranian participants in the Pugwash were acutely aware of how important effective verification, as well as stringent monitoring, is to the solution of the Iranian nuclear issue. After all, the Iranian government never ceases to point out that all *declared* material is accounted for and in peaceful use. The safeguards system deployed at their uranium enrichment facility will detect very small deviations from declared quantities. VERTIC's last calculation, made in March 2009, indicated that any diversion of more than 48 grams of low enriched uranium would raise the alarm and trigger an in-depth investigation. Given that it takes about 25 kilograms of high enriched uranium to make a nuclear weapon, it will take many decades for Iran to divert enough material from declared facilities if they require full assurance that no alarms will be raised.

But the issue is not whether declared material has been diverted, rather it is whether all material has been declared and what Iran intends to do with the declared material later on. The first issue can be resolved through a re-application of the Additional Protocol. The second issue can only be resolved through intensive dialogue involving all relevant stakeholders in the region. Intrusive monitoring will give inspectors some knowledge about how materials are used, but it will not tell them *how materials are intended to be used*.

Some in the Pugwash dialogue made a strong case for a technical exchange, where nuclear scientists and engineers would sit down and discuss transparency related issues. The Iranian participants seemed to avoid this question altogether, arguing that the International Atomic Energy Agency would be the only institution they would be willing to talk to. However, side discussions made it clear that some Iranian participants believe that there could be benefits from normalized nuclear relations; in particular in

respect to safety cooperation. These individuals said that they could be willing to consider cooperation on technical and institutional safeguards, but that it was paramount that any cooperation does not hinder their technological progress. This, of course, is just another way of saying that Iran will not accept a suspension of its uranium enrichment programme.

It can be argued that there is a *structural confidence deficit* in Iran's intentions. It is not clear how this deficit can be eliminated. Clearly, suspension of Iran's enrichment activities would help. Today, however, there is virtually no incentive to discuss suspension. One participant in the Pugwash dialogue suggested that the UN Security Council lift all resolutions and focus their efforts on discussion Iran's future nuclear fuel cycle. This would in effect move the West's 'nuclear red line' so that it reflects Iran's current capabilities. The participant was fully aware that such a move would mean that the European Union and the United States would lose leverage and political capital if they decided to go along with his suggestion. The person's attitude is representative of entrenched positions on both sides of the table.

One Western participant held, quite strongly, that there is a need to look into alternatives to suspension, such as an upper limit on the number of installed centrifuges throughout Iran. Undeniably, some in the West would probably settle for a reapplication of the Additional Protocol. But it is less clear whether the United States or, for that matter, Israel would feel more assured by an Iranian move in that direction.

Potentials for reapplication

Can Iran be teased back into a provisional application of the Additional Protocol? Or better yet, could the Iranian parliament be convinced to ratify the agreement? It would seem like decision makers in Tehran know how important this instrument is for the IAEA's mission. At Pugwash' table, however, no one would step up and advocate effective verification as a part of the solution to the issue. Instead, any reapplication of the additional protocol seems to be tied to a set of Iranian demands. First and foremost the recognition that Iran should be allowed to continue to enrich uranium during negotiations with the West. Iran would also want to see some tangible offers on the table before even considering reapplication, in particular concrete moves towards normalization of relations with the United States.

Conclusion

A provisional application of the Additional Protocol opens up the scope for further informal investigations by the IAEA into Iran's past activities. Rather than being brought to the surface, these probes will form part of the initial verification of Iran's expanded declaration under the protocol. This is a lengthy process, which will be complicated by Iran's past violations under its safeguards agreement. But it will start the process of bridging the confidence gap; a gap that has existed for far too long.