
Iran's Nuclear Card

Gary Milhollin & Valerie Lincy

IT IS now clear that the Islamic Republic of Iran has been operating a string of secret nuclear sites in violation of the Nuclear Nonproliferation Treaty (NPT). In November, the International Atomic Energy Agency (IAEA), the world organization that is supposed to inspect nuclear sites, passed a resolution condemning Iran for its transgressions and threatening additional measures if it finds "further serious failures" in the country's adherence to the treaty's strictures. The United States pressed for even stronger action. The Europeans and the Russians resisted, and the issue will be revisited by the IAEA in March. The most significant question now at the fore is: what is Iran likely to do next?

Three possibilities present themselves. First, Iran could continue its policy of deception and concealment, which it has been following for the past two decades. Second, Iran could bring itself back into compliance with the NPT and give up its nuclear ambitions. Third, and somewhat paradoxically, Iran could bring itself into compliance with the NPT and still, thanks to loopholes in the treaty, try to develop nuclear weapons. Each course of action has its rewards, and each has its risks. Each also has enough in common with the others that, to an outside observer, it may be hard to discern which of them Iran has actually chosen.

GARY MILHOLLIN is the director, and VALERIE LINCY is a research associate, at the Wisconsin Project on Nuclear Arms Control in Washington, D.C.

LET US first consider option one. If Iran chooses deception and stays the course it has been on till now, it will be marching down the trail blazed by its neighbor Iraq. In 1990, at the moment when Saddam Hussein decided to invade and seize Kuwait, he was far along his way to getting the bomb. To achieve such extraordinary progress, Iraq had engaged in a protracted secret program, relying heavily on clandestine imports of raw materials and equipment. It imported uranium from Niger and Brazil and high-speed centrifuge technology and components from Germany to enrich the uranium up to nuclear-weapon grade. It experimented with lasers to enrich uranium. It also imported a small nuclear reactor, ostensibly for civilian research, and used it to generate gram quantities of plutonium, the second key nuclear-bomb fuel. It developed a shielded laboratory complete with "hot cells" for extracting the plutonium from the reactor fuel rods, which was necessary to put the plutonium into weapon-usable form.

Thus far, Iran has followed Iraq every step of the way. Tehran has relied extensively on clandestine imports of raw materials, like uranium compounds from China. It has imported centrifuge technology from Pakistan. It has a laser-research program. It also secretly used a small imported reactor to produce laboratory quantities of plutonium with "hot cells."

Like Iraq before it, Iran has undertaken elaborate measures of concealment to keep its violations

of the NPT from being discovered. After the first Gulf war, Iraq hid its nuclear facilities from inspectors by demolishing entire buildings and digging up floors to cover traces of forbidden activity. Much the same has been done by the Iranians as their own program has come to light. They have dismantled laser-enrichment equipment and moved it to a hidden storage site. They have sanitized a centrifuge workshop at the Kalaye Electric Company before inspectors could check it for evidence of uranium enrichment.

Though these particular efforts at concealment and deception have been discovered, the essence of the problem is that the IAEA does not know what it does not know. Iran may be continuing to develop the components of nuclear weapons in other, still hidden facilities. Even if inspectors are given free and unfettered access, searching a large country for covert activities can be a difficult if not impossible chore. That will be one factor Iran can bank on if it chooses option one.

BUT IT is also conceivable that Iran might abruptly change direction and choose the course of nuclear renunciation, the path unexpectedly taken by Libya in December. Following secret negotiations with the United States and Britain, Libya's strongman, Muammar Qaddafi, revealed that his country had a secret program for making nuclear-weapon material. Eager to end Western sanctions on his country, and perhaps fearful of the American display of power in Iraq, he pledged to open Libya to more thorough international inspections.

If Iran opts to follow this approach, it would lose the military advantage that it might get under option one. There would, however, be other benefits. Already something of a pariah in the world community, Iran would find itself welcomed back into the fold. Its immediate neighbors, as well as countries farther afield, would no longer regard it with quite so much fear and suspicion. Increased trade with Europe, Russia, and, perhaps, even the United States might be a result. The rising danger of an Israeli or an American preemptive attack on its nuclear facilities, and the risks of a wider war against a superpower, would be obviated.

But Iran's leaders might also consider yet another, third approach. They could attempt to come clean about all of their past illicit activities, bring their country into compliance with the provisions of the NPT, and, within the framework of international law, work on building a nuclear bomb by *legal* means.

Iran's membership in the NPT gives it the right

“to develop research, production, and use of nuclear energy for peaceful purposes.” The treaty also allows “the fullest possible exchange of equipment, materials, and . . . information for the peaceful uses of nuclear energy.” Thus, Iran can legally build or import any sort of nuclear plant it wants as long as it can plausibly assert that it is doing so for “peaceful” purposes, and as long as it allows the IAEA to track any nuclear material the plant produces.

To take advantage of these provisions, Iran would have to cure its existing violations of the NPT. The first step here would be to provide a comprehensive picture of its nuclear efforts, revealing all sites where secret work has taken place, and identifying its foreign suppliers. The IAEA would then attempt to verify Iran's story, scrutinizing it in conjunction with the data it has gathered independently.

If Tehran truthfully recounted everything it had done, the IAEA would have no grounds to refuse the country a clean bill of nuclear health. Freed to continue in the open, Iran could try to import or build all the nuclear equipment it needs for its “civilian” program and to operate existing facilities that have fallen under suspicion—all subject to IAEA inspections.

For example, in its centrifuges at Natanz, Iran would be able to increase the fissile content of uranium to approximately 3.5 percent, which is the level of enrichment needed to fuel the 1,000-megawatt light-water power reactor that Russia is building at Bushehr. Having uranium enriched to this level, however, would bring Iran within months of being able to enrich it further to weapon-grade. Iran could also complete its heavy-water plant and build its planned 40-megawatt reactor at Arak, declaring that these are intended for medical and industrial research. The “hot cells” at the Arak reactor, where weapon-usable plutonium might be extracted from the reactor's spent fuel rods, could be justified as necessary for the production of various medically and industrially useful radioisotopes.

WHICH OF the three paths is Iran likely to take? Continuing to seek a bomb by means of out-and-out deception is likely to prove a difficult course. Iranian officials have attempted to explain how particles of low- and high-enriched uranium came to be found by international inspectors. The Iranians claim that they themselves did not engage in forbidden uranium enrichment; the suspicious particles, they say, were on used equipment that had been imported from abroad. The IAEA is now

studying this explanation, which might well be proved false.

The IAEA will also soon have the opportunity to inspect the dismantled equipment that Iran has used to extract plutonium. This investigation could likewise prove that Iran did more nuclear work than it has admitted. If Iran gets caught in further lies, the IAEA's governing board may take harsher action than it did in November. It could refer Iran to the UN Security Council, where sanctions might result. Russia could be forced to stop work on the \$800-million Bushehr reactor. The European Union might cut back or even end its trade relations with Iran. The United States might threaten the use of force. In short, deception might bear a stiff cost. Iran might still seek to obtain a bomb by this route—and might even be successful—but the risks incurred would be high.

ALTERNATIVELY, IF Iran were to embrace the Libyan path of open renunciation (assuming that Muammar Qaddafi is not engaged in a deception of his own), it would run up against serious liabilities of another kind. To convince the world it was serious, Iran would have to give up all its plants capable of making nuclear-weapon material. This would mean writing off a large investment.

First, it would need to demolish its flagship uranium-enrichment plant at Natanz, together with the approximately 1,000 high-speed gas centrifuges it contains. Iran would also have to scrap all of the specialized machinery needed to manufacture and assemble the centrifuges, plus a new plant being built at Isfahan to produce the gaseous form of uranium processed by the centrifuges. Finally, Iran would have to junk the imported lasers it has used to enrich small quantities of uranium, and then it could shutter its uranium mines; they would be superfluous.

Iran would also have to dispense with its plutonium-production facilities. The heavy-water plant at Arak would have to be abandoned, along with plans to build a 40-megawatt reactor at the same location. Iran would also have to forswear building any facilities that could extract plutonium from spent reactor fuel, including the fuel coming out of the reactor at Bushehr. It would have to agree that all of the fuel at Bushehr would be returned to Russia after use.

The financial loss would be heavy; but that might be the least of it. The power of the present regime in Tehran rests in no small measure on its ability to kindle national pride. Defiance of the international community has been a key means to that end. So has the acquisition of military power.

Renouncing a chance to get the bomb would diminish the regime in the eyes of its most fervent followers, and could even hasten its demise. Thus, such a step hardly seems likely, especially now when the world is far from ready to force Iran's hand.

WHICH BRINGS us once again to the third option. Running its program in full compliance with the NPT might well enable Iran to have things both ways. True, intrusive inspections would remain in place, but that major disadvantage would be offset by even more valuable advantages. Not only would the Iranians get to retain their existing nuclear infrastructure, they would be able to augment it.

Iran would be perfectly free to manufacture and assemble centrifuges at Natanz, free to complete and operate the uranium conversion plant at Isfahan, and free to go forward with the planned heavy water plant and reactor at Arak. The centrifuges at Natanz would give Iran enough enriched uranium to fuel a bomb within a year or so of commencing operation.

Iran would also be free to complete the Russian-supplied reactor at Bushehr. Despite what Iran may say, it does not need this facility to produce electricity. Iran is extremely rich in fossil fuels. It currently "flares"—i.e., wastes—natural gas in quantities equal to the output of four Bushehr reactors. At a cost of \$800 million, Iran will be paying far more per kilowatt for electricity from Bushehr than it does for electricity generated by its own copious supply of oil. Worse, Bushehr will be fueled by a foreign supplier, fostering energy dependence rather than independence.

But, of course, Iran does not really want the Bushehr reactor to produce electricity. Its real purpose is to serve as a screen behind which to obtain technology. Such deals are common in the nuclear business. The buyer of an expensive item (like a reactor) enjoys tremendous financial leverage, enough to exact "sweeteners" as part of the exchange. These tend to take the form of sensitive equipment that would not be sold on its own because of its bomb-making potential. Mutual interests are thus served. In the case of Iran and Russia, the former gets some of the technology it wants along with a measure of Russian political support in the IAEA and UN; the latter gets an infusion of cash into its starved nuclear sector. Thus the Bushehr reactor, in the words of one American diplomat, is a "giant hook in Russia's jaw."

Under the eyes of IAEA inspectors, it would ad-

mittedly be difficult for Iran to use this facility or its byproducts to produce nuclear weapons. But Iran would still gain access to advanced equipment, and its scientists would be acquiring ever more experience working with nuclear material.

Taken together, the things Iran could do legally under the NPT amount to a “breakout” capability. At a convenient moment, Iran could renounce the NPT, eject IAEA inspectors, and use the technology it has acquired to build the bomb as swiftly as possible. This would be perfectly legal. The treaty allows any member to drop out on three months’ notice.

What the United States and the world would do

in those circumstances remains unclear. But Iran is undoubtedly aware of an important precedent—this time not from neighboring Iraq but from far-away East Asia. In 1985, North Korea promised to renounce its nuclear ambitions and adhere to the NPT. In late 2002, North Korea renounced the treaty, ejected IAEA inspectors, and asserted its right to build the bomb. Estimates now credit Pyongyang with at least two and perhaps eight nuclear warheads. Thus far, the response of America and the rest of the world has been to observe, to protest, and to get used to the fact that yet another menacing country has acquired nuclear weapons.