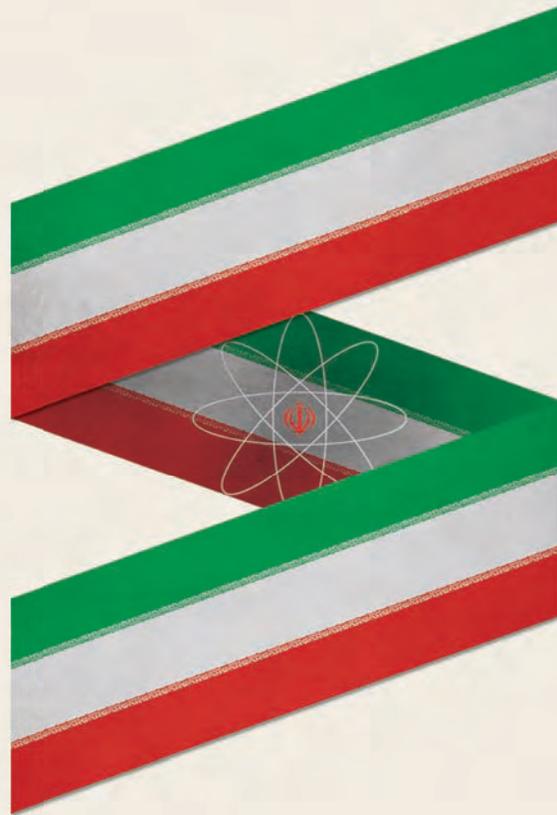


MEETING THE CHALLENGE

U.S. POLICY TOWARD IRANIAN NUCLEAR DEVELOPMENT



REPORT OF AN INDEPENDENT TASK FORCE SPONSORED BY THE BIPARTISAN POLICY CENTER

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SEPTEMBER 2008

A PROJECT OF





BIPARTISAN POLICY CENTER

The development of nuclear weapons capability by the Islamic Republic of Iran is one of the most critical national security challenges facing the United States. Over the past months, we co-chaired a bipartisan group charged with reaching consensus on a set of recommendations for U.S. policy toward the Islamic Republic's nuclear development. The group was convened by the Bipartisan Policy Center (BPC), a new institution in Washington devoted to crafting prudent policy solutions to complex problems and, then, working to implement them. In the years we have spent in government, we learned that matters of such grave national importance must be met with thorough analysis, sober deliberation, and bipartisan cooperation.

After much deliberation, we have arrived at a series of findings and policy recommendations that we believe to be realistic, prudent and comprehensive. We have also elected to include a primer on the complex historical, political, social, economic, military, legal and technological issues that underlie and influence the current situation. We present this report to help inform public opinion, provide a comprehensive source of information for policymakers, advise the next president and his administration, and, above all else, avoid what we believe would be a strategically transformative event—Iranian acquisition of nuclear weapons capability.

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DISCLAIMER

This report is the product of a bipartisan Task Force of eleven members with diverse expertise and affiliations. Consensus was difficult. No member may be satisfied with every formulation in the report, or any given recommendation if in isolation. We have reached consensus on the report and recommendations as a package, which taken as a whole offers a balanced and comprehensive approach.

The findings and recommendations expressed herein are solely those of the Task Force and do not necessarily represent the views or opinions of the Bipartisan Policy Center, its Advisory Board, or its Board of Directors.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

A nuclear weapons-capable Islamic Republic of Iran is strategically untenable. This report is about preventing the untenable.

I. INTRODUCTION

While a peaceful, civilian nuclear program in Iran might be acceptable under certain conditions—including an external source of nuclear fuel and a stringent safeguards and inspections regime—it is the decided judgment of this group that continued Iranian enrichment of uranium and ineffectively monitored operation of the light water reactor at Bushehr threatens U.S. and global security, regional stability, and the international nonproliferation regime. As a new president prepares to occupy the Oval Office, the Islamic Republic's defiance of its Non-Proliferation Treaty safeguards obligations and United Nations Security Council resolutions will be among the greatest foreign policy and national security challenges confronting the nation.

A NUCLEAR WEAPONS-CAPABLE ISLAMIC REPUBLIC OF IRAN IS STRATEGICALLY UNTENABLE.

We believe a realistic, robust, and comprehensive approach—incorporating new diplomatic, economic and military tools in an integrated fashion—can prevent Iran from acquiring nuclear weapons capability. This comprehensive approach should feature a new diplomatic strategy underpinned by carefully calibrated financial and military leverage. We agree successful resolution of the Iranian problem requires laying a strong strategic foundation that consists of coordinating with our allies and other international players, building adequate diplomatic, financial and military leverage and then strategically applying such leverage within the context of diplomatic engagement. There are no magic formulas or silver bullets that will resolve this grave challenge easily, and all courses of action or inaction carry serious tradeoffs. Instead, the Iranian threat requires a serious bipartisan

strategy that is coordinated with our allies, addresses concrete realities and advances U.S. national security.

II. FINDINGS

Threat

Iran's nuclear development may pose the most significant strategic threat to the United States during the next Administration. A nuclear-ready or nuclear-armed Islamic Republic ruled by the clerical regime could threaten the Persian Gulf region and its vast energy resources, spark nuclear proliferation throughout the Middle East, inject additional volatility into global energy markets, embolden extremists in the region and destabilize states such as Saudi Arabia and others in the region, provide nuclear technology to other radical regimes and terrorists (although Iran might hesitate to share traceable nuclear technology), and seek to make good on its threats to eradicate Israel. The threat posed by the Islamic Republic is not only direct Iranian action but also aggression committed by proxy. Iran remains the world's most active state sponsor of terrorism, proving its reach from Buenos Aires to Baghdad.

IRAN'S NUCLEAR DEVELOPMENT MAY POSE THE MOST SIGNIFICANT STRATEGIC THREAT TO THE UNITED STATES DURING THE NEXT ADMINISTRATION.

Even if Tehran does not actually build or test a nuclear weapon, its establishment of an indigenous enrichment capability places the region under a cloud of ambiguity given uncertain Iranian capacities and intentions. Such ambiguity will give the Islamic Republic a *de facto* nuclear deterrent, which could embolden it to reinvent its

export of revolution and escalate support for terrorist groups. We note with concern that the Russian contingent at Bushehr is expected to increase substantially.

We do not believe that analogies to Cold War deterrence are persuasive, and its proponents appear to us to have underestimated the difficulties of applying it to Iran. First, nuclear deterrence was less effective than commonly assumed; the United States and Soviet Union nearly stumbled into nuclear conflict on several occasions. Secondly, the Islamic Republic's extremist ideology cannot be discounted. While most Iranians care little for the theological exegesis of their rulers, the nuclear program remains within the grasp not of the President, a transient figure in Iran's power structure, but rather with the Islamic Revolutionary Guards Corps and the Office of the Supreme Leader, proponents of extreme ideologies.

**WE DO NOT BELIEVE THAT
ANALOGIES TO COLD WAR
DETERRENCE ARE PERSUASIVE.**

Achieving nuclear capability would make the Islamic Republic not only a regional threat, but also an international one. A nuclear Islamic Republic would, in effect, end the Non-Proliferation Treaty security regime. Many, if not most, regional states might feel compelled to develop their own indigenous nuclear capability or accept coverage from another state's nuclear umbrella. Given historical instability in the region, the prospects of a nuclear Middle East—possibly including Iran, Saudi Arabia, Egypt, and Turkey—are worrying enough, even before the proliferation cascade continues across North Africa and into Southern Europe. Iran's continued nuclear development also endangers global non-proliferation by exposing weaknesses in the Non-Proliferation Treaty and the inability or unwillingness of the international community to enforce the Non-Proliferation Treaty or United Nations resolutions on non-proliferation.

State of Play

While we agree that diplomacy should underlie U.S. strategy, we also acknowledge that the current U.S. and European diplomatic approach and several United Nations Security Council resolutions have not succeeded in stopping Iran from developing its nuclear capacity. Since exposure of its clandestine enrichment program in 2002, the International Atomic Energy Agency (IAEA) has found that the Iranian government has installed 4,000 centrifuges in a facility designed to hold 50,000. We recognize that IAEA inspections are insufficient. By the IAEA's own mandate, the organization can only inspect declared nuclear facilities. Even if Iranian authorities are discovered to have constructed parallel but clandestine enrichment facilities, IAEA inspectors would not necessarily be authorized to monitor them without Iranian consent. In addition, much of the Iranian enrichment debate overlooks the possibility that Iranian officials could produce plutonium in their heavy water plant at Arak or divert nuclear material from spent reactor fuel, whether from Bushehr, Arak or other nuclear plants.

**WE ALSO ACKNOWLEDGE THAT
THE CURRENT U.S. AND EUROPEAN
DIPLOMATIC APPROACH AND SEVERAL
UNITED NATIONS SECURITY COUNCIL
RESOLUTIONS HAVE NOT SUCCEEDED
IN STOPPING IRAN FROM DEVELOPING
ITS NUCLEAR CAPACITY.**

While the 2007 National Intelligence Estimate reported that Iran suspended warhead design work in 2003, the National Intelligence Estimate does not leave room for comfort. Its artificial separation between military and civilian technology contradicts a reality where such distinctions cannot be made. Despite Tehran's protestations, we do not believe its program is inherently peaceful in nature. Tehran has a long record of cheating and

EXECUTIVE SUMMARY

deception, and its extensive, if neglected, pipeline infrastructure suggests that Iranian officials would have far greater energy security had they invested a fraction of their nuclear program's cost in further development of their natural gas fields and facilities, refinery construction and distribution network. Accordingly, we reject the Islamic Republic's claim that its nuclear program is motivated only by energy concerns.

WE BELIEVE THAT A NEW AND COMPREHENSIVE DIPLOMATIC STRATEGY, WITH CALIBRATED FINANCIAL AND MILITARY LEVERAGE, WILL BE THE NEXT ADMINISTRATION'S BEST OPTION.

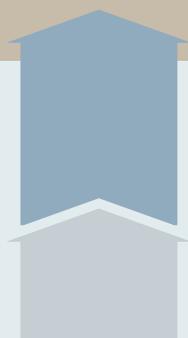
We also agree that the Iranian government's legal argument that the Non-Proliferation Treaty allows its current nuclear development is not credible. The IAEA found that the Islamic Republic is not compliant with its Non-Proliferation Treaty safeguards agreement and four United Nations Security Council Resolutions demanded cessation of Iranian uranium enrichment.

Commonly Discussed Solutions Won't Work

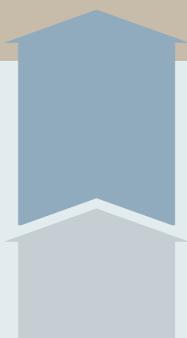
Too often policymakers and commentators discuss strategy in isolation, segregating diplomacy, economic sanctions, and military options. As a result, recent U.S. and international diplomatic efforts have lacked both a comprehensive strategy and vigorous execution, and have in any case been met by Iranian defiance. We believe this is unwise, as only a realistic, robust, comprehensive approach can succeed. The strategy we lay out focuses as much on what the United States must do to prepare for negotiations with the Islamic Republic as on the nature and objectives of these negotiations. The Iranian challenge permits no magic formula to allow the new president to pull one policy lever at a time. Any U.S. strategy

DIME PARADIGM

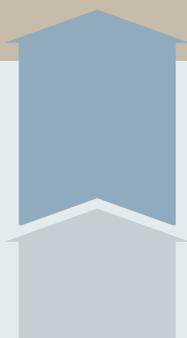
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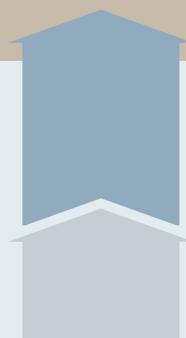
**DIPLOMATIC
STRATEGIES**



**INFORMATIONAL
STRATEGIES**



**MILITARY
STRATEGIES**



**ECONOMIC
STRATEGIES**

should uphold the DIME paradigm and incorporate simultaneous diplomatic, informational, military, and economic strategies.

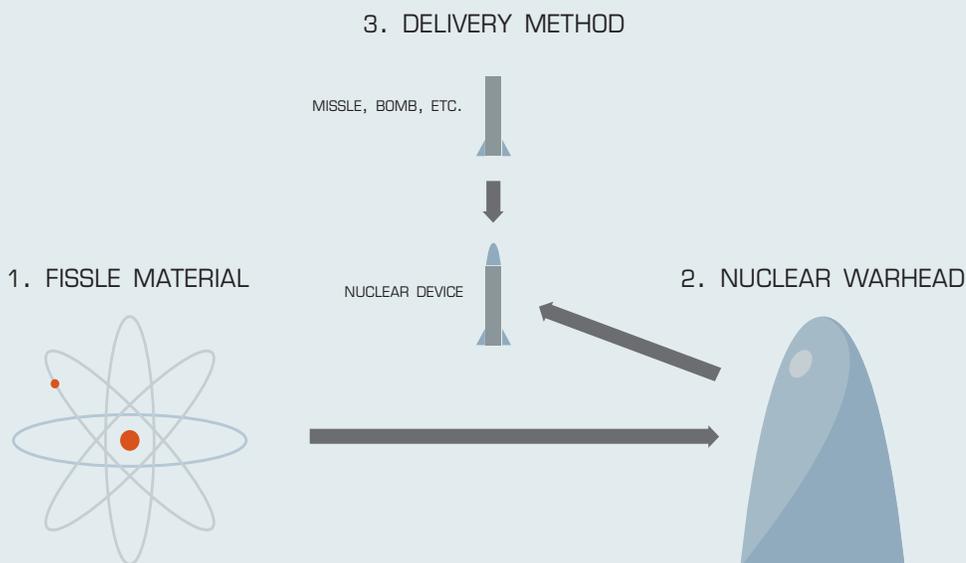
UNDER CERTAIN CONDITIONS, IT WOULD BE TECHNICALLY POSSIBLE FOR THE ISLAMIC REPUBLIC TO ENRICH 20 KILOGRAMS OF HIGHLY ENRICHED URANIUM IN FOUR WEEKS OR LESS.

There are no risk-free solutions. The current diplomatic approach has not succeeded. Iran has crossed various red-lines that the United States and the international community have set down, thereby eroding Iranian credibility as well as ours. There is ample evidence that Iranian leaders have accelerated their defiance of international norms even as the European Union, United

States, and other powers have improved their incentive packages. The 2007 National Intelligence Estimate's finding that the Islamic Republic maintained a nuclear weapons program until 2003 coincides with the European Union's period of critical engagement and former Iranian president Mohammed Khatami's call for a "Dialogue of Civilizations." Indeed, we specifically note the admission of Khatami's former spokesman, Abdollah Ramezanzadeh, on June 15, 2008, that a strategy of insincere dialogue provided cover for the Islamic Republic to import technology used to further the Islamic Republic's covert nuclear program. We also note Tehran's rejection of guarantees of nuclear fuel and enrichment outside the Islamic Republic, both of which would meet the needs of any program motivated solely by energy concerns.

Nevertheless, it is not too late for diplomacy to succeed. However, we believe it would be a mistake to acquiesce to Iran's demand that it be permitted to enrich uranium under international inspections in Iran. Given the

THREE COMPONENTS OF A NUCLEAR DEVICE



MINIMUM: ~20KG, OR LESS, OF 93.1% ENRICHED URANIUM U-235
~6KG, OR LESS, PLUTONIUM P-239

EXECUTIVE SUMMARY

Islamic Republic's history of nuclear deception and its ambition to obtain nuclear weapons and the limits of IAEA safeguards and procedures, we see no combination of international inspections or co-ownership of enrichment-related facilities inside Iran that could provide meaningful assurance to the international community that such facilities will not contribute to the nuclear weapons capability that Iran seeks. Given that Iranian officials have thus far shown themselves uncooperative in open-ended diplomatic processes and that the Islamic Republic is already on its way to nuclear weapons capability, any diplomatic engagement must occur within a predetermined, short-term, specified timeframe.

There are three components to a nuclear weapon—the actual explosive device, delivery method, and fissile material—the latter of which is the most technically difficult to develop and most crucial to nuclear weapons capability. Therefore, we take “nuclear weapons-capable” to mean possession of 20 kilograms of highly enriched uranium or roughly 6 kilograms of plutonium, both conservative estimates of how much fissile material is necessary for a crude nuclear device. According to a study commissioned by this Task Force, under certain conditions, it would be technically possible for the Islamic Republic to enrich 20 kilograms of highly enriched uranium in four weeks or less; this could easily occur between IAEA inspections and make it difficult for the IAEA to detect. If nothing else, Tehran's progress

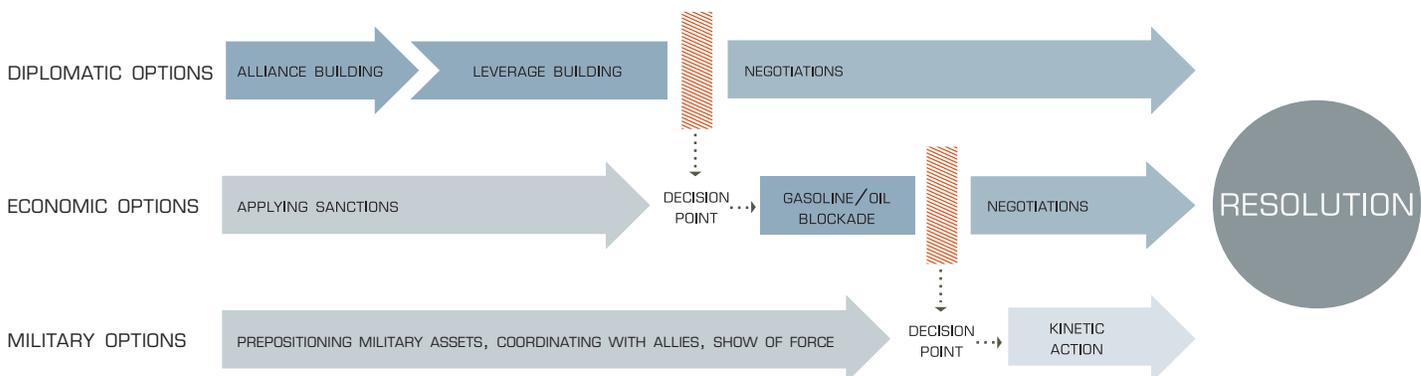
means that the next administration might have little time and fewer options to deal with this threat.

However, it is not too late for sanctions and economic coercion to work. Despite near record oil prices, Iran's economy remains weak. While the United States, its European partners, and the United Nations have imposed some sanctions upon Tehran, each has a range of more biting financial tools at their disposal.

We recognize that a military strategy poses many difficult challenges. The U.S. military is capable of launching a devastating strike on Iran's nuclear and military infrastructure—probably more decisively than the Iranian leadership realizes—and could set back significantly the Islamic Republic's nuclear program. However, unless sustained by repeated strikes against rebuilt or newly-discovered sites over a period of years, military action alone is likely only to delay Iranian nuclear development while entailing risks of retaliation and regional destabilization which could quickly escalate to full scale war.

**IT IS NOT TOO LATE FOR
SANCTIONS AND ECONOMIC
COERCION TO WORK.**

RECOMMENDED U.S. POLICY TOWARDS IRAN'S NUCLEAR PROGRAM



III. RECOMMENDATIONS

We believe that a new and comprehensive diplomatic strategy, with calibrated financial and military leverage, will be the next administration's best option. We seek a diplomatic solution to the Iranian challenge, involving Washington's direct engagement with Tehran, but only under the right conditions. We also recognize that a new President might need to turn to less optimal solutions if diplomacy fails within a reasonable timeframe. This report is concerned primarily with the resolution of American and international concerns with Iranian nuclear development. While a "grand bargain" resolving all issues between Washington and Tehran would be an attractive outcome, the United States does not have the luxury of time given the intractability of issues and the Iranian government's decision to accelerate its nuclear program.

Close coordination and allied support is critical to build the strength and leverage necessary for a viable diplomatic solution. Thus, before we can begin talking directly to the Iranian leadership, there are a number of steps that we must take to build leverage to use against Iran and coordinate more closely with our allies and other international players.

THE EUROPEANS MAKE WAR MORE LIKELY IF THEY DO NOT STRENGTHEN SANCTIONS AGAINST IRAN AND EFFECTIVELY END ALL COMMERCIAL RELATIONS.

Alliance-Building

First, the new President should clarify to the Europeans that only by standing firmly together diplomatically and ratcheting up the pressure on the Islamic Republic can we improve the chance to avoid more robust action. The Europeans make war more likely if they do not strengthen sanctions against Iran and effectively end all commercial relations.

Secondly, the White House will need to make every effort to convince regional allies like Saudi Arabia and the Persian Gulf emirates to pressure China and, eventually, Russia to join the United States in ratcheting up the diplomatic pressure on Tehran, both to achieve United Nations Security Council consensus and to assuage European concerns that Moscow and Beijing seek to capitalize on European commercial disengagement. (Of course, the conflict in Georgia has made Russian cooperation more challenging.) Given increasing demand for Middle Eastern oil and gas, especially in East and South Asia, states such as Saudi Arabia and Qatar have unique leverage over China and India.

SO LONG AS TEHRAN FEELS CONFIDENT THAT IT ENJOYS MOSCOW'S SUPPORT AND PROTECTION, THE LIKELIHOOD OF A DIPLOMATIC SOLUTION TO THE IRANIAN CRISIS DIMINISHES.

Such a strategy will not be easy to implement, but it is necessary to pursue. To be successful, though, and to signal how deeply the United States prioritizes resolution of the Iran conflict, Washington should initiate and sustain dialogue with regional rulers at a presidential, vice presidential or national security advisor level. In addition, the urgency of the challenge suggests that, upon their election, representatives of the new administration, with the blessing and cooperation of the current administration, might quickly begin the necessary outreach to U.S. allies. The Islamic Republic and the international community should both understand that U.S. policymakers will not sacrifice months of increasingly limited time during a transition between administrations.

Third, so long as Tehran feels confident that it enjoys Moscow's support and protection, the likelihood of a diplomatic solution to the Iranian crisis diminishes. The United States must prioritize its effort to motivate

Russia to step up its support for international efforts to pressure Iran to abandon its quest for nuclear weapons. One point of friction between the United States and Russia is the U.S. initiative to install missile defenses in Eastern Europe. The United States insists that these defenses are directed against the emerging nuclear and missile threat from Iran. Moscow, however, has strongly objected to U.S. missile defense in the Czech Republic and Poland on grounds that they pose a threat to Russia. The United States should make clear to Moscow that operationalization of the initial missile defense capability, as well as any future expansion of it, will depend on the evolution of the nuclear and missile threat from Iran. Should Russia contribute to successful international efforts to restrain the Iranian threat, it will lessen the need to further develop and expand missile defenses in Europe.

Another potential source of U.S. leverage over Russia relates to bilateral nuclear cooperation. Such cooperation is potentially valuable to Russia, not only with respect to commerce with the United States in nuclear goods and technology, but also with respect to the possible storage or reprocessing in Russia of U.S.-origin spent nuclear fuel. By some estimates, Russia could earn in excess of ten billion dollars from the handling of such spent nuclear fuel. In order for U.S.-Russian nuclear cooperation to proceed, it is necessary for a bilateral agreement pursuant to section 123 of the Atomic Energy Act (a so-called “123 Agreement”) to enter into force. The Bush Administration submitted such an agreement to Congress for review on May 13, 2008. Many members of Congress have spoken out against this agreement because they believe it is premature to extend the benefits of nuclear cooperation with the United States to Russia so long as Russia is not doing more to contain the Iranian nuclear threat. It is unclear whether Congress will act to block entry into force of this agreement, and even if it does not, Congress may adjourn for the year before the agreement can enter into force in 2008 under the procedures of the Atomic Energy Act. Even if the agreement enters into force, however, the United States should condition the delivery to Russia of substantial financial benefits under this agreement (e.g., from the storage of U.S.-origin spent

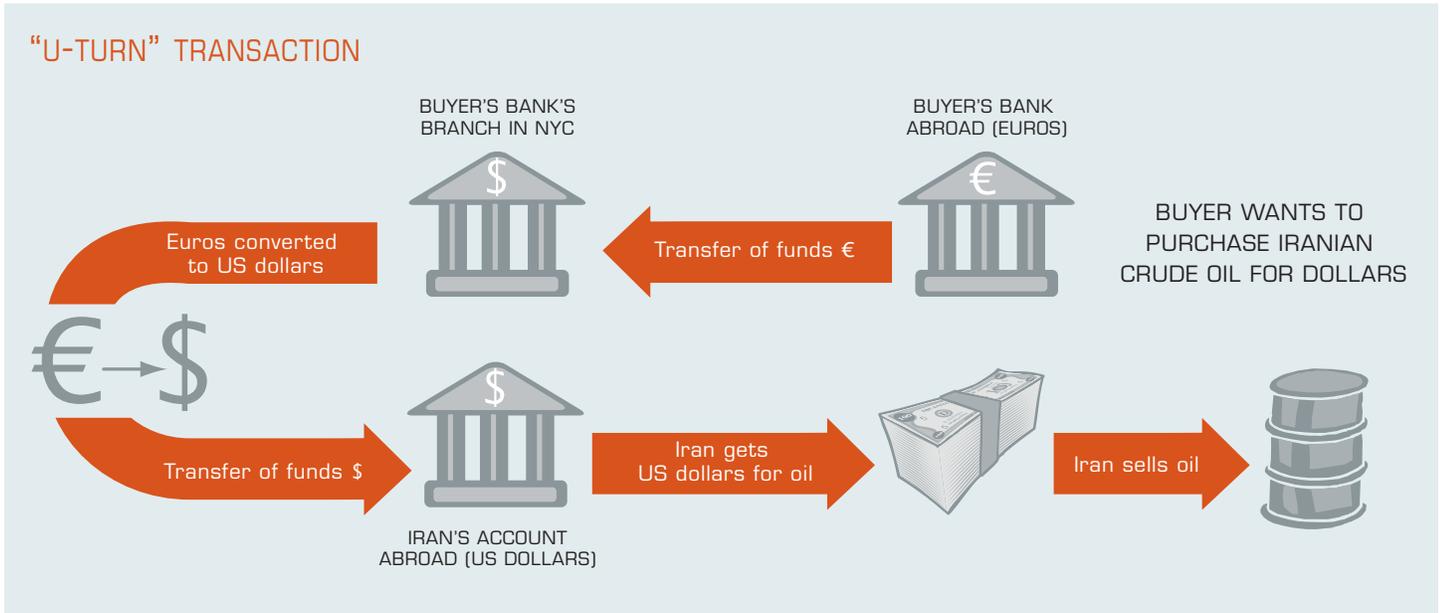
nuclear fuel) on fuller diplomatic cooperation by Russia with regard to Iran. Such cooperation should include not only support for tougher sanctions on Iran in the U.N. Security Council, but also the denial of additional assistance to Iran’s nuclear and missile programs and advanced conventional weapons to Iran.

ONLY IF ISRAELI POLICYMAKERS BELIEVE THAT U.S. AND EUROPEAN POLICYMAKERS WILL ENSURE THAT THE ISLAMIC REPUBLIC DOES NOT GAIN NUCLEAR WEAPONS WILL THE ISRAELIS BE UNLIKELY TO STRIKE IRAN INDEPENDENTLY.

Additionally, the next President should maintain a constant dialogue with Israel. U.S. policymakers must recognize the grave and existential danger that the Islamic Republic poses to Israel. Believing its existence threatened, Israel could feel compelled to launch a strike to deny the Islamic Republic nuclear weapons capability. We recognize that Israeli politicians do not believe that a nuclear Iran can be contained. Only if Israeli policymakers believe that U.S. and European policymakers will ensure that the Islamic Republic does not gain nuclear weapons will the Israelis be unlikely to strike Iran independently. It will be up to the President to consult with Israel and provide sufficient assurance so that they do not feel compelled to undertake unilateral action.

Leverage Building

To build additional leverage, states and international organizations should apply both unilateral and multi-lateral sanctions before and during any diplomatic rapprochement. These can be lifted as Iranian officials comply with their obligations. Such sanctions should include not only further broad UN Security Council resolutions, but also more targeted sanctions against Iran’s financial and energy sectors. When considering



sanctions, the next President will need to decide whether to target them to specific individuals and industries or more broadly across Iranian society in order to encourage domestic pressure on the Iranian leadership.

Fortunately, the next U.S. administration has many financial tools at its disposal. The U.S. Treasury Department's quiet diplomacy with European banks should continue. Many European banks and companies have stepped back from operations in Iran when confronted with evidence of the Islamic Republic's deceptive financial practices. Washington should press for expansion of sanctions upon Iran's banking sector. Even without European acquiescence, the next occupant of the Oval Office should consider applying Section 311 of the U.S.A. Patriot Act to designate additional Iranian banks up to and including Bank Markazi, the central bank, because of their involvement in deceptive financial practices. Such action would, in effect, remove Iranian banks from the international financial stage. Negotiations could commence immediately to achieve greater transparency in Iranian financial dealings.

Closing existing U.S. and international sanction regime loopholes, through which Iran can procure technology and equipment for its energy sector is as important as

utilizing new financial tools against the Islamic Republic. For example, Washington should end the provision in U.S. trade regulations that allows subsidiaries of U.S. corporations to conduct relatively normal trade with Iran. Under U.S. trade law, subsidiaries are incorporated under the laws of the country in which they are located, and therefore are not bound by the provisions of the 1995 Executive order (12957) banning U.S. trade with and investment in Iran. Therefore, U.S. subsidiaries can, without violating U.S. law, export to Iran oil drilling equipment and other goods that contradict the intent of U.S. policy, which is to deny the Islamic Republic the means to develop and exploit its energy sector. The group therefore supports initiatives, such as those in pending legislation, to apply to U.S. subsidiaries all provisions of the trade and investment ban as if they were U.S. corporations.

CLOSING EXISTING U.S. AND INTERNATIONAL SANCTION REGIME LOOPHOLES IS AS IMPORTANT AS UTILIZING NEW FINANCIAL TOOLS AGAINST THE ISLAMIC REPUBLIC.

THE PRESIDENT WILL NEED TO BALANCE ANY OFFER OF NEW INCENTIVES WITH THE KNOWLEDGE THAT IRANIAN OFFICIALS MAY SEE SUCH OFFERS AS WEAKNESS TO EXPLOIT.

Another loophole is that there is no time limit in the Iran Sanctions Act for any administration to determine whether an investment in Iran's energy sector is a violation of the Act. Because of this loophole, no determinations have been made as to whether at least a dozen major investments in Iran since 1999 constitute sanctionable violations.

A third loophole involves re-exportation of U.S. goods. Under the 1995 U.S. trade ban, knowingly re-exporting U.S. goods to Iran is prohibited. Implementation, however, depends on enforcement, which has been lax, due at least in part to resource constraints. The Commerce Department should deploy a greater number of export control officers to well known hubs for re-export of U.S. goods to Iran such as Dubai.

Diplomatic Engagement

Embarking upon a diplomatic solution with Iran will force a number of additional policy decisions. First, there is a question about what incentives the United States, Europe, and the international community will present to the Islamic Republic to encourage its compliance. We believe that the incentives already offered to Iran—an end to isolation, spare parts for its aging aircraft fleet, upgrades for its domestic oil and gas production, political cooperation—should remain part of any future package. Calibrating lifting of sanctions with Iranian compliance is another incentive, as are potential security guarantees and assurances. The President will need to balance any offer of new incentives with the knowledge that Iranian officials may see such offers as weakness to exploit. Both the Iranian regime and other potential proliferators

may also interpret willingness to offer new incentives as rewards for Iran's defiance.

Second, the new President will need to determine whether to maintain the policy of the Bush Administration and the EU-3 against negotiating with Tehran over the nuclear issue unless the Islamic Republic suspends its enrichment-related activities, or drop this precondition to negotiations. Any formal dialogue with Iran absent suspension of enrichment could backfire: Not only would the United States implicitly void all UN Security Council resolutions demanding a cessation of Iranian uranium enrichment, but Iranian authorities are likely to interpret U.S. flexibility as acquiescence to the Iranian position that it must be permitted to enrich—all the more reason to increase multilateral sanctions as any new incentives are contemplated.

IT MUST BE CLEAR THAT ANY U.S.-IRANIAN TALKS WILL BE LIMITED TO A PRE-DETERMINED TIME PERIOD SO THAT TEHRAN DOES NOT TRY TO 'RUN OUT THE CLOCK.'

Should the new President decide, however, that the only way to test Tehran's seriousness about resolving the nuclear dispute is to drop all preconditions to negotiation, several principles should be observed: First, the United States should only enter negotiation from a position of strength. This means that the United States must act in concert and with the full support of its Allies. It must be able to show either that it and its Allies have already ratcheted up economic pressure on Iran, or are prepared to do so in a meaningful manner should the Islamic Republic not agree to abandon its quest for nuclear weapons. Second, it must be clear that any U.S.-Iranian talks will not be open-ended, but will be limited to a pre-determined time period so that Tehran does not try to 'run out the clock.'

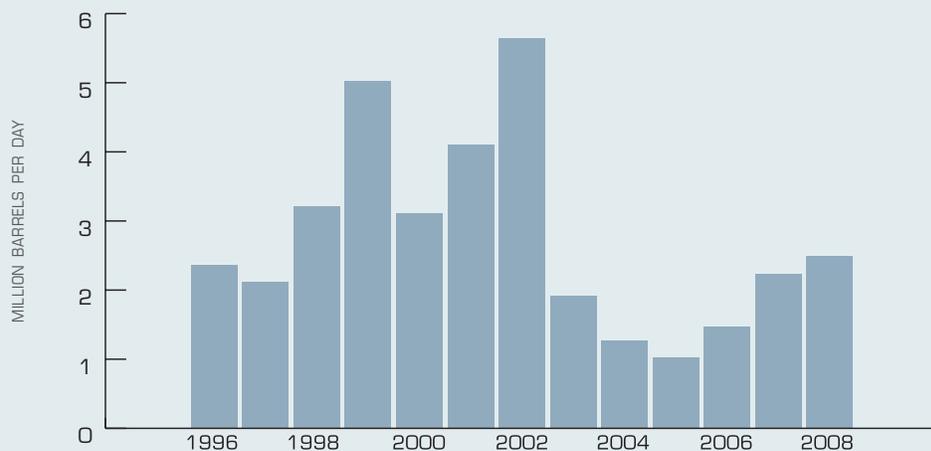
IRANIAN PRODUCTION AND CONSUMPTION OF PETROLEUM PRODUCTS



IRANIAN CRUDE OIL EXPORTS AND REVENUE (1989-2007)



OPEC SPARE CRUDE OIL PRODUCTION CAPACITY



(Source: EIA, Short-Term Energy Outlook)

We believe that an intensive diplomatic effort of this kind is necessary to demonstrate a united front and create new leverage against Iran. Direct negotiations with the Iranian regime can only succeed if we receive the cooperation needed by European allies, as well as key Persian Gulf countries, China, and India.

THE UNITED STATES SHOULD ONLY ENTER NEGOTIATION FROM A POSITION OF STRENGTH.

If Diplomacy Does Not Succeed

Should diplomatic engagement not achieve its objectives within the set timeframe, the next President must turn to more intensive sanctions. While the most effective sanctions would target Iran's oil and gas industries—Tehran's chief source of income—the new President will need to balance the need for effective strategies with real

world political and economic concerns about any action that would significantly impact the supply and price of oil. Some have proposed an embargo of gasoline exports to Iran but, in practice, there are too many suppliers to enforce fully without a blockade. However, even a partially effective embargo might have a psychological impact on the Iranian people, representing a cost for the Iranian leaders. An actual blockade of Iranian gasoline imports would have a much greater impact since, despite rationing, the Islamic Republic still must import about 25 percent of its refined petroleum needs, the majority of which enters Iran through sea ports. The Iranian regime feels vulnerable about its stability and a tighter rationing of gasoline or a spike in gasoline prices would likely spark further social discontent and political upheaval. Blockading Iranian gasoline imports would be a significant measure, and should only be employed should diplomatic engagement fail in its objectives. Should a blockade of gasoline imports not persuade Tehran, the next President would want to consider extending the blockade to Iran's oil exports, thus cutting off the source

of 80 percent of the government's revenue. A blockade of Iran's current two million barrels per day of oil exports would likely be the last sanction possible prior to an escalation into military action. It might prove crippling to the Iranian government, but it could only be imposed for a very short period of time given the consequences it would have on the oil market, various net energy-importing countries and the global economy. Estimates suggest that removing two million barrels per day of supply, combined with the perception by markets of dramatically increased geopolitical instability, could induce an unprecedented spike in the global price of oil.

The Islamic Republic would almost certainly claim such blockades were acts of war, and would likely respond by attempting to destroy, either directly or by proxy, southern Iraq's oil export facilities, which supply close to two million barrels per day for the global market. Iran could also respond by reducing or ceasing its own oil exports. Iranian forces would also be expected to try to disrupt the passage of oil tankers through the Strait of Hormuz, through which twenty percent of the world's oil transits.

THE NEW PRESIDENT WILL NEED TO BALANCE THE NEED FOR EFFECTIVE STRATEGIES WITH REAL WORLD POLITICAL AND ECONOMIC CONCERNS ABOUT ANY ACTION THAT WOULD SIGNIFICANTLY IMPACT THE SUPPLY AND PRICE OF OIL.

Any blockade of Iranian energy imports or exports should be accompanied by a coordinated International Energy Agency announcement to release if necessary government strategic oil reserves. We caution that U.S. Strategic Petroleum Reserve might not be able to release its nameplate amount of 4.4 million barrels per day for 90 days; the actual drawdown might be closer to half that

number, or 2.2 million barrels per day. The new President could also improve the psychology of the market by announcing initiatives that, if implemented, would reduce demand for oil and increase supply.

WASHINGTON SHOULD WORK CLOSELY WITH RIYADH TO UPGRADE THE TRANS-ARABIAN PIPELINE AND THE IPSA PIPELINE TO ENABLE PERSIAN GULF STATES TO TRANSPORT THEIR OIL TO THE SAUDI PORT OF YANBU ON THE RED SEA.

The President would have to also coordinate any Western action to sanction or restrict Iran's energy sector with senior leadership in Saudi Arabia and other Persian Gulf emirates to encourage those countries to pump more oil and store it in key consuming areas. The United States should also work with those countries to improve the security of their facilities. In addition, Washington should work closely with Riyadh to upgrade the trans-Arabian pipeline and the IPSA pipeline to enable Persian Gulf states to transport their oil to the Saudi port of Yanbu on the Red Sea. This would mitigate some risks and vulnerability to possible blockage of Strait of Hormuz, although it risks increasing Saudi leverage over U.S. policies. Working closely with the Iraqi and Turkish government to refurbish the two pipelines from northern Iraq to Turkey would also reduce the reliance on the transit of crude through the Strait of Hormuz. Moreover, before it imposed any energy blockades on Iran, the U.S. and its allies would have to first move sufficient military assets to the region in anticipation of kinetic action against Iran and in order to secure shipping lanes in the Strait of Hormuz.

Informational Campaign

Simultaneous to all such diplomatic and economic efforts must be a concerted informational campaign. Investment in Radio Farda and Voice of America should

be increased multifold to a level commensurate with the strategic threat which the Islamic Republic now poses. More care should also be taken to ensure that U.S.-funded Persian-language broadcasting remains relevant to ordinary Iranians wishing to better understand the U.S. position and concerns.

We also recognize that while the Islamic Republic's nuclear efforts pose a threat, the Iranian people are unfortunate victims of a situation over which they exert little or no control. It is in the long-term interests of the United States to see the far more moderate core of Iranian society increase its influence over their government. It is not the place of Washington to support any political groupings outside Iran or ethnic interests inside the country. However, the next president should recognize the importance of an independent civil society and trade union movement inside Iran and encourage their growth through any appropriate means.

WE BELIEVE A MILITARY STRIKE IS A FEASIBLE OPTION AND MUST REMAIN A LAST RESORT TO RETARD IRAN'S NUCLEAR DEVELOPMENT.

Military Options

There are two aspects to the military option: boosting our diplomatic leverage leading up to and during negotiations, and preparing for kinetic action. For either objective, the United States will need to augment its military presence in the region. This should commence the first day the new President enters office, especially as the Islamic Republic and its proxies might seek to test the new administration. It would involve pre-positioning additional U.S. and allied forces, deploying additional aircraft carrier battle groups and minesweepers, emplacing other war materiel in the region, including additional missile defense batteries, upgrading both regional facilities and allied militaries, and expanding strategic partnerships with countries

north of Iran such as Azerbaijan and Georgia in order to maintain operational pressure from all directions.

WHILE CURRENT DEPLOYMENTS ARE PLACING A STRAIN ON U.S. MILITARY ASSETS, THE PRESENCE OF U.S. TROOPS IN IRAQ AND AFGHANISTAN OFFERS DISTINCT ADVANTAGES IN ANY POSSIBLE CONFRONTATION WITH IRAN.

While current deployments are placing a strain on U.S. military assets, the presence of U.S. troops in Iraq and Afghanistan offers distinct advantages in any possible confrontation with Iran. The United States can bring in troops and materiel to the region under the cover of the Iraq and Afghanistan conflicts, thus maintaining a degree of strategic and tactical surprise. The United States can also more easily insert Special Forces and intelligence personnel into Iran and protect key assets of our regional allies. Some augmentation of U.S. regional assets should be done overtly and publicly, to signal to the Iranians and to our regional allies American seriousness over the Iranian nuclear issue. Thus, for example, the United States would want to carry out a show of force, including the deployment of additional carrier battle groups to the waters off Iran and the conduct of broad exercises with allies. Such plans and deployments would also be part of an effort to demonstrate to the Islamic Republic that it would lose more than it would gain by becoming nuclear weapons-capable.

If all other approaches—diplomatic, economic, financial, non-kinetic—fail to produce the desired objective, the new President will have to weigh the risks of failure to set back Iran's nuclear program sufficiently against the risks of a military strike. We believe a military strike is a feasible option and must remain a last resort to retard Iran's nuclear development, even if it is unlikely to solve

all our challenges and will certainly create new ones. Whether to pursue a military strike remains, of course, a political decision. When confronted with the possibility that the Islamic Republic may transition into a nuclear weapons state, the next Administration might feel that the risks of a military strike are outweighed by the transformative dangers of living with a nuclear-armed Iran—such as dominance over the Persian Gulf region and its vast energy resources, a sustained spike in energy prices, nuclear proliferation throughout the Middle East, a radicalization and possible destabilization of the region, increased terrorist action in the region and beyond, possible provision of nuclear technology to other radical regimes and terrorists, and possible action to eradicate the State of Israel. We also understand that the nature of intelligence is that it seldom gives as full or as certain a picture as desired when it comes time to make a decision. No matter how much the next president may wish a military strike not be necessary, it is prudent that he begin augmenting the military lever, including continuing the contingency planning that we have to assume is already happening, from his first day in office.

THE NEXT ADMINISTRATION MIGHT FEEL THAT THE RISKS OF A MILITARY STRIKE ARE OUTWEIGHED BY THE TRANSFORMATIVE DANGERS OF LIVING WITH A NUCLEAR-ARMED IRAN.

A military strike would have to target not only Iran's nuclear infrastructure, but also its conventional military infrastructure in order to suppress an Iranian response. However, it is important that any planning also occur simultaneously for the period immediately following, both providing food and medical assistance within Iran, as well as protecting regional allies from either direct or indirect Iranian response. Because there will be political, diplomatic, and strategic fallout from military action, it is important that plans be in place to contain such fallout as much as possible.

Military action against the Islamic Republic would incur significant risks, whether such action involves a limited air strike or a more sustained air and naval campaign such as the imposition of no-fly zones and a full blockade. Any military action would run the risk of significant U.S. and allied losses, rallying Iranians around an unstable and ideologically extreme regime, triggering wide-scale Hezbollah and Hamas rocket attacks against Israel, and producing unrest in a number of the Persian Gulf states. An initial air campaign would likely last several days to several weeks and target both key military and nuclear installations. It should not target civilian facilities, and might not require ground troops beyond Special Forces. While a successful bombing campaign would retard Iranian nuclear development, Iran would undoubtedly retain its nuclear knowhow. It would also require years of continued vigilance, both to strike previously undiscovered nuclear sites and to ensure that Iran does not resurrect its military nuclear program.

MILITARY ACTION AGAINST THE ISLAMIC REPUBLIC WOULD INCUR SIGNIFICANT RISKS.

IV. CONCLUSION

It may be too late to keep Iran from becoming a nuclear power state, but it is not too late to prevent the Islamic Republic from becoming a nuclear weapons threat. There are no easy solutions. Any diplomatic solution requires a comprehensive strategy involving economic, military, and informational components undertaken in conjunction with allied and regional states. It is up to the government in Tehran to determine what travails the Iranian people must endure before such an agreement is made. The stakes are enormous. They involve not only U.S. national security, but also regional peace and stability, energy security, the efficacy of multilateralism, and the preservation of the nuclear non-proliferation treaty regime.

EXECUTIVE SUMMARY

ANY AGREEMENT, HOWEVER, MARKS NOT THE END OF THE CRISIS, BUT THE BEGINNING OF A SUSTAINED PHASE FOR WHICH THE UNITED STATES, ITS ALLIES, AND INTERNATIONAL AGENCIES MUST ALSO PREPARE.

Any agreement, however, marks not the end of the crisis, but the beginning of a sustained phase for which the United States, its allies, and international agencies must also prepare. Iranian compliance with its commitments must be verifiable, and any Iranian nuclear activity must be monitored comprehensively and in real time, not just by periodic inspections.

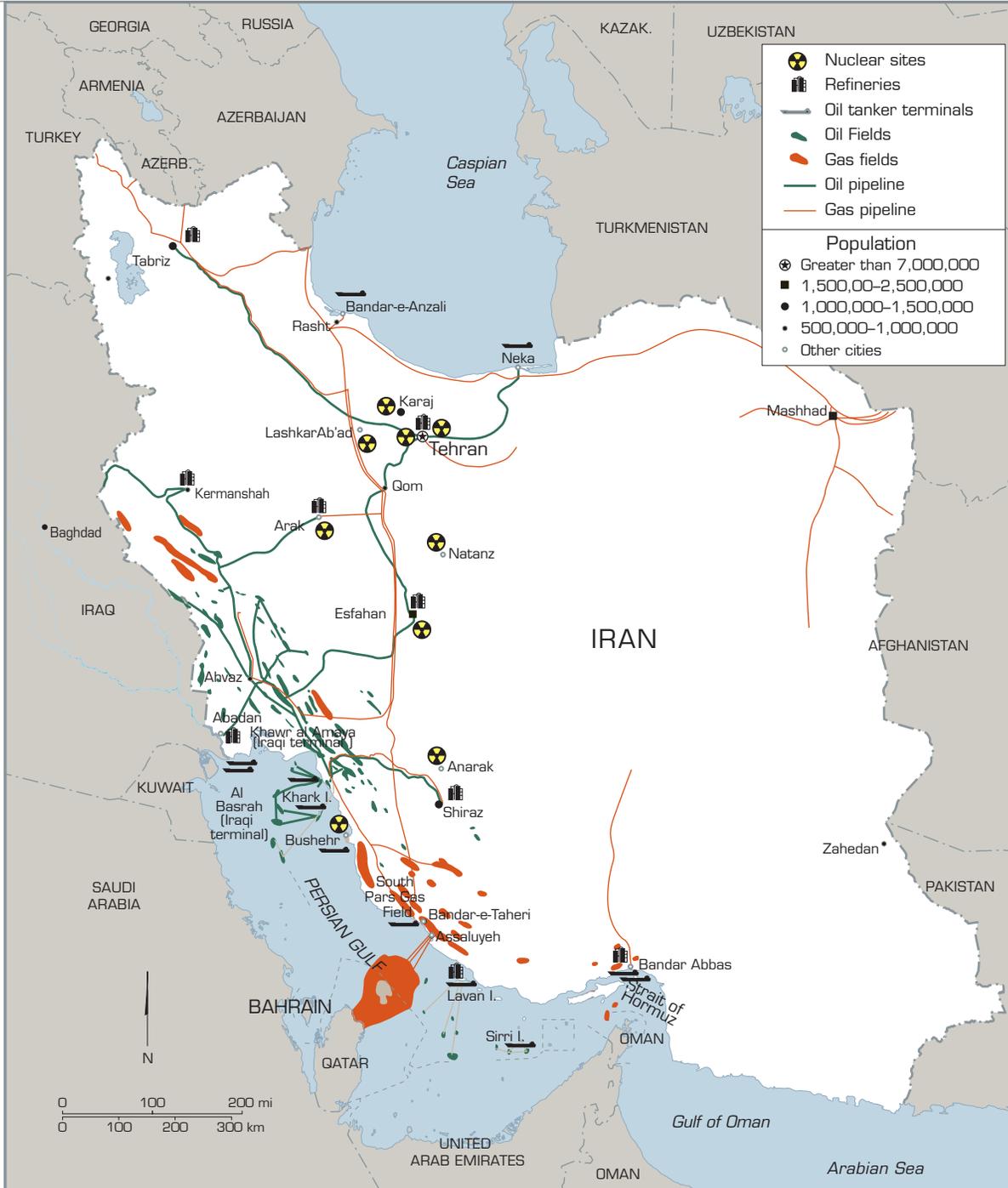
IRAN IS AN IMPORTANT COUNTRY AND WE WOULD WELCOME ITS RETURN TO THE INTERNATIONAL COMMUNITY IF ITS GOVERNMENT ADHERES TO ITS INTERNATIONAL OBLIGATIONS.

Iran is an important country and we would welcome its return to the international community if its government adheres to its international obligations. Because Iran is a unique and strategically significant country with a rich history, it is essential that the new President and other policymakers understand its complexities. Likewise, the technicalities of nuclear enrichment are often discussed in the abstract, but the details of different enrichment methods and capacities matter. Accordingly, in addition to formulating a strategy to resolve the Iranian nuclear crisis, we have also endeavored to provide a resource to better understand not only the complexities of the Islamic Republic's governance and decision-making, the often divergent attitudes of the Iranian regime and

public, and the pros and cons surrounding many of the strategies so often discussed by policymakers. Finally, we strive to provide a technical analysis of both past and potential future Iranian nuclear enrichment strategies.

IN ADDITION TO FORMULATING A STRATEGY TO RESOLVE THE IRANIAN NUCLEAR CRISIS, WE HAVE ALSO ENDEAVORED TO PROVIDE A RESOURCE TO BETTER UNDERSTAND THE COMPLEXITIES SURROUNDING MANY OF THE STRATEGIES SO OFTEN DISCUSSED BY POLICYMAKERS.

MAP 1: IRAN: OIL, GAS AND NUCLEAR INSTALLATIONS



HISTORICAL BACKGROUND

HISTORICAL BACKGROUND

U.S. policymakers often operate in a sterile environment, looking at foreign policy challenges as intellectual exercises or treating every state as a general template upon which to craft U.S. strategy. But countries develop policies in the context of their history and culture. This is especially the case with the Islamic Republic of Iran, where religion, politics, and nationalism are often so intertwined that they become inseparable.

BACKGROUND

While the problem at hand for the bipartisan array of U.S. legislators, policymakers, and practitioners may be how to prevent the Islamic Republic from developing a nuclear weapons program, understanding Iran's strategy and decision-making requires understanding its background and view of itself.

Many Middle Eastern states are artificial, their borders haphazardly drawn in backrooms and chancery gardens. This is not the case with Iran. With only brief interludes of foreign conquest, an Iranian entity has occupied the same area for more than 2,500 years. While Europe for centuries knew Iran as Persia, in the local language, the name has always been Iran, or 'land of the Aryans.' Iran's imperial legacy remains vital to Iranian self-awareness. Most Iranians, be they Islamist or secular, believe that Iran is a great civilization that deserves to be treated as a regional hegemon, if not a great power. Arabs, Afghans, and the Turkic peoples of Central Asia complain that Iranians treat them with disdain and as cultural inferiors. Iran's sense of superiority is a constant irritant between Iran and its neighbors.

Knowing the Iranian historical narrative is crucial if policymakers are to understand the contemporary Iranian perspective. More so than in the United States or even Europe, history matters. The origins of the Iranian people are shrouded in mystery. The *Shahnameh* or "Book of Kings," Iran's national epic, reaches back into the mist of time. Chapters move from the mythical to the true, tracing the lineage of generations of Iranian shahs. Within written history, Sumerian scribes mention the first Iranian towns, some of which, like Susa (Shustar), are also mentioned in the Bible. The Babylonians tried on numerous occasions to exert their authority into Iran. They discovered that it was one thing to conquer a town, but quite another to hold it. Through the ages,

Iranians have taken great pride in the cohesiveness of their society.

It was during the ninth century B.C. that Assyrian chronicles first mention an Iranian monarchy; they describe tribute sent by the kings of "Parsua." In 559 B.C., a vassal king in Parsagardae, not far from modern Shiraz, rose in revolt and united many Iranian tribes under his rule. An apt propagandist and military tactician, Cyrus the Great consolidated Iran and its neighboring lands into a vast empire. At its peak, the Achaemenid Empire—referred to as the Persian Empire in elementary school world history texts—stretched from Egypt and Greece thousands of miles into Afghanistan and Pakistan. School children still read accounts of the Achaemenid Empire's war with ancient Greece. Among the most famous Achaemenid cities was Persepolis, where the last Shah of Iran celebrated 2,500 years of Persian kingship in 1971.

WITH ONLY BRIEF INTERLUDES
OF FOREIGN CONQUEST, AN
IRANIAN ENTITY HAS OCCUPIED
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2,500 YEARS.

In 331 B.C., the armies of Alexander the Great swept into Persia. He left no successor, and the territories under his control fractured into minor local dynasties. The Persian Empire rose again in the third century as the Parthian state, and stretched from modern-day Armenia to Central Asia and the Arabian Sea. Such history remains important today as Iranian policymakers implicitly look

at territory once under the Persian empire's control as their near abroad in which they, and not others, have a right to dominate politically and diplomatically.

An internal revolt ended the weakened Parthian Empire, but from its ashes arose a third great Persian Empire, that of the Sassanids, which stretched from Armenia and Syria along both sides of the Persian Gulf and all the way to India. Only the newly Christianized Byzantine Empire prevented Sassanian kings from pushing their domains into Europe. The wars of attrition between these two empires exhausted both and left a vacuum for the Prophet Mohammad and his Arab armies to fill.

The Arab invasion of Iran changed the Middle East. Lured by promises of fiefdoms and booty, the Islamic armies conquered most of Iran by 644 AD. In less than 25 years, the domain of Islam had expanded from the deserts of Arabia to Libya and Afghanistan, an area larger than Europe. The conquering armies and their attendants settled. They needed administrators and found them in Iran. Today, many Iranians, even while embracing a multifaceted identity, take pride in their role of shaping the early practice of Islam. Iran's nobility, many of whom converted to maintain their privileged social status, facilitated the spread of Islam. A sense of national identity, however, remained as even those who converted to Islam continued to celebrate traditional Iranian holidays like Nowruz, the Persian New Year.

Not all was well in Iranian lands, though. Iran became a provincial backwater. Arab rulers tended to marry other Arabs creating an ethnic stratification that discriminated against Persians. Even as Arabs adopted many traditional Persian bureaucratic practices, Arab tribalism disadvantaged Persians. The early Shi'a tapped into anti-Arab sentiment and found support in Iran. Antagonism between Arabs and Persians has deep roots and goes both ways: after all, God had chosen to reveal the Qur'an in Arabic, not in Persian.

When, in 762, the new Abbasid dynasty founded a new capital called Baghdad, Iranian influence increased. While today the ethnic divide between Arabs and

Persians correlates roughly with the border between Iraq and Iran, this was not always the case. Iraq was once the heartland of the Iranian Empire. The first Sassanian capital was at Ctesiphon, 21 miles southeast of Baghdad, not too far from modern Salman Pak.

Ethnic tensions continued to strain the Islamic empire. Civil war erupted in the ninth century. It was a fight between Arabs and Persians. While the Persian pretender to the throne triumphed, he was not able to overcome the centripetal forces which plagued the Islamic Empire; the separatist instinct would first take hold in Iran.

Subsequent centuries would witness the rise and fall of many Iranian dynasties. Some remained local rulers, while others consolidated control over much of what became modern Iran. Almost all were Sunni, although in the tenth century, a Shi'i dynasty briefly ruled Iran and even seized Baghdad. In the eleventh century, a Turkish dynasty controlled the lands.

During this period, the cultural and political fulcrum of the Islamic World shifted eastward. Iran became central, while the Arabian Peninsula and the Levant became backwaters. Iranian rulers patronized the arts and sciences. They founded universities. Poetry thrived. This is one of the reasons why the Crusades, central to the European historical discourse, were but a blip in the Islamic narrative of the time.

In the thirteenth century, Mongol hordes overran the Iranian plateau, sweeping away the autonomous Iranian states. Iran became part of a huge, if ephemeral, new empire which stretched from Eastern Europe across the plains of Russia and the mountains of Iran to China. Islamic art blossomed, as Chinese and Iranian craftsmen familiarized themselves with each others' work and methods. The Mongols were essentially a nomadic, pastoral people suddenly faced with the task of managing a vast empire. They did what the Arab invaders had done 600 years before: They turned to Iranian administrators. But rather than build the state, the Mongol governors tasked their administrators with looting it. They sought to extract as much revenue as possible from the population.

HISTORICAL BACKGROUND

MAP 2: GREATEST EXTENT OF ACHAEMENID AND PARTHIAN EMPIRES



By 1335, their control disintegrated and with it the unity of Iran. Tamerlane (Timur) briefly conquered Iran but, like the Arabs and Mongols before him, he could not retain control. Rival Turkish dynasties arose in the fifteenth century to take his place, but it was only in the sixteenth century that stability returned to Iran.

ONLY IN THE EIGHTEENTH CENTURY DID THE MAJORITY OF IRANIANS BECOME PRACTICING SHI'Ā.

The impact of the Safavid dynasty, founded in 1501, still reverberates. Shah Ismail, its founder, formally converted Iran to Shi'ism. However, only in the eighteenth century did the majority of Iranians become practicing Shi'ā. The conversion fused a national religious identity with which

Iranians, regardless of ethnicity, could differentiate themselves from their neighbors. The period was a golden age for Iran. The Shah's armies conquered Baghdad, most of eastern Anatolia, the Caucasus, and western Afghanistan. The greatness of the era is apparent to any Iranian or tourist who walks among Isfahan's palaces, mosques, gardens, and squares, but it did not last.

Subsequent weak rulers took their toll and, by the early eighteenth century, Iran again faced open revolts along its periphery. An Afghan general swept through and declared himself Shah but, by the end of the century, the power of the central government again disintegrated.

From Iran's tribal patchwork arose the Qajar dynasty. Their tenure coincided with the penetration of notions of modern nationalism upon the Iranian state. Under Qajar tutelage, Iran transformed itself into a modern nation

MAP 3: BOUNDARIES OF SAFAVID AND QAJAR DYNASTIES



state. At the beginning of Qajar rule, communications between center and periphery were weak. The road system was in shambles. Caravans of camels and donkeys carried coins and goods between towns since Iran had no paper currency. There were no banks. While far from stagnant, Iran had never recovered from the inflation that accompanied the influx of New World gold and silver into the Old World. Until the mid-nineteenth century, the chief Iranian export was silk, although opium and cotton soon became more important crops. The economy was, relative to the outside world, moribund. Inflation and political malaise in the early twentieth century undermined confidence.

During the Qajar period, Iran would experience both internal and external challenges. Throughout the latter half of the nineteenth century, the Iranian government

witnessed the development of a mass movement culminating in a constitutional revolution. Liberals seeking to subordinate the shah to the rule of law, monarchists, and the Islamic clergy clashed, sometimes peacefully and at other times, with considerably more violence. When the smoke cleared, the era of absolute monarchy had ended.

Perhaps the greatest legacy of the Qajar period, however, was Iran's clash with European powers. During the Qajar period, the world shrank, as did Iran, both literally and figuratively. Iranian rulers had always struggled to meet and match their neighbors militarily. Suddenly, though, Iran was faced with a challenge much more potent than Turkmen raiders, Ottoman musketeers, or Mughal cannons. High mountains and the vast emptiness of the Iranian plateau were no longer sufficient to shield the

Iranian government from the technologically-superior forces of the Russian army or British navy.

In the first decades of the nineteenth century, the Russian Empire wrested control of what today is Armenia, Azerbaijan, and part of Georgia from the Iranian state. The Shah lost much of his claim to western Afghanistan following the Anglo-Iranian War of 1856-1857. A boundary commission cemented Iran's eastern frontier with what today is Pakistan between 1871 and 1873, and Tehran and Moscow only set Iran's border with what is now Turkmenistan in 1894, after years of steady Russian encroachment. Only in 1970 did a United Nations-sponsored referendum end Iranian claims to suzerainty over the Persian Gulf island-nation of Bahrain, although senior figures in the Islamic Republic have recently reasserted Iran's claim to the Arab island nation. While the Iranian border with what is now Iraq has been more or less constant for a century and a half, the Iran-Iraq war notwithstanding, many Iranians remember that in centuries past, Iranian rule stretched well past the Tigris and Euphrates rivers.

Still, despite economic stagnation and military weakness, successive shahs kept Iran independent, even as every other country in the Middle East, Central Asia, and South Asia fell to various European powers. Even as they preserved their independence, Iranians translated their territorial losses into a sense of victimization that has helped shape Iranian nationalism into the twenty-first century. Well before the United States became active in Iranian affairs, Iranian reaction to British and Russian activities created a mindset in which Iranians interpreted outside interests through a lens of conspiracy theories.

At the same time, Iranians—whether in favor of theocracy or opposed to it—feel that Iran's importance transcends boundaries. While the country is large, Iranians consider their sphere of influence to be larger. When Western governments may complain of Iranian interference beyond its borders, the Iranian government convinces itself that it is merely exerting its influence in lands that were once its own, its near-abroad.

Iran's strategic importance grew with the 1905 discovery of oil. This became as much a curse as a blessing, feeding both corruption and an addiction to easy riches, to the detriment of industrial development. Russia and Great Britain divided Iran into spheres of influence in 1907. The Allied powers occupied Iran both in World War I and World War II. The Red Army's refusal to withdraw from Iranian Azerbaijan after World War II sparked the first crisis of the Cold War. As the Cold War accelerated, relations between the United States and Iran grew tighter. Two years after the Iranian Prime Minister Mohammad Mosaddeq nationalized the oil industry in 1951 and showed signs that he might move Iran toward the Soviet orbit, the U.S. and British intelligence services helped manufacture a coup which deposed Mosaddeq and reasserted the primacy of the Shah.

IRAN'S STRATEGIC IMPORTANCE

GREW WITH THE 1905 DISCOVERY OF OIL.

The following decades saw the Shah both consolidate power and impose a rapid program of economic and social reforms. Iran's economy grew, but so did disparities between rich and poor, urban and rural. Many clerics—including Ayatollah Ruhollah Khomeini—opposed such reforms as women's suffrage and equality of all citizens under the law, regardless of their religion. The Shah expelled Khomeini as his denunciations grew more virulent and his incitement more violent. From exile Khomeini continued to agitate against the Iranian monarchy and for his concept of Islamic government.

In the days before the Islamic Revolution, Iran's Muslim clergy repeatedly slammed the Shah for spending billions on weapons while Iranian families went hungry. Several scholars argue that oil wealth fed the growing disparity between rich and poor and contributed to the Islamic Revolution. Ironically, the Islamic Republic—especially under President Mahmoud Ahmadinejad—has repeated many of the spending patterns that caused so much upheaval in the last years of the shah's reign.

DEMOGRAPHICS AND DIVERSITY

Geography has also influenced Iran's political development. While kingdoms and empires rose and fell throughout what now is Iran, the mountainous terrain bred fierce independence among Iran's constituent parts. Until the late nineteenth century, many roads between Iranian cities were at best rudimentary. With water a limiting factor for travelers, paths and camel tracks meandered widely across the Iranian plateau. The result was often internal isolation and weak central government rule. It could take weeks for a traveler to traverse Iran from its ancient capital of Tabriz to the border of what is now Pakistan. Local sheikhs and chieftains might have paid lip service to the central government, but hundreds of miles and weeks away from his court, they were in effect independent. Modernity may have bestowed the central government mechanisms to impose control, but underlying Iranian governance has often been a sense of vulnerability.

AZERIS CONSTITUTE THE LARGEST ETHNIC MINORITY—APPROXIMATELY ONE-QUARTER OF THE POPULATION.

Iran's size and topography have allowed it to weather intervention and invasion, and have given its leadership a sense of strategic depth which other regional states like Israel and the Persian Gulf emirates lack. External isolation and the delicate balance between center and periphery have shaped Iranian history and society. Behind its natural fortress, the civilizations of the Iranian plateau have planted deep roots. As elsewhere in the Middle East, mountainous, rough terrain has provided shelter and safe-haven for minorities and indigenous cultures. This has transformed Iran into a heterogeneous country. Today, Iran is more an empire than a nation. While Iran is officially a Persian-speaking country, half of Iranians speak a language other than Persian at home. Supreme Leader Ali Khamenei, today the most powerful man in the Islamic Republic, is an ethnic Azeri. Mohammad

Khatami, the reformist president so-often embraced by the West as a reformer, is half-Azeri. Ayatollah Mahmoud Hashemi Shahroudi, Iran's judiciary chief, is more comfortable speaking Arabic than Persian.

Azeris constitute the largest ethnic minority—approximately one-quarter of the population. More Azeris live in Iran than in independent Azerbaijan. While Iranian Azeris are scattered throughout the country, their largest concentration is in the Iranian provinces of West and East Azerbaijan; the capital of the latter is Tabriz—capital of all Iran during much of the fifteenth century—and for centuries after the seat of Iran's crown prince.

Approximately eight percent of Iran's population is Gilaki or Mazandarani. Concentrated along the Caspian littoral, these people speak a language related to Persian, but sharing major similarities with the Zazaki of Turkey. Perhaps seven percent of Iran's population is Kurdish. While predominant in the Iranian province of Kurdistan, they are not limited to it. Iran often names provinces after an ethnic group, but either makes the province smaller than the concentration of that minority or, as in the case of Azerbaijan, divides it so as to undercut separatism. Arabs no longer predominate in the oil-rich Khuzistan province across the Shatt al-Arab from Iraq, but Arabic-speakers do make up approximately three percent of Iran's population. Smaller minorities of Baluch live along the Pakistani border, while many Turkmen live in northeastern Iran, across from Turkmenistan.

The sensitivity of Iranians to separatism runs deep. Throughout the twentieth century, Iran experienced many separatist movements—often supported if not sponsored by foreign powers. Iranians remember British assistance to Arab and Baluch separatists in the nineteenth and early twentieth century and Soviet support for separatist movements in Gilan, Azerbaijan, and Kurdistan. Often, Iranians and their government conflate calls for federalism or ethnic rights with separatism and suspect a foreign hand.

Despite Iran's linguistic, ethnic, and religious diversity, the Persian language is a unifying factor among Iranians.

HISTORICAL BACKGROUND

Arabic may be the *lingua franca* of the Middle East from the Mediterranean to the shores of the Persian Gulf, but Persian takes on that role from the mountains of Kurdistan through the bazaars of Central Asia and down into the river valleys of India. Indeed, the sixteenth century Moghul Empire made Persian the official language of India. Only in 1832 did British army officers and colonial masters force the princes and rajas of the Indian subcontinent to conduct business in English. Nevertheless, Persian remains the language of culture and poetry throughout much of West, South, and Central Asia. School children well beyond Iran's borders memorize the poetry of famous Persian poets like Rumi, Saadi, and Hafez. Many in Afghanistan, Uzbekistan, and Tajikistan speak Dari and Tajik, more dialects of modern Persian than languages in their own right.

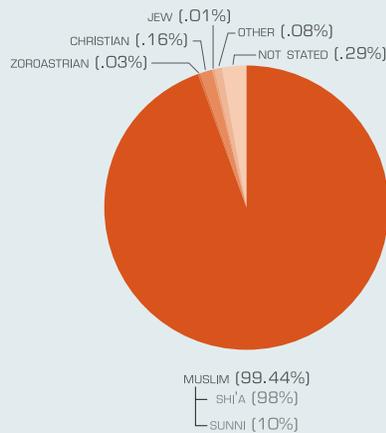
RELIGIOUS DIVERSITY

Iranians, both inside their homeland and in the Diaspora, cringe at the caricature of Iran as a land of firebrand ayatollahs and religious radicals. While Shi'ism has had a spotty presence in Iran since its inception as a distinct theological movement, it only became Iran's official religion in the sixteenth century. When the shah converted Iran to Shi'ism, there were so few Shi'a clerics in Iran that he had to import them from Lebanon. It was not until the eighteenth century that the majority of Iran's population became Shi'a. Today, almost ninety percent of Iranians are Shi'a, but Sunni Islam still predominates in the mosques of Iranian Kurdistan, the plains of eastern Mazandaran (along the border of Turkmenistan), and in scattered towns and villages along the southern Strait of Hormuz and the border with Pakistan and Afghanistan. While Sunni Muslims can, in theory, exercise their religious beliefs without interference, the constitution of

IRAN'S DEMOGRAPHIC COMPOSITION

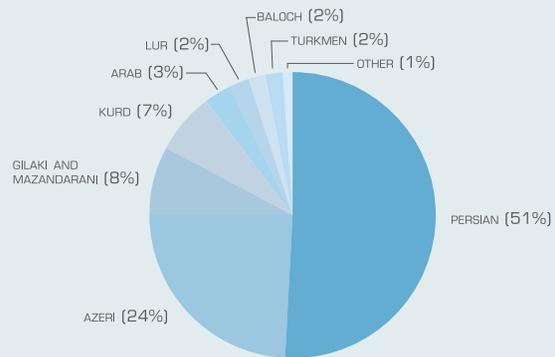
RELIGIOUS COMPOSITION

SOURCE: STATISTICAL CENTRE OF IRAN AND CIA WORLD FACTBOOK



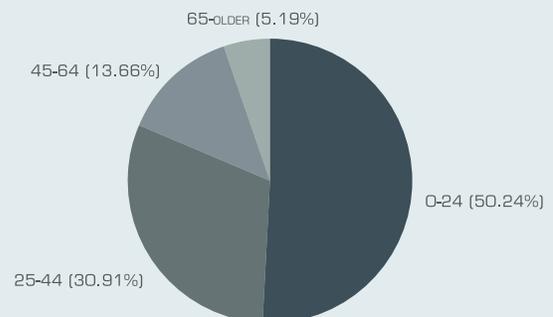
ETHNIC COMPOSITION

SOURCE: CIA WORLD FACTBOOK



AGES

SOURCE: STATISTICAL CENTRE OF IRAN



the Islamic Republic discriminates against Sunnis. Many Sunni Iranians complain about occasional harassment and oppression on the part of the central government. While Tehran, a city of over ten million people, has thousands of Shi'i mosques, dozens of churches, an Armenian cathedral, and even a handful of synagogues, there are no Sunni mosques in the city, even though there are more than six million Sunnis in the country.

Ninety-seven percent of Iranians are Muslim, but it would be a mistake to overplay religious identity. Many young people and the middle class, disgusted with the corruption of the ruling clerics, have abandoned all but the most superficial Islamic patina. Many Iranians drink alcohol, and young women constantly flout conservative norms of dress. Iranian Muslims who consider themselves religious often speak of *din-ekhodeman*, "my own personal religion," to differentiate themselves from the public religion imposed by the state.

Tens of thousands of Iranians practice religions other than Islam, although the population of non-Muslim Iranians has decreased significantly in recent years because of state-sanctioned discrimination. Between 1976 and 1986, for example, the number of Christians in Iran declined from 169,000 to 98,000. Isfahan has a large Armenian quarter, and tucked away along side streets in major cities are smaller Syrian Orthodox and Anglican churches. As evangelical Christians made some inroads by conversion in the late 1990s, the Islamic Republic increased persecution; government agents have since murdered several priests.

While Iran's millennia-old Jewish community still numbers perhaps 20,000, this is but one-third of its population a quarter-century ago. Iranian Jews remain fiercely proud of their Iranian culture, but the disappearance, apparently at the hands of Iranian authorities, of nearly a dozen Jews fleeing the country during the Iran-Iraq War, coupled with the 1999 arrests of 13 Jews—one as young as 16—on trumped up espionage charges, has accelerated the Jewish exodus. Many Islamic Republic hardliners and ideologues also subscribe to Shi'a interpretations of Jews as religiously unclean. While the Jewish community, as

with the Christian and Zoroastrian communities, has one representative in the Majlis, the Islamic Republic's parliament, most community members view these representatives as Quislings.

Iran does not keep official statistics on its Baha'i population, but some Baha'i claim their community in Iran numbers as many as 400,000. Baha'is follow the teachings of the nineteenth century prophet Baha'ullah, himself a disciple of Ali Mohammad Shirazi, better known as the Bab (Arabic for 'gate'). Shirazi, whom Iranian authorities executed in 1850, preached a doctrine of progressive revelations, and sought to foreshadow the coming of a new prophet. However, because Muslims consider Mohammad to be the "seal of the prophets" and the Qur'an as God's final revelation, ayatollahs and other Shi'i clerics consider Baha'is to be heretics. Discrimination against Baha'is in the Islamic Republic is severe. Baha'i children cannot attend Iranian universities without first renouncing their faith. The Islamic Republic does not allow Baha'is to bury their dead in public graveyards. While Baha'is once contributed disproportionately to Iran's intellectual and governing class, they now experience wholesale discrimination in the workplace.

The only sectarian minority not to suffer a population decline in recent decades have been the Zoroastrians. The dominant religion of the ancient Achaemenid Empire, Zoroastrians follow the teachings of the pre-Islamic prophet Zarathustra, also known as Zoroaster, who preached the duality of good and evil. Zoroastrianism is today centered in the desert cities of Yazd and Kerman in central and southeastern Iran. Iran's Zoroastrian population has for the past half-century remained around 60,000, although some casual estimates indicate an increase in recent years. Despite Iran's sectarian diversity, religion has been a unifying factor. Iranians root their national identity in their pre-Islamic past, much to the chagrin of the ruling clerics. Every March 20, not by coincidence the Spring Equinox, Iranians celebrate Nowruz, the Persian New Year. The festival dates back to the empires of ancient Persia and Mesopotamia. Many of the traditional practices such as lighting of bonfires have origins in Zoroastrianism.

CURRENT SITUATION IN IRAN

Governance in the Islamic Republic is convoluted. Ultimate authority rests with the Supreme Leader, first Khomeini and, after his death in 1989, Khamenei. In practice, the Supreme Leader wields near absolute power. He may not involve himself in every decision, but he exercises ultimate veto power. Iran's multiple power centers serve as checks upon the emergence of any power base that could rival the Supreme Leader's.

POWER CENTERS

Normal institutions are matched by parallel revolutionary institutions. When Khomeini took power, he inherited institutions he did not trust. He resented the army for its past loyalty to the Shah, and formed the Islamic Revolutionary Guard Corps which he equipped with better weaponry and facilities. The result is a system within which several parallel and, sometimes, overlapping institutions and power centers operate.

- **The Supreme Leader:** In most systems, a president would be head-of-state, but in the Islamic Republic, the president's power is more symbolic than real. The Supreme Leader and his office trump the president and his ministers. He appoints half of the Guardian Council, the head of the judiciary, the head of state television and radio, the supreme commander of both the Revolutionary Guards and regular military, as well as the leadership of the security services.
- **The Office of the Supreme Leader:** Four senior clerics, often selected after previous service in the Ministry of Information and Security, the Islamic Republic's intelligence ministry, support the Supreme Leader. Not only do they arrange his appearances and manage his schedule but, in their capacity as his eyes and ears, they also reach down and involve themselves in almost any government, military, or security office in the state. These permanent advisors preside over several hundred consultants, clerical commissars, and employees that collectively serve as a parallel executive branch.
- **President:** The role of the president expanded after Khomeini's death as constitutional reforms eliminated the parallel premiership. The President can appoint and dismiss cabinet members subject

to parliamentary confirmation. He also controls the budgetary process but can be overruled by the Supreme Leader. Additionally, he chairs the Supreme National Security Council which coordinates defense, intelligence, and foreign policy, and appoints the director of the Central Bank.

GOVERNANCE IN THE ISLAMIC REPUBLIC IS CONVOLUTED... ULTIMATE AUTHORITY RESTS WITH THE SUPREME LEADER.

- **Cabinet:** The 22 cabinet ministers preside over a number of portfolios ranging from high profile ministries like foreign affairs, defense and information and security (intelligence) to less prestigious posts like mines and metals, labor and social affairs and cooperatives. While ministers in theory report to the president, the Supreme Leader's commissars ensure that ministry policies do not run counter to the Supreme Leader's desires. The intelligence ministry, especially, operates shadow operations that perform functions desired by the Supreme Leader, and do not necessarily require presidential direction.
- **Parliament:** While the 290-seat parliament (*majlis*) is the seat of sovereignty according to the Islamic Republic's constitution, and its debates can be vibrant, it has little ability to enact decisions. The parliament has, however, stymied ratification of the president's ministerial nominees. On March 14, 2008, hardliners who, within the Iranian context call themselves "principalists," won the majority of seats in an election marred by Guardian Council

disqualifications of many candidates deemed too reformist or liberal.

- **Guardian Council:** The Guardian Council both determines the compatibility of parliamentary laws with Islamic law and also certifies the qualification of any candidate standing for elected office. As such, the Guardian Council enjoys veto power both over laws and personnel. The Supreme Leader appoints six clerics to serve on the 12-member council, while the parliament appoints six laymen. However, because the Guardian Council vets those standing for parliamentary elections, in some years eliminating more than 90 percent of contestants, there is not significant ideological difference between the Supreme Leader's appointees and those nominated by the parliament.

- **Assembly of Experts:** The 86-member Assembly of Experts elects the Supreme Leader when a vacancy develops and, in theory if not in practice, can remove the Supreme Leader should he become unable to fulfill his functions. While the Assembly meets once per year, in practice they do not wield much power. After Khomeini's death in 1989, a small handful of powerbrokers in the Islamic Republic selected Khamenei to be his successor before the Assembly of Experts formally met. On September 4, 2007, former president Ali Akbar Hashemi Rafsanjani became head of the Assembly.

- **Expediency Council:** Khomeini, founder of the Islamic Republic, formed the 31-member Expediency Council in February 1988, both to break stalemates between the parliament and the Guardian Council, and also to advise the Supreme Leader.

- **Office of the Friday Prayer Leaders:** Friday Prayer Leaders, appointed by the Supreme Leader, act as his representative in every city and major town. They deliver an official sermon every Friday which often outlines the policies of the Islamic Republic. They also propagate and enforce censorship at the local level.

- **Revolutionary Foundations:** The parallel, unelected revolutionary power structures extend even into the economic sector. The Revolutionary Foundations (*bonyads*) control upwards of 30 percent of Iranian gross domestic product. The Supreme Leader appoints their directors, often from the ranks of the Islamic Revolutionary Guard Corps. The Foundations control their own banks, which are subject to far less oversight and regulation than parallel state banks. These structures together control foreign trade in order to enable the Iranian officials to maintain control over hard currency. The Foundations often allocate funds for terrorist groups, and so enable the Iranian leadership to maintain plausible deniability.

THROUGHOUT THE MIDDLE EAST,
WOMEN ARE FIGHTING FOR RIGHTS
THEY NEVER HAD; ONLY IN IRAN
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SOCIAL TENSIONS

Social tensions are rife in the Islamic Republic. Half of Iranians are under the age of 24. They struggle for employment and to gather the funds necessary to marry. Much tension revolves around women. Throughout the Middle East, women are fighting for rights they never had; only in Iran do they seek rights which the state has officially taken away from them. Women are a crucial constituency, not only in social terms, but also for the economy. According to Iranian census data, in 1996, Iran had 1.8 million working women compared to 13.1 million home-makers. In 2000, for the first time, Iranian universities admitted more women than men. Precedent suggests that as women's education improves, more women will want jobs. The difficulties facing women in private sector employment remain unaddressed. There

is no indication that the Iranian government is able to accommodate its young people. According to the World Bank, per capita gross domestic product in 2000 was still 30 percent below what it was in the mid-1970s, compared with a near doubling for the rest of the world.

NOR DOES IT APPEAR THAT THE POLITICAL ELITES ARE WILLING TO UNDERTAKE THE REFORMS NEEDED TO MAKE EFFECTIVE USE OF THE COUNTRY'S LABOR POTENTIAL.

Nor does it appear that the political elites are willing to undertake the reforms needed to make effective use of the country's labor potential. There are not sufficient opportunities for the 700,000 young people who enter the job market each year. Even with the oil boom, unemployment is increasing. The Iranian government has done little to promote a more favorable environment for private sector development. It would seem that instead of making reforms the political elite is more comfortable with high emigration, especially among the well-educated.

ECONOMIC AND POLITICAL FRUSTRATION FEED SOCIAL PROBLEMS.

Economic and political frustration feed social problems. The government acknowledges that two million people use narcotics, mainly opium; other estimates place the numbers at twice that, which equates to almost six percent of the total population. Thirty-one percent of Afghan opium ends up in the Iranian market.¹

Prostitution is also on the rise. A July 2000 report authored by the director of cultural and artistic affairs for

Tehran found that prostitution had increased 635 percent between 1998 and 1999. A July 2008 report from the Department of Psychology at the Pedagogical University of Tehran found that even young teens, married, and educated women now engage in prostitution to make ends meet for their families. Officially, there are now 300,000 prostitutes in Iran, although government figures likely understate the problem. For many Iranians, this symbolizes the failure of their leadership.

Such social ills highlight corruption. In February 2001, Iranian authorities arrested a judge in connection with running a prostitution ring involving runaway girls. Abbas Ali Alizadeh, the head of Tehran's Justice Administration, explained, "This organized team identified girls between 13 to 17 years of age and smuggled them abroad.... Some parents even cooperated with the gang due to the financial benefits." In December 2001, the conservative daily *Jomhuri-ye Eslami* reported that authorities had broken up a large prostitution ring in the holy city of Qom. The following month, the government daily Kayhan reported raids on eight brothels in a single Tehran suburb. The issue again hit headlines in April 2008, when security services arrested Reza Zerai, police commander of Tehran, in a brothel with several naked prostitutes. While prostitution exists in all societies, the phenomenon in Iran appears directly linked to the decline of the economy.

WITH INTRAVENOUS DRUG USE AND PROSTITUTION RISING, IRAN IS VULNERABLE TO A SERIOUS AIDS PROBLEM.

With intravenous drug use and prostitution rising, Iran is vulnerable to a serious AIDS problem. Indeed, according to the Islamic Republic's own count, more than 90,000 Iranians have the disease.² The drug trade has also led to political instability in southeastern Iran. Such ills provide potential themes in psychological operations, especially as the rhetoric of the religious leadership is contrasted with the facts of life underneath their rule.

¹ Fars News Agency (Tehran), December 24, 2007.

² *Abrar* (Tehran), April 9, 2008. <http://abrarnews.com/politic/1387/870120/html/ejtemaii.htm#s250656>

In sum, many of Iran's best and brightest are leaving the country, and a growing number of those remaining are at risk of becoming an underclass. These twin trends undermine the clerics' claims that they are both promoting social equity and setting the Islamic Republic on the path to greatness.

ENGINES OF DISSENT

Malaise and the failure of political leaders to enact promised reforms have caused Iranians to grow cynical. University students have been at the forefront of protest. After security forces and an officially-sanctioned vigilante group attacked a group of students protesting the closure of a newspaper in July 1999, widespread rioting broke out and quickly spread across the country. Security forces restored calm after several days. In 2001, a series of riots erupted after a disastrous Iranian performance in the soccer World Cup. The protests evidently started when Los Angeles-based exile television suggested that the Iranian government had ordered the national team to throw a game so that women and men would not party in the street. Another wave of student demonstrations struck in June 2003. By the end of the Khatami era in 2005, many students no longer differentiated between hardliners and reformers. Instead, they focused on regime versus dissident. Khatami's annual December appearances before university students grew increasingly contentious. Already in 2001, he was greeted with chants of "In Kabul, in Tehran, Down with the Taliban." In 2004, his televised presentation bordered on a riot, with most of the audience chanting "Khatami, what happened to your promised freedoms?" and "Students are wise, they detest Khatami." Khatami's response, "I really believe in this system and the revolution," did not win the students' support.

Nor has Khatami alone been the focus of student ire. In December 2006, student protestors interrupted a speech by Ahmadinejad. The souring mood was evident in a series of domestic upheavals. Throughout 2007, Iranian authorities arrested student leaders leading to a number of small sympathy protests and vigils. Several of the detained students have died in custody. To head off further trouble, university authorities have sent a

parade of student activists to disciplinary committees. Vocal students are expelled and, often, arrested. In a July 2008 sweep, security services detained student leaders ahead of the ninth anniversary of the Tehran University student uprising.

OTHER FACTORS TEAR AT THE FABRIC OF THE STATE. WITH SO MANY CITIES—EACH WITH LONG HISTORIES, OFTEN AS PAST CAPITALS OF IRAN—REGIONAL RIVALRIES CAN BE PRONOUNCED.

Other factors tear at the fabric of the state. With so many cities—each with long histories, often as past capitals of Iran—regional rivalries can be pronounced. While these are often good-natured, government favoritism of one city over another has on occasion led to civil strife. For example, Qazvin experienced several days of rioting in 1994 after the Iranian parliament rejected a bill to make it a separate province in favor of such status for Qom. In 2001, a similar scene repeated in Sabzavar, a town in northern Khorasan.

There is also increasing ethnic dissent within Iran. In 1993, regime radicals destroyed several Sunni mosques. A number of Sunni leaders, both Baluchi and Kurd, have subsequently died under suspicious circumstances. There have been periodic bombings in both Baluchistan and Khuzistan since 2000. In June 2005, for example, a series of bombings struck Zahedan, the provincial capital of Iranian Baluchistan. Such violence has become more frequent in recent months.

THERE IS INCREASING ETHNIC DISSENT IN IRAN.

Rioting erupted in Iranian Kurdistan in March 2004 after Iraqi authorities ratified an interim constitution which gave Iraqi Kurdistan rights denied to their ethnic compatriots across the border. Tehran's haughtiness can exacerbate tensions. In May 2006, ethnic Azeris rioted across Iranian Azerbaijan after an Iranian newspaper characterized Azeris as cockroaches. In October 2007, Iranian security forces arrested a number of demonstrators in Ahvaz; their bodies were found dumped in the Karun River two months later.³

ECONOMIC INEQUITY HAS ALSO BECOME AN AGENT OF DISSENT.

Economic inequity has also become an agent of dissent. Because of inefficiency and lack of investment in refineries, the Islamic Republic has had to import 40 percent of its refined petroleum needs through much of this decade. In 2007, the Iranian parliament passed a law mandating rationing of gasoline. After some initial grumbling, dissent diminished. Consumption did as well, but by how much is hard to gauge. While Iranian officials initially said they cut imports of gasoline by half, in May 2008, Oil Minister Gholam-Hossein Nowzari admitted to parliament that the government had illicitly used nearly \$2 billion from National Iranian Oil Company coffers to import gasoline. Rather than capping gasoline imports at \$3.8 billion, therefore, the Iranian government imported \$5.7 billion.⁴

STILL, ALMOST EVERY TIME IRAN HAS FACED A GASOLINE SHORTAGE, THERE HAS BEEN UNREST.

Still, almost every time Iran has faced a gasoline shortage, there has been unrest, most recently in February 2005. During a particularly brutal winter in early 2008, the Iranian government failed to maintain natural gas supplies vital to heating, leading to political uproar and vocal criticism. Tehran pre-empted any chance of violence by deploying the Islamic Revolutionary Guards Corps to several northern cities to impose order.

REGIME OFFICIALS SEE THE DANGER OF AN INDEPENDENT LABOR POWER BASE. POLICE HAVE RESPONDED TO UNION ACTIVITY WITH INCREASING BRUTALITY AND VIOLENCE.

The Iranian labor movement is increasingly active. Textile workers in Isfahan, teachers in Tehran, bakery workers in Kurdistan, and sugar cane workers in Khuzistan have all walked off their jobs in recent months. The most significant labor movement has been that of the Vahed bus drivers in Tehran. Under the leadership of Mansour Ossanlou, these courageous drivers have struggled to form the Islamic Republic's first independent trade union. Security services imprisoned Ossanlou and much of Vahed's leadership, but the trend is spreading. After a prolonged strike over unpaid wages and working conditions, sugar cane workers in Khuzistan have also formed an independent union not under the thumb of official state-sanctioned labor organizations. Regime officials see the danger of an independent labor power base. Police have responded to union activity with increasing brutality and violence. Localized worker clashes with security forces have become monthly if not weekly events over the past year.

³ *Iran Emrooz* (Tehran),
Dec. 24, 2007.

⁴ *Alef* (Tehran), May
12, 2008.

INTERPLAY OF RELIGION AND POLITICS

The split between Sunnism and Shi'ism boils down to a dispute as to who should have assumed the mantle of leadership after the Prophet Muhammad. Sunnis argued that leadership should pass to the most devout, while the Shi'a believe that the leadership of the community should remain within the family of the Prophet; they passed the mantle of the Prophet down from one generation to the next beginning with Muhammad's cousin and son-in-law Ali. Mainstream Shi'a followed the line to the twelfth Imam, Muhammad al-Mahdi (b. 868 AD). They believe he did not die, but rather went into occultation. Traditional Shi'a believe that this "Hidden Imam" or "Lord of the Age" will one day return to usher in just governance and a perfect Islamic society. By extension, therefore, any government before the return of the Hidden Imam is unjust and corrupt.

KHOMEINI ARGUED THAT SENIOR CLERGY COULD ACT AS A PLACEHOLDER FOR THE HIDDEN IMAM.

Throughout the nearly 1100 years between the disappearance of the Mahdi and the rise of Khomeini, Shi'i clerics believed that they had a responsibility to ensure that temporal leaders did not violate the basic tenets of Islam, but they absolved themselves of involvement in day-to-day governance. The basic role of the clergy remained counseling believers. The Shi'a clergy are hierarchical but, unlike Catholicism where the Pope is elected by the College of Cardinals and accepted as the undisputed head of the Catholic Church, Shi'ism does not require universal recognition of leadership. Local mosques may have mullahs, many with little more than a local education. A *mojtahed* or *'alim* who has studied religion in a center of learning such as Najaf, Karbala, or Qom may become a *hojjat al-Islam* (Proof of Islam), *ayatollah* (sign of God) or, after decades of research and teaching, an *ayatollah al-ozma* (Grand Ayatollah). There are approximately one dozen Grand Ayatollahs alive today.

Individual Shi'a have a duty to choose a living *marja' at-taqlid* (source of emulation) to follow. They might study their *marja's* tracts, address questions to him, and make religious donations to him but, ultimately, their allegiance to any particular ayatollah is voluntary.

THIS INNOVATION, PROVIDED THEOLOGICAL JUSTIFICATION FOR THE ESTABLISHMENT OF CLERICAL RULE IN IRAN AFTER THE 1979 REVOLUTION.

Khomeini, in practice, sought to change this. He developed an interpretation of Shi'i doctrine which challenged the separation between spiritual and temporal authority. He argued that senior clergy could act as a place-holder for the Hidden Imam, a position which would force their direct involvement in governance. This innovation, called the *velayat-e faqih* (guardianship of the jurisprudent), provided theological justification for the establishment of clerical rule in Iran after the 1979 Revolution.

THE SHI'A CLERGY ARE HIERARCHICAL BUT, UNLIKE CATHOLICISM WHERE THE POPE IS ELECTED BY THE COLLEGE OF CARDINALS AND ACCEPTED AS THE UNDISPUTED HEAD OF THE CATHOLIC CHURCH, SHI'ISM DOES NOT REQUIRE UNIVERSAL RECOGNITION OF LEADERSHIP.

Most traditional Shi'a, including many in Iran and most in Iraq, do not agree with Khomeini. The presence of rival sources of religious emulation continues to strain the Islamic Republic's social fabric today. Political power has led to corruption among some clerics in government. The association of corruption with religion upsets many clerics. In July 2002, Ayatollah Jalaluddin Taheri, a respected revolutionary and the designated Friday prayer leader for Isfahan, resigned and blasted the ruling clerics for their corruption and life style. Abbas Palizdar, a member of the Iranian parliament's Judicial Inquiry and Review Committee, sparked a national scandal in June 2008 after revealing several dozen cases of clerical corruption at a University of Hamadan speech. Such clerical corruption and abuse-of-power have become a political lightning rod and contributed to a growing gap between the clergy and the Iranian public.

THE PRESENCE OF RIVAL SOURCES OF RELIGIOUS EMULATION CONTINUES TO STRAIN THE ISLAMIC REPUBLIC'S SOCIAL FABRIC TODAY.

Iranian authorities have controlled alternative religious voices on their own territory. They have kept Grand Ayatollah Hossein Ali Montazeri, Khomeini's former deputy, under house arrest since 1989 and banned publication of his memoirs⁵ inside Iran because of his opposition to clerical rule. On October 8, 2006, Iranian security forces arrested Ayatollah Hossein Kazemeyni Boroujerdi after he questioned the doctrine of *velayat-e faqih* and expressed opposition to clerical rule. Despite such arrests, regime authorities have been unable to convince or to impose their will on most Grand Ayatollahs be they inside, let alone outside, Iran in centers like Najaf and Karbala. They have tried to consolidate leadership, however. In 1994, Grand Ayatollah Ali Araki died in Tehran, reputedly at the age of 105 or 106. Araki had been a traditional cleric, who wielded great influence on theological questions but

remained aloof from politics. The Iranian government suggested that Khamenei, who became Iran's Supreme Leader following Khomeini's 1989 death, should be the undisputed leader of the Shi'a world. Tehran's attempt to impose political authority upon the Shi'a world fell flat. Khamenei neither had the learning nor charisma to be the chief religious authority for many in his own country, let alone for millions of Shi'a in Iraq, Bahrain, Azerbaijan, Lebanon, the Eastern Province of Saudi Arabia, and India. More Iranians pay religious taxes to Ayatollah Ali Sistani than they do to Khamenei, despite his political claim to ultimate authority. Iranian sponsorship of Shi'i militias in Iraq might be seen in the same context, as an attempt to impose through force of arms what is not in the hearts and minds of Iraqi Shi'a. The rejections of Khamenei's claims highlight a legitimacy problem which continues to be the Islamic Republic's Achilles' heel.

AHMADINEJAD INSERTED A NEW ELEMENT INTO IRANIAN PUBLIC RELIGIOUS DISCOURSE WHEN, IN SEPTEMBER 2005, HE CONCLUDED HIS UNITED NATIONS SPEECH WITH A PRAYER SEEKING THE HASTY RETURN OF THE HIDDEN IMAM, THE MAHDI.

Ahmadinejad inserted a new element into Iranian public religious discourse when, in September 2005, he concluded his United Nations speech with a prayer seeking the hasty return of the Hidden Imam, the Mahdi. Upon his return to Tehran, he spoke of being "placed inside this [divine] aura," guided by the Hidden Imam's hand. He has since allocated \$20 million dollars to upgrade a shrine at Jamkaran, from which, many theologians believe, the Hidden Imam will emerge. Within Iran, such messianic rhetoric and reference to folk religion may help Ahmadinejad bypass the injunctions of more established

⁵ Husayn Ali Montazeri. *Matn-i kamil-i khatirat-i Ayatallah Husayn 'Ali Muntaziri*. (Spånga, Sweden: Baran, 2001).

clergy. Should the clergy seek to counter his efforts, Ahmadinejad can argue to his followers that some clerical leaders seek to hamper the return of the Hidden Imam. More dangerous from an international perspective is the possibility that Ahmadinejad may be sincere in his belief that violence can speed the return of the Hidden Imam, for this would throw into question the efficacy of both diplomacy and deterrence. While the President is not the ultimate power in the Islamic Republic, he serves with the implicit endorsement of the Supreme Leader.

ECONOMY

Despite the shortfall in energy production, experts believe Iran's economy to be relatively stable, with gross domestic product growth in each of the past two years in the range of 5-6 percent. That stability, however, is primarily the result of high oil prices and expansionary fiscal policy, and it masks underlying weaknesses that will become apparent if oil prices fall. Unemployment, for example, is high; official figures put the rate of unemployment at roughly 10-15 percent, but some outside estimates suggest this figure may be higher, particularly among younger working-age groups. According to the International Monetary Fund, inflation, which currently stands at about 15 percent by official estimates, is the country's most pressing problem and is partly the result of a lack of monetary independence. Inflation has become a major domestic political issue. While some Iranian officials deny inflation is in the double digits, many parliamentarians acknowledge the figure to be higher, and foreign embassies estimate it to be around 25 percent. Recent Iranian newspaper reports acknowledge that the prices of basic foodstuffs have increased more than 50 percent, and housing costs have increased 150 percent since 2007.

IRAN IS OIL-RICH, BUT ALSO ENERGY-DEPENDENT.

Some of the blame for the current high levels of inflation rests with Ahmadinejad's expansionary fiscal policy. Upon his election to office in 2005, Ahmadinejad made bold

pledges to expand social welfare and justice for the poor, but as inflation and unemployment remain high, he has failed to keep his promises. In June of 2006, sixty Iranian economists wrote a letter to Ahmadinejad, criticizing his "populist" program as bad for the long-term prospects of the Iranian economy.

Some of Iran's economic difficulties have been caused by the ideology of the Islamic revolution of 1979, which propped self-sufficiency and an end to Iran's dependence on, and perceived manipulation by, great powers. The Islamic Republic does manufacture automobiles under license from such European companies as Peugeot, Renault, and Mercedes, but Iran's economy is not heavily industrialized.

For many Iranians, everyday concerns are prosaic. Iran is oil-rich, but also energy-dependent. It is the fourth-largest exporter of crude oil, and has the world's third largest proven oil reserves, estimated at 136 billion barrels, or 10 percent of known world reserves. The Islamic Republic exports between 2.0 and 2.5 million barrels of oil per day, about five percent of global crude oil production. In 2007, this accounted for \$69 billion, approximately 80 percent of Iran's export revenues and, almost two-thirds of all state revenue. The continuing rise of oil prices on the world market only makes such exports more lucrative. Because Iran's 2007 state budget was based upon an expected price of \$60 per barrel, it has accumulated foreign currency reserves of perhaps \$64 billion at the end of the 2007 fiscal year.⁶ The Islamic Republic also has the world's second largest natural gas reserves, although these remain largely undeveloped.

Iran's leaders are able to steer the proceeds of this oil money influx to provide patronage and build constituencies, particularly among the lower class. During Ahmadinejad's 2005 campaign for the presidency, for example, he promised to bring "oil [money] to the table of every Iranian." After his election, he sought popular support with direct disbursement of cash during his frequent provincial trips. Because Iran's political leaders benefit from the structure of the economy as it is, there is little chance of major, structural economic reform.

⁶ Economist Intelligence Unit (EIU). *Iran Country Profile 2007*. p. 63.

CURRENT SITUATION IN IRAN

TABLE I: ONGOING IRANIAN OIL AND GAS FIELD EXPANSION PROJECTS

CITY	COMPANY	PROBABILITY	YEAR	QUARTER	CAPACITY (THOUSANDS B/D)	TYPE
Shiraz	National Iranian Oil Co.	Probable Expansion	2008	4	8	Fluid Catalytic Cracking
Arak	National Iranian Oil Co.	Probable Expansion	2009	4	75	Crude Distillation Unit
Tabriz	National Iranian Oil Co.	Probable Expansion	2010	4	5	Vacuum Distillation
Tabriz	National Iranian Oil Co.	Probable Expansion	2011	1	9	Visbreaking
Abadan	National Iranian Oil Co.	Probable Expansion	2009	1	23	Fluid Cat Cracking
Arak	National Iranian Oil Co.	Probable Expansion	2009	4	21	Fluid Cat Cracking
Tabriz	National Iranian Oil Co.	Probable Expansion	2011	1	9	Dist Hydrocracking
Bandar Abbas	National Iranian Oil Co.	Probable Expansion	2009	4	13	Dist Hydrocracking
Bandar Abbas	National Iranian Oil Co.	Probable Expansion	2011	2	60	Condensate Splitter
Bandar Abbas	National Iranian Oil Co.	Probable Expansion	2009	4	120	Condensate Splitter
Tabriz	National Iranian Oil Co.	Probable Expansion	2011	1	25	Crude Distillation Unit
Isfahan	National Iranian Oil Co.	Probable Expansion	2010	3	41	Crude Distillation Unit
Kermanshah	National Iranian Oil Co.	Probable Expansion	2009	2	18	Crude Distillation Unit
Shiraz	National Iranian Oil Co.	Probable Expansion	2009	2	20	Crude Distillation Unit
Lavan	National Iranian Oil Co.	Probable Expansion	2009	3	20	Crude Distillation Unit
Bandar Abbas	National Iranian Oil Co.	Less Likely	2007	4	0	Vacuum Distillation
Kermanshah	National Iranian Oil Co.	Probable Expansion	2010	1	0	Crude Distillation Unit
Abadan	National Iranian Oil Co.	Less Likely	2011	4	0	Crude Distillation Unit
Bandar Abbas	National Iranian Oil Co.	Less Likely	2010	1	0	Crude Distillation Unit
Bandar Abbas	National Iranian Oil Co.	Less Likely	2010	4	0	Crude Distillation Unit
Salman, Foroozan,						
Daroud	Total, Petro Iran	Less Likely	2007	4	0	Crude Distillation Unit
Bandar Abbas	National Iranian Oil Co.	Probable Expansion	2009	4	88	Crude Distillation Unit
Bandar Abbas	National Iranian Oil Co.	Probable Expansion	2009	4	40	Vacuum Distillation
Isfahan	National Iranian Oil Co.	Probable Expansion	2010	3	50	Resid Cat Cracking
Isfahan	National Iranian Oil Co.	Probable Expansion	2010	3	43	Vacuum Distillation
Hormuz	National Iranian Oil Co.	Less Likely	2013	4	0	Crude Distillation Unit
Hormuz	National Iranian Oil Co.	Less Likely	2013	4	0	Vacuum Distillation
Hormuz	National Iranian Oil Co.	Less Likely	2013	4	0	Fluid Cat Cracking
Hormuz	National Iranian Oil Co.	Less Likely	2013	4	0	Resid Hydrocracking

Source: Lehman Brothers

Should oil prices again decline, Tehran may face serious fiscal difficulty. When oil was \$60/barrel, the Iranian government had to borrow roughly \$20 billion per year. Rising oil prices have masked declining production. In 1974, Iran was producing six million barrels per day of crude, but it has been unable to match those levels since

the 1979 revolution. In the late 1990s, oil production surpassed 4 million barrels per day, although oil production has since dropped slightly. On July 8, 2008, a National Iranian Oil Company executive acknowledged that, without significant investment in Iranian infrastructure, production would each year decline 300,000 barrels

per day⁷, although this figure may be higher: reservoir damage and decreases in existing deposits claim an estimated 400 – 500 thousand barrels per day. Iranian oil production has declined at a rate of 10 – 12 percent annually⁸, both because of the natural decline, lack of upkeep of existing oil fields, and insufficient investment in development of new projects. The natural annual decline rate for existing Iranian oil fields is perhaps eight percent onshore and ten percent offshore. Current Iranian recovery rates are 24 – 27 percent, less than the world average of 35 percent.⁹ This may be tied to shortages of natural gas for use in enhanced oil recovery efforts such as re-injection. Re-injection could boost daily oil production by 220,000 barrels per day.¹⁰ All major upstream projects have the potential to increase production by a further 1.26 million barrels per day, far short of the Iranian government’s stated target of total production of 5.8 million barrels per day by 2015, a figure which would require an estimated \$25 – 35 billion of foreign investment.

IRAN’S LEADERS ARE ABLE TO STEER THE PROCEEDS OF THIS OIL MONEY INFLUX TO PROVIDE PATRONAGE AND BUILD CONSTITUENCIES, PARTICULARLY AMONG THE LOWER CLASS.

Despite recent agreement with Russia’s Gazprom and Italy’s Edison International, the Iranian government is unlikely to attract sufficient foreign investment to develop its energy sector. The Iranian constitution prohibits foreign ownership of oil fields, which precludes the standard practices of offering capital, technology, and management in exchange for some share of the resource to be extracted. Instead, Tehran relies on a unique buyback system under which foreign investment is considered a sovereign debt that Iran “buys back” at a 15–17 percent rate of return, a procedure and rate which foreign companies find unattractive.

In addition, many investors find it difficult to work with Iranian officials. The Iranian negotiation bureaucracy remains convoluted, and the government’s adherence to deals can be inexact at best. Such an investment climate limits foreign investment, as even Chinese and Russian companies are unwilling to execute deals for strictly political reasons.

Tehran will face similar difficulties in developing its estimated 974 trillion cubic feet in proven natural gas reserves. In 2005, Iran sold 65 percent of its production on the market, used 18 percent for enhanced oil recovery re-injection, and lost 17 percent due to flaring and the reduction of wet natural gas from hydrocarbon extraction.

DO IRAN’S ENERGY NEEDS JUSTIFY ITS NUCLEAR PROGRAM?

Iran’s electricity consumption is growing approximately eight percent per year. By 2012, its annual consumption could be between 202 and 289 billion kilowatt hours. Until recently, the Iranian government has managed to keep production above demand, but in 2008 had to institute a series of scheduled blackouts in Tehran as demand exceeded production. Such shortages have led some Iranian officials to question the wisdom of continued Iranian electricity exports, an important Iranian soft power component, to countries such as Iraq. Three-quarters of Iran’s production is natural gas-fired; seven percent is hydroelectric, and the remainder oil-fired. While the Iranian leadership unveiled plans for a wind power plant near Yazd, this remains off-line and will not have much impact on Iran’s total electricity production.

Iran’s Ministry of Energy estimates that Iran will have to increase its capacity by a third to 60 gigawatts by 2015. It is in this context that the Iranian government justifies the one gigawatt Bushehr nuclear reactor, and perhaps seven more such reactors, with similar capacity, by 2020. Additionally, Iran and Turkey plan to build three natural gas-fired power plants with a capacity of six gigawatts as well as joint hydroelectric plants starting in

⁷ *Abrar* (Tehran), July 9, 2008, <http://abrarnews.com/economic/1387/870419/html/energy.htm>

⁸ Energy Information Administration (EIA). *Iran Country Analysis Brief*. October 2007, pp. 2-3.

⁹ EIA, 2007, p. 4 and Roger Stern “The Iranian Petroleum Crisis and United States National Security.” *Proceedings of the National Academy of Sciences*. 104.1 (2007), p. 380

¹⁰ Stern, 2007, p. 380

2008. Developing nuclear power may free up natural gas and petroleum for export or domestic use. The Iranian government argues that seven gigawatts of nuclear power generation would free up 190 million barrels per year of oil, equivalent to 13 percent of the country's current production, or \$7 billion annually at 2005 prices.

WHILE IRANIAN LEADERS CITE A DESIRE TO BECOME SELF-SUFFICIENT IN ENERGY PRODUCTION AS A REASON FOR THEIR NUCLEAR INVESTMENT, NUMBER CRUNCHING SUGGESTS IRAN WILL BECOME DEPENDENT UPON IMPORTED URANIUM.

Should observers accept that energy needs alone motivate the Islamic Republic's nuclear program, Tehran's nuclear calculation is unwise. The majority of Iran's natural gas reserves have yet to be developed. Iran already relies on natural gas-fired plants to produce about 75 percent of its electricity. Increasing that production capacity would not appear to require major infrastructure investments. Six of Iran's most populous cities—Tehran, Mashhad, Isfahan, Shiraz, Tabriz, and Ahvaz, already have direct access to natural gas pipelines; Mashhad, Ahvaz, and Shiraz are close to major refineries. Should the Islamic Republic reform its investment climate, it could develop natural gas processing plants, pipelines, and power plants in a manner more economically attractive than with nuclear power.

Furthermore, while Iranian leaders cite a desire to become self-sufficient in energy production as a reason for their nuclear investment, number crunching suggests Iran will become dependent upon imported uranium. As Iran's estimated conventional uranium resource is only between 15,000 and 30,000 tons, operating all its planned reactors

would deplete Iran's uranium reserves by 2023,¹¹ making Iran dependent upon external sources. Both the relative expense of the Islamic Republic's nuclear program and its limited uranium resources suggest it is unlikely that energy needs alone motivate Tehran.

BOTH THE RELATIVE EXPENSE OF THE ISLAMIC REPUBLIC'S NUCLEAR PROGRAM AND ITS LIMITED URANIUM RESOURCES SUGGEST IT IS UNLIKELY THAT ENERGY NEEDS ALONE MOTIVATE TEHRAN.

IRAN'S ECONOMY AND ECONOMIC VULNERABILITIES

Energy Subsidies

The Islamic Republic has become increasingly energy-dependent. According to the International Energy Agency, Iran already consumes more energy than all but 15 other countries. Between 1990 and 2006, for example, car ownership in Iran grew by 250 percent.¹²

While the Islamic Republic is self-sufficient in diesel and kerosene, its refining capacity was sufficient to fulfill only about 60 percent of domestic demand until at least June 2007. Tehran had to purchase the remainder from other sources, including India, Kuwait, and Venezuela.

In June 2007, the government instituted a gasoline rationing scheme to reduce its consumption growth, facilitate equitable distribution, and increase prices.

Individuals could purchase 100 liters of gasoline at the subsidized price of 1,000 rials per liter (approximately \$0.42/gallon), although taxi drivers had an allotment of 800 subsidized liters per month. Analysts estimate that rationing initially reduced gasoline imports by as much as half, although politically-motivated exceptions have whittled away some of the gains. In December 2007, the government raised the individual quota to 120 liters

¹¹ Pacific Northwest Center for Global Security, "Alternative Energy Economics for Iran: Options, Definitions and Evaluation," citing *Uranium 2003 Resources, Production and Demand*, NEA No. 5291, OECD 2004.

¹² EIA, 2007, p. 7

per month, and in March 2008 introduced a scheme to enable individuals to purchase gasoline above their quota at a still-subsidized price of 4,000 rials per liter. In June 2008, further revisions eliminated rations for all domestic cars with engines larger than 2000 cubic centimeters and all imported cars with engine capacity greater than 1300 cubic centimeters. Owners of these cars must buy gasoline at the higher price of 4,000 rials per liter. Tehran currently spends perhaps \$5 billion per year to import refined gasoline, drawing down its foreign exchange reserve fund.

SHOULD THE ISLAMIC REPUBLIC REFORM ITS INVESTMENT CLIMATE, IT COULD DEVELOP NATURAL GAS PROCESSING PLANTS, PIPELINES, AND POWER PLANTS IN A MANNER MORE ECONOMICALLY ATTRACTIVE THAN WITH NUCLEAR POWER.

By linking rations to drivers through drivers' licenses and the issuance of 'smart cards' with which to purchase petrol, the Iranian program has achieved Tehran's three objectives: (1) lessening vulnerability by forcing a 25-30 percent reduction in consumption; (2) creating a equitable mechanism to undercut potential discontent; and (3) establishing a price mechanism to enable it to phase out expensive subsidies.

While Iran's heavy subsidization of gasoline for consumers was once a major weakness, encouraging consumption and black market smuggling to neighboring states where the price of gasoline was higher, Tehran has reduced its vulnerability and, to some extent, pre-empted outside action to create additional economic pain.

Inefficient Social Welfare Policies.

Inefficient social welfare policies implemented after the 1979 Revolution are a systematic drain on the Iranian

economy. While the official welfare effort has succeeded in reducing the proportion of the population below the poverty line from 47 percent in 1978 to 19 percent in 2003, over seven million Iranians—10 percent of the population—benefit from the government's officially-sanctioned social welfare network. The official social welfare system overseen by the Ministry of Welfare and Social Security has clear criteria and stipulated benefits for unemployment compensation, old age pensions, disability pensions, survivor benefits, and medical benefits. In addition, the main official relief agencies are the Welfare Organization and the Imam Khomeini Relief Committee, both overseen by the Ministry of Welfare and Social Security. The Imam Khomeini Relief Committee assists as many as seven million Iranians with basic foods. Both the Committee and the Welfare Organization provide social welfare services to women-headed households, a significant phenomenon in Iran both because of Iran-Iraq War widows and high divorce rates. The Ministry of Welfare and Social Security has set up some 7,000 job centers for female heads of households, providing vocational training among other services. Other ministries that oversee or give out social welfare benefits are the Ministry of Housing and Urban Development, the Ministry of Agricultural Jihad, and the Ministry of Labor and Social Affairs.

WHILE IRAN'S HEAVY SUBSIDIZATION OF GASOLINE FOR CONSUMERS WAS ONCE A MAJOR WEAKNESS... TEHRAN HAS REDUCED ITS VULNERABILITY.

Tehran's social welfare strategy includes the provision of implicit subsidies, not only for gasoline but also for medicines, bread, and other goods. The World Bank calls these subsidies "untargeted and ineffective" and not disproportionately benefiting the poor. Much of the benefit of subsidies goes to Iranians who are middle

class or even affluent. For example, the Imam Khomeini Relief Committee provides education assistance to about 600,000 students, including university scholarships, and also provides marriage dowries to a broad array of Iranians, not necessarily just those who are below the poverty line. Critics charge that the government is trying to eliminate poverty through handouts and charitable transfers rather than by generating employment.

Revolutionary Foundations, Cooperatives, and IRGC Fronts

A number of institutions distort the Iranian economy, welfare policies, and hamper general reform. First among these are the Revolutionary Foundations. Because these *bonyads* are not under the authority of the Ministry of Welfare and Social Services, but are rather run by key clerics and other former or current government officials, the *bonyads*' criteria for deciding who should receive social welfare is often arbitrary. Needy Iranians who are not well-connected or who are perceived as unsympathetic to the regime may simply not receive social welfare benefits.

BEYOND THEIR DISTORTION OF THE ECONOMY, SOME BONYADS APPEAR INVOLVED IN PROCUREMENT OF TECHNOLOGY UTILIZED IN IRAN'S INDIGENOUS WEAPONS AND NUCLEAR PROGRAMS.

Because the *bonyads* account for perhaps 33 percent to 40 percent of Iran's total gross domestic product, they distort normal market forces in Iran. In the wake of the 1979 revolution, the *bonyads* have come to enjoy significant economic and political privileges. Several of the *bonyads*, the heads of which are appointed by the Supreme Leader, control vast assets given to them by the state. Together, they may employ as many as five million Iranians and give social welfare to several million more. The *bonyads* create

a large constituency of support for the regime among the working and lower classes.

The *bonyads*' privileges are vast. They enjoy tax exemption and customs privileges, preferential access to credit and foreign exchange, and regulatory protection from private sector competition. Using these preferences, some of the major *bonyads* have been able to establish monopolies in the import and distribution of various items.

OFFICIALLY, THE FOUNDATION FOR THE OPPRESSED AND DISABLED USES THE PROFITS FROM THESE VENTURES TO ASSIST 120,000 FAMILIES OF VETERANS AND VICTIMS OF THE 1980-88 IRAN-IRAQ WAR... BUT ALSO MAY BE INVOLVED IN ILLICIT IMPORTS AND SUPPORT FOR IRANIAN PROXY GROUPS ABROAD.

Beyond their distortion of the economy, some *bonyads*—especially the Foundation for the Oppressed and Disabled—appear involved in procurement of technology utilized in Iran's indigenous weapons and nuclear programs. Because they are not formally part of Iran's government, they can operate outside official scrutiny of foreign governments, and therefore illicitly procure equipment that might not be approved for export to Iran.

There may be as many as 123 different *bonyads* in Iran, but most experts focus only on the largest and best known of them:

- The Foundation for the Oppressed and Disabled (*Bonyad Mostazafan va Janbazan*). The largest and most important of the *bonyads*, it took over much

of the assets of the former Shah and his associates who fled Iran after the Islamic revolution. Headed by Mohammad Forouzandeh, the chief of staff of the Revolutionary Guard in the late 1980s and a former Defense Minister. It now manages over 400 companies and factories, worth perhaps \$12 billion, and is the largest economic entity in Iran after the government. The Foundation is active in food and beverages, chemicals, shipping, metals, petrochemicals, construction materials, dams, towers, farming, horticulture, animal husbandry, tourism, transportation, hotels, commercial services, and financing. Officially, the Foundation uses the profits from these ventures to assist 120,000 families of veterans and victims of the 1980-88 Iran-Iraq war, as well as large segments of the poor, but also may be involved in illicit imports and support for Iranian proxy groups abroad.

- The Martyr's Foundation (*Bonyad Shahid*). This foundation also assists families of those killed or maimed in the Iran-Iraq war. It owns several companies involved in mining, agriculture, construction, and import-export.

- Imam Reza Foundation. Based in Mashhad in northeastern Iran, it used donations from eight million pilgrims to the Shrine of Imam Reza to buy up 90 percent of the arable land in its area. The estimated value of this land could be as high as \$20 billion. The largest employer in Khorasan, the Foundation runs 56 companies including a Coca-Cola plant, automobile manufacturing, and two universities. It is headed by Ayatollah Abbas Vaez-Tabasi, who serves on the powerful Expediency Council that is headed by former President Akbar Hashemi-Rafsanjani. Vaez-Tabasi's son is married to Khamenei's daughter.

- The 15 Khordad Foundation, named for the anniversary of the beginning of Khomeini's 1963 agitation against the Shah, the Foundation became famous when, in 1989, it offered a \$1 million bounty

to anyone who killed Salman Rushdie, author of the *Satanic Verses*.

- The Isargaran Foundation, also controlled by former Revolutionary Guard officers, provides services to the families of those killed or taken prisoner in the Iran-Iraq war.

Another phenomenon distorting the economy is the cooperatives which forcibly constrain and control private enterprise in a number of economic sectors. The Ministry of Cooperatives, in theory, oversees the operations of cooperatives, but, in practice, allies or relatives of regime heavyweights run the cooperatives outside the oversight of the Ministry. The best known cooperative is the Rafsanjan Pistachio Growers Cooperative. Run by the cousin of former president Akbar Hashemi-Rafsanjani, who is chairman of the powerful Expediency Council, the cooperative claims to represent over 70,000 pistachio farmers who control a crop whose export is worth perhaps \$1 billion.

IN ANOTHER EXAMPLE OF IRGC MUSCLE-FLEXING, THE GUARD BRIEFLY CLOSED DOWN THE NEW INTERNATIONAL AIRPORT IN TEHRAN TO OUST AN AUSTRIAN-TURKISH FIRM FROM AIRPORT OPERATIONS SO THAT THE IRGC COULD TAKE OVER.

The Islamic Revolutionary Guards Corps are also playing an increasing role in the economy. Ahmadinejad was a commander in the Guard during the 1980-88 Iran-Iraq war; his presidency has only enhanced the Guard's influence. Its motivations for expanding its economic role are apparently to provide rewards for senior officers, and to generate revenue to supplement the budget allocated to the Guard by the government.

CURRENT SITUATION IN IRAN

TABLE 2: ECONOMIC INDICATORS

Economic Growth	5.8 percent (2007 est.)
Proven Oil Reserves	100 billion barrels (fifth in world)
Refined Gasoline Imports	\$4 billion value per year (60 percent from European oil trader Vitol)
Oil Production	4.15 million barrels per day (2006 est.)
Oil Exports	2.52 million barrels per day (2006 est.)
Major Oil Customers	China - 450,000 barrels per day (bpd); about 4 percent of China's oil imports; Japan - 800,000 bpd, about 12 percent of oil imports; South Korea - about 9 percent of its oil imports; Italy - 9 percent from Iran; France - 7 percent; Belgium - 14 percent; Turkey - 22 percent; Greece - 24 percent; India - 150,000 bpd (10 percent of its oil imports)
Refined Gasoline Suppliers	India, Kuwait, Turkey, Venezuela
Some Major Trading Partners	Japan (\$7.5 billion exports to Japan); China (\$3.9 billion exports, \$2.7 billion imports); Italy (\$5.3 billion equally divided import/export); Germany (\$4.9 billion imports); France (\$3.2 billion imports)
Export Credit Guarantee Exposure	Italy - \$6.2 billion; Germany - \$5.4 billion; France - \$1.4 billion; Spain - \$1 billion, and Austria - \$1 billion Renault (France) and Mercedes (Germany)- automobile production in Iran; Renault (France), Peugeot (France) and Volkswagen (Germany) - auto parts production; Turkey - Tehran airport improvement, hotels; China - shipbuilding on Qeshm Island, aluminum factory in Shirvan, cement plant in Hamadan; United Arab Emirates' - financing of Esfahan Steel Company; India - steel plant; South Korea - steel plant in Kerman Province.
Trade With United States (2006)	\$157 million exports to U.S.; \$85 million imports from U.S. (trade is severely restricted by U.S. sanctions)
Foreign Exchange Reserves	\$64 billion (2007 est.)
External Debt	\$20.65 billion (2007 est.)
Unemployment	12 percent government estimate; more than 25 percent by other estimates
Income Per Capita (purchasing power parity)	2007

Source: Central Intelligence Agency *The World Fact Book* (2008); Lehman Brothers

The Guard has formed contracting firms to bid on government projects, using its strong political influence to win business to the detriment of both the private sector and foreign investment. In one recent example, "Ghorb," an IRGC-owned firm, received a \$2.3 billion contract to develop two phases of Iran's large South Pars gas field.¹³ The IRGC apparently exerted political muscle to take the contract away from what most industry experts consider a more capable Norwegian firm. In another example of IRGC muscle-flexing, the Guard briefly closed down the new international airport in Tehran to oust an Austrian-Turkish firm from airport operations so that the IRGC could take over.

POLITICS OF REFORM

Many Iranian officials acknowledge the weaknesses of Iran's economy, and argue for reform. However, differences among Iranian leaders—in part caused by their different constituencies—have deadlocked all attempts for broad structural reform of the economy.

Both the 2005 presidential election campaign in which Ahmadinejad emerged victorious, and Iran's 2009 presidential campaign which is starting, have highlighted these issues. In 2005, Ahmadinejad campaigned on a platform of redistribution of wealth rather than poverty-alleviation through growth. Ahmadinejad and his allies favor an extensive state role in the economy, including state management of factories and other entities that can provide employment for the working classes. Since taking office, he has tried to authorize below-market interest rates and price controls.

As a former Revolutionary Guard officer himself, he is close to other former Guards and those who run the various revolutionary foundations, particularly the Foundation of the Oppressed and Disabled. He supports their work in distributing social welfare to the poor. He does not favor eliminating the preferences that the revolutionary foundations enjoy because he depends on the revolutionary foundations to provide social payments

¹³ Hashem Kalantari and Sally Jones. "Iran Set to Award Lucrative Gas Deal to Elite Militia." *Wall Street Journal*, June 29, 2006.

to his core lower class base. He is also less attracted than are other Iranian politicians to greater economic interaction with Europe and other Western countries. For example, he is not interested in joining the World Trade Organization or reaching a free trade agreement with the European Union. Ahmadinejad believes that his lower class constituents would not necessarily benefit from a more export- and growth-oriented economy. They generally do not buy imported European-made luxury goods.

ANOTHER PHENOMENON DISTORTING THE ECONOMY IS THE COOPERATIVES WHICH FORCIBLY CONSTRAIN AND CONTROL PRIVATE ENTERPRISE IN A NUMBER OF ECONOMIC SECTORS.

Rafsanjani, Ahmadinejad's main competitor in the 2005 election and a continuing rival, represents another pole in the debate over economic reform. Rafsanjani is a Khomeini disciple who has been a leading figure throughout the Islamic Republic's political history. As one of Iran's richest men, Rafsanjani believes the Islamic Republic would benefit from freer trade. He has chafed as Ahmadinejad's confrontation with the West triggered economic sanctions, and has sought to have Khamenei rein Ahmadinejad in before the West subjects the Islamic Republic to greater economic pressure.

MANY IRANIAN OFFICIALS ACKNOWLEDGE THE WEAKNESSES OF IRAN'S ECONOMY, AND ARGUE FOR REFORM.

Bazaar merchants (*bazaaris*) represent another major economic interest in the Islamic Republic. They control not only an important engine of Iran's economy—the

import and export of goods—but also have a voice in several newspapers, including *Resalat*. Khamenei has, throughout his career, been supportive of the *bazaaris*. They and their allies tend to oppose too large a state role in the economy and favor increased trade to expand the market for Iranian goods. Some Iranians, however, complain that *bazaaris* engage in “crony capitalism,” by trying to control certain markets by acting in concert, such as jointly boycotting supplier companies to force concessions.

GEOPOLITICAL STATE OF PLAY

Russian and Chinese reluctance to sanction or otherwise coerce the Islamic Republic highlights the importance of gauging the geopolitical state of play. Iran's relations with the rest of the region are complex. Much of this has to do with growing sectarian awareness. While the Shi'a account for only ten to fifteen percent of the world's Muslim population, they represent nearly half of all Muslims in the heart of the Middle East, between the shores of the Mediterranean and the Iranian frontier with Afghanistan. In December 2005, King Abdullah II of Jordan warned publicly of a growing “Shi'a crescent” stretching from Iran, through Iraq and Syria, to Lebanon where Hezbollah, an Iranian client, threatens the Lebanese government.

RUSSIAN AND CHINESE RELUCTANCE TO SANCTION OR OTHERWISE COERCE THE ISLAMIC REPUBLIC HIGHLIGHTS THE IMPORTANCE OF GAUGING THE GEOPOLITICAL STATE OF PLAY.

Much tension revolves around the situation in Iraq. Indeed, Iranian activities in Iraq are a concern not only to the United States, but also to almost every regional country. U.S. authorities have accused the Islamic Republic of supporting and supplying both Shi'i militias and Sunni insurgents.

Iran's motivations to exert its presence in Iraq are both strategic and religious. Dissidents in Iraq have catalyzed every major revolution or mass movement in modern Iranian history. Utilizing the telegraph lines, clerics in the Shi'i holy cities of Najaf and Karbala helped coordinate mass protests during the 1905-1911 constitutional revolution which ended absolute monarchy in Iran.

While the Shah exiled Khomeini in 1963 amidst his agitation against modernizing reforms, Khomeini maintained his influence from his Iraqi residence through smuggled audiotapes from Iraq into Iran.

RELIGION IS IRONICALLY THE ISLAMIC REPUBLIC'S ACHILLES' HEEL.

Religion is ironically the Islamic Republic's Achilles' heel. The concept of clerical rule upon which Khomeini built his theocracy remains a minority interpretation within the larger Shi'i community. Iraqi President Saddam Hussein insulated the clerical government in Iran from having to face dissident clerical voices since he himself sought to mute public clerical discourse. His regime's collapse, however, renewed a vibrancy in the Shi'i shrine cities that threatens to undermine the Supreme Leader's attempts to control religious practice inside Iran. Every time an ayatollah in Najaf contradicts the Supreme Leader, even on matters as technical as the sighting of a new moon, it undercuts the Islamic Republic's authority.

This provides one motivation for both direct Iranian involvement in Iraq and the activities of Iranian-backed militias who seek to impose through force what might not be in the hearts and minds of Iraqi Shi'a. Grand Ayatollah Ali Sistani, for example, survived for years under Saddam when many of his clerical cohorts did not by remaining mindful of who around him had the guns.

The Iranian strategy is multifold. By maintaining low-level insurgency and hampering the establishment of a stable democracy in Iraq, Tehran can both keep the U.S. military occupied and, in theory, have ample targets

should U.S. officials order an air strike against Iranian nuclear facilities.

EVERY TIME AN AYATOLLAH IN NAJAF CONTRADICTS THE SUPREME LEADER, EVEN ON MATTERS AS TECHNICAL AS THE SIGHTING OF A NEW MOON, IT UNDERCUTS THE ISLAMIC REPUBLIC'S AUTHORITY.

The unofficial battle for supremacy in Iraq is not the only geopolitical phenomenon which can complicate diplomacy intended to resolve the Iranian nuclear conflict. There is also tension among the Gulf Cooperation Council states. Even before the Islamic Revolution, Iran and Saudi Arabia competed for primacy in the Persian Gulf, although as monarchies they found common ground both in opposition to Soviet penetration and also to the radical successor regimes which overthrew monarchies in Egypt and Iraq. Tehran and Riyadh both cooperated to defeat communism in Oman. However, both countries sparred over oil pricing policy and clashed over issues of Islamic versus Iranian identities.

EVEN BEFORE THE ISLAMIC REVOLUTION, IRAN AND SAUDI ARABIA COMPETED FOR PRIMACY IN THE PERSIAN GULF.

The 1979 Islamic Revolution redefined the Iranian-Saudi rivalry. The Iranian government sought to export revolution and launched an anti-Saudi propaganda campaign. Tehran inflamed Saudi Arabia's Shi'a minority and incited sectarian division at the Hajj. Saudi support for Baghdad during the Iran-Iraq War further strained relations, although there was a brief détente following

the 1990 Iraqi invasion of Kuwait. Still, such a détente is tenuous. Tehran's involvement in the 1996 Khobar Towers bombing has further strained relations.

THE IRANIAN STRATEGY IS MULTIFOLD. BY MAINTAINING LOW-LEVEL INSURGENCY AND HAMPERING THE ESTABLISHMENT OF A STABLE DEMOCRACY IN IRAQ, TEHRAN CAN BOTH KEEP THE U.S. MILITARY OCCUPIED AND, IN THEORY, HAVE AMPLE TARGETS SHOULD U.S. OFFICIALS ORDER AN AIR STRIKE AGAINST IRANIAN NUCLEAR FACILITIES.

Iran's relationship with smaller Persian Gulf states is also tense. Bahrain, a small island nation in which a Sunni minority rules a majority Shi'i population, blames Iran for instability in 1995 and 1996. The United Arab Emirates and Iran continue to spar over Abu Musa and the disputed Tonb islands. Among Arab countries, only Syria enjoys strong relations with Iran.

AMONG ARAB COUNTRIES, ONLY SYRIA ENJOYS STRONG RELATIONS WITH IRAN.

THE MILITARY BACKGROUND

Any discussion of military options and scenarios can only take place with proper attention to Iran's geography, its own military structure, and the posture of regional militaries.

GEOGRAPHY

Modern Iran is four times the size of California or, put another way, is larger than Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, the District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Tennessee, Kentucky, Ohio, Indiana, Illinois, and Michigan combined. It is a topographical fortress. The Zagros Mountains, rising abruptly from the Iraqi plain, guard Iran's western frontier. Some of the peaks top off at more than 12,000 feet. Sir Arnold Wilson, a British diplomat assigned to Iran at the end of World War I, described "The great rampart of the Zagros range... [as] one of the most striking features of West Asia." They stretch for almost a thousand miles along Iran's frontiers with Turkey and Iraq before turning inland in the swampy province of Khuzistan.

MODERN IRAN IS FOUR TIMES THE SIZE OF CALIFORNIA.

Much of northern Iran is likewise guarded by the Alburz Mountains. Mount Damavand, on a clear day visible from Tehran, reaches 19,000 feet. A strip of rice paddies and jungle guards the coast of the Caspian Sea to which Iran families flock to escape Tehran's blanket of pollution and enjoy beach resorts and greenery. These stretch into the hills and grasslands of Khorasan, home of Iran's second largest city, Mashhad.

South of Khorasan are highlands, mountains interspersed with sandy and gravel-strewn plains, but little water. This region, called Sistan, is harsh and isolated. Further south is the hot, rugged, and somewhat lawless region of Baluchistan, where summer temperatures can soar to over 120 Fahrenheit. Home to one of Iran's small Sunni minorities, Baluchistan has long been resentful of the Iranian government headquartered 700 hundred

miles away. With no oil and little agricultural potential, Baluchistan is a center of smuggling and drug trade, and is a chief transit point for opium produced in Afghanistan and Pakistan. In recent years, Baluchi bandits have taken a number of Western tourists hostage, and there have been a number of clashes not only between Iranian security forces and smugglers, but also between Iranian military units and the Jundallah terrorist group operating from across the Pakistani border. Baluchistan ends in rugged hills and mountains along the shores of the Arabian Sea, dotted only with the occasional fishing village.

The interior of Iran is vast, covering over 300,000 square miles. Much of central Iran is desert, or rocky plain, interspersed with barren hills and mountains.

IRAN'S STRATEGIC CAPABILITIES

Iran's conventional armed forces are large but poorly trained and combat ineffective. They lack the logistical ability to project military power much beyond Iran's borders. Iran's Revolutionary Guard Corps (IRGC), into which the paramilitary Basij Resistance Force was incorporated in 2008, enforces adherence to Islamic customs, defends revolutionary values, and is loyal to the Islamic Republic's most hard-line factions. The Supreme Leader appointed new leaders to the IRGC and the Basij in 2007.

Now that Saddam Hussein's regime has fallen, Iran perceives itself to face few external threats beyond that from the U.S. military. Iran's neighbors are not capable of mounting a major threat against Iran (See Tables 3 and 4) Even if the Persian Gulf states were to act in concert they could not be certain of outgunning Iran. Nor do Iran's immediate northern neighbors pose a significant threat to Iran, at least in terms of traditional, quantitative net assessments of military capabilities.

Iran, particularly the IRGC, has acquired a structure for unconventional warfare that partly compensates for its conventional weakness. Former CENTCOM

MAP 4: RELIEF MAP OF IRAN



commander Gen. John Abizaid said in March 2006 that the IRGC Navy, through its basing and force structure, gives Iran a capability to "internationalize" a crisis in the Strait of Hormuz. In his confirmation hearings on January 30, 2007, Abizaid's replacement, Admiral William Fallon, said that "Based on my read of their military hardware acquisitions and development of tactics... [the Iranians] are posturing themselves with the capability to attempt to deny us the ability to operate in [the Strait

of Hormuz]." Although many experts believe that U.S. forces could quickly reopen the Strait if Iran closed it, Iran has tried to demonstrate that it is a capable force in the Persian Gulf. It has conducted at least five sets of major military exercises since August 20, 2006, including at least one in which a Shahab-3 missile was fired. CNN reported on February 21, 2007, that Iranian ships have widened their patrols, coming ever closer to key Iraqi oil platforms in the Persian Gulf. Several weeks later, the

IRGC seized 15 British sailors in disputed waters. After parading the sailors as hostages on Iranian television, Iranian authorities released the British sailors. While some diplomats and commentators suggested the British boat capture may have been a rogue IRGC operation, Iranian officials signaled their approval not only by, a year later, parading the captured boats through Tehran during a military parade, but also by publicly decorating the IRGC colonel in command of the operation.

IRAN IS A TOPOGRAPHICAL FORTRESS.

In the event of conflict, Iran might use suicide boat attacks or lay mines in the Strait of Hormuz. In April 2006, Iran conducted naval maneuvers including test firings of what Iran claims are underwater torpedoes that can avoid detection, presumably for use against U.S. ships in the Persian Gulf, and a surface-to-sea radar-evading missile launched from helicopters or combat aircraft. U.S. military officials said the claims might be an exaggeration, although it is conceivable that such tactics could result in heavy damage to U.S. ships in the event of conflict. The potential danger to U.S. ships was again in evidence in early January 2008 when five IRGC Navy small boats approached U.S. Navy ships in the Persian Gulf in what U.S. officials called a “provocative act” and were warned off without armed confrontation. The incident could have represented an Iranian attempt to determine whether “swarming” of U.S. ships could compensate for superior U.S. firepower.

Largely with foreign help, the Islamic Republic is becoming self sufficient in the production of ballistic missiles and, by U.S. accounts, already has the largest inventory of ballistic missiles in the Middle East. Tehran appears to view its ballistic missiles as an integral part of its strategy to deter or retaliate against forces in the region, including U.S. forces. The Shahab-3 is capable of hitting Israel, and it is conceivable that Iran might fire such missiles at Israel in the event of conflict with the

United States, much as Saddam Hussein did with SCUD missiles during the 1991 Persian Gulf War. However, the Iranian missiles are not believed to be accurate enough to hit specific military targets, but rather would serve as a type of “terror weapon” to threaten Israeli civilians. Iran might also possess chemical or biological warheads for the Shahab-3 which would multiply their terror effect. The Iranian missile capability must be considered in weighing the Islamic Republic’s strategic threat, but they are unlikely to be decisive in any actual conflict with U.S. forces in the Persian Gulf.

IRAN, PARTICULARLY THE IRGC, HAS ACQUIRED A STRUCTURE FOR UNCONVENTIONAL WARFARE THAT PARTLY COMPENSATES FOR ITS CONVENTIONAL WEAKNESS.

The IRGC’s Qods Force is a force multiplier because of its ability to activate and supply movements abroad such as Lebanese Hezbollah, Iraqi militias and terrorist groups or even the Taliban, with which it appears to maintain operational relations across the sectarian divide. Such groups conduct terrorist attacks against the United States and its allies, or attack U.S. troops attempting to stabilize Iraq and Afghanistan. This capability gives Iran leverage to deter direct U.S. combat against Iran or to widen any conflict with the United States to other parts of the region.

Terrorist Proxies

Iran might also turn toward terrorist proxies to amplify its response to conflict with the United States. Hojjat ul-Eslam Mojtaba Zolnour, the deputy representative of the Supreme Leader in the Revolutionary Guards, said at a July 13, 2008 speech in Kermanshah that the Islamic Republic would respond to any U.S. attack with strikes on more than 30 different U.S. bases.¹⁴ Policymakers must consider the ability of these movements to cause

¹⁴ *Mehr* (Tehran), July 13, 2008. <http://www.mehrnews.com/fa/newsdetail.aspx?NewsID=716382>

TABLE 3: IRAN'S MILITARY CAPABILITIES

Personnel	540,600 (regular military, IRGC, and active Basij). IRGC and Basij are about 1/3 of total force, including 3,000 Qods Force. Size of Iranian force is about 1/3 the size of the U.S. active duty force.
Main Battle Tanks	1,693 (including 480 T-72)
Surface-to-Air Missiles	76 batteries (including some I-Hawk, 30 Russian-made TOR M-1, plus some Stinger shoulder-held). Recent purchase of Russian-made S-300.
Combat Aircraft	280 (including 25 MiG-29 and 30 Su-24)
Ships	260 (including 10-15 China-supplied Hudong, 40 Swedish Boghammer small boats, 3 frigates, 3 Russian-made Kilo-class submarines, and several North Korean-designed midget subs. Hudong armed with C-802 anti-ship cruise missiles.
Ballistic Missiles	<ul style="list-style-type: none">• 200 mile range "Fateh 110" missile (solid propellant).• A few hundred short-range ballistic missiles, including the Shahab-1 (Scud-b), the Shahab-2 (Scud-C), and the Tondar-69 (CSS-8).• Shahab-3: 800-mile range; Iran has tested several times and considers it operational, despite several reported failed tests. Has tested a solid fuel version.• Iran claims to have succeeded in extending the range of the Shahab-3 to 1,200 miles into a "Shahab-4," possibly with a multiple warhead.
Coastal Defense Missiles	Unknown number of HY-2 Seersucker and Silkworm emplaced along coast.

Source: Congressional Research Service

unrest in allied states, to attack Israel and other U.S. allies, to conduct terrorist attacks, and to confound U.S. policy objectives in any calculation of an Iranian response.

ALTHOUGH IRAN LACKS THE CAPABILITY TO CONDUCT A SUCCESSFUL LANDING ON THE ARABIAN PENINSULA...THE PERSIAN GULF STATES ARE CONCERNED ABOUT IRAN'S ABILITY TO STIR UP DISSENT AMONG SHIITE DISSIDENT MOVEMENTS.

Although Iran lacks the capability to conduct a successful landing on the Arabian Peninsula from across the Persian Gulf, and its coastal missile force is perceived as too inaccurate to damage severely or permanently Persian Gulf energy facilities, the Persian Gulf states are concerned about Iran's ability to stir up dissent among Shiite dissident movements.

During the 1980s and early 1990s, the Islamic Republic, utilizing both Qods Force and the Ministry of Intelligence assets, sponsored Shi'i extremist groups opposed to the Sunni Muslim-led monarchy states of the six-member Gulf Cooperation Council (Saudi Arabia, Kuwait, Bahrain, Qatar, Oman, and the United Arab Emirates). During the 1980s, Iran sponsored disruptive demonstrations at annual Hajj pilgrimages in Mecca, some of which were violent, and it funded Saudi Shiite dissident movements such as the Organization for the Islamic Revolution in the Arabian Peninsula and the successor organization, Saudi Hezbollah. It is the latter group that Riyadh believes responsible for the June 25, 1996 Khobar Towers housing complex bombing, which killed 19 U.S. airmen. These activities represent an effort by Iran to "export" its Islamic revolution, although during Khatami's presidency Iran reduced support for such dissident movements.

Saudi Arabia, in particular, has become alarmed at the emergence of a pro-Iranian government in Iraq and at the Islamic Republic's ascendancy in Lebanon and other regional Shi'i movements. Saudi Arabia sees itself as leader of the Sunni Muslim world and views Shi'i Muslims as both heretical and internally threatening.

THE MILITARY BACKGROUND

TABLE 4: OTHER REGIONAL MILITARY CAPABILITIES

Iraq	
Military Personnel	About 150,000
Tanks/other armor	Some donated T-72, armored personnel carriers
Combat Aircraft	None
Saudi Arabia	
Military Personnel	199,500, including 75,000 Saudi National Guard
Tanks	1055, including 315 M1-A2 Abrams
Combat Aircraft	291, including 155 F-15
Ships	76, including 7 frigate
Joint Direct Attack Munition (JDAM)	Pending sale of 900 kits notified January 2008
Other GCC (Combined)	
Military Personnel	131,300
Tanks	1277, includes 218 Kuwaiti M1-A2 Abrams; 390 UAE Leclerc
Combat Aircraft	220+, includes F-16 or F-18 flown by all except Qatar
Ships	100+
Missile Defense	Kuwait, Saudi Arabia. UAE purchase in 2008. Qatar has U.S. missile defense emplacements.
Advanced Anti-Tank	Bahrain: joint control with U.S. of ATACM (Army Tactical Missile System)
Joint Direct Attack Munition (JDAM)	Oman, pending sale to UAE
Azerbaijan	
Military Personnel	66,740
Tanks	220, including 120 T-72
Aircraft	42, including 23 MiG-25 and 5 Su-24
Ships	6 Patrol and coastal combatant
Turkmenistan	
Military Personnel	26,000
Tanks	702 T-72
Aircraft	89, including 24 MiG-29
Uzbekistan	
Military Personnel	55,000
Tanks	340, including 70-T-72
Aircraft	135, including 30 MiG-29 and 34 Su-24

Source: Congressional Research Service

**IRAN MIGHT ALSO TURN TOWARD
TERRORIST PROXIES TO AMPLIFY ITS
RESPONSE TO CONFLICT WITH THE
UNITED STATES.**

Currently, Saudi leaders are concerned about Iran's nuclear program, but they are also concerned about the potential for Iranian reaction against the Kingdom should the United States take military action to stop Iran's program. This might explain why King Abdullah has hosted and maintained dialogue with Ahmadinejad and other senior Iranian officials.

Bahrain is particularly vulnerable because its population is mostly Shi'i. In 1981 and again in 1996, Bahrain officially and publicly accused Iran of supporting Bahraini Shi'i dissidents, groups such as the Islamic Front for the Liberation of Bahrain, Bahrain-Hezbollah, among others, in efforts to overthrow the ruling al-Khalifa family.

Emirati concerns about Iran's intentions run deep. In 1971, Iran seized two other islands, Greater and Lesser Tunb, from the emirate of Ras al-Khaymah, as well as part of Abu Musa from the emirate of Sharjah. Abu Dhabi suspicions have not diminished since the April 1992 Iranian expulsion of Emirati security forces from the Persian Gulf island of Abu Musa, which Iran and the United Arab Emirates shared under a 1971 bilateral agreement.

PERHAPS NOWHERE IS IRAN MORE CAPABLE OF RETALIATING AGAINST THE UNITED STATES MILITARILY THAN IN IRAQ, WHERE IT HAS TRAINED AND ARMED SEVERAL MILITIAS.

Qatar is wary that Iran might seek to encroach on its large North Field (natural gas), which is adjacent to Iran's South Pars field, and through which Qatar earns large revenues for natural gas exports. Qatar's fears were heightened on April 26, 2004, when Iran's deputy Oil Minister said that Qatar is probably producing more gas than "her right share" from the field and that Iran "will not allow" its wealth to be used by others.

Perhaps nowhere is Iran more capable of retaliating against the United States militarily than in Iraq, where it has trained and armed several militias, including Moqtada al-Sadr's Jaysh al-Mahdi. The main thrust of Tehran's strategy in post-Saddam Iraq has been to persuade all Shi'i Islamist factions to work together to

ensure Shi'i political dominance and to silence vocal opposition to the concept of *velayat-e faqih* in Iran. However, U.S. officials assert that, as part of its effort to build influence in Iraq, the Islamic Republic supplied militias and insurgent groups with arms, including highly lethal explosively-formed projectiles that have killed over two hundred U.S. soldiers. U.S. forces have, in fact, caught several Iranian Qods Force operatives red-handed as they sought to transfer weapons to Shi'i militias in December 2006 and January 2007. In two high-profile sweeps, U.S. troops arrested two Qods Force operatives in a compound belonging to the Supreme Council for the Islamic Revolution in Iraq, and soon after arrested five others in an Iranian liaison facility in Erbil, the largest city in Iraqi Kurdistan. In December 2007 and January 2008, U.S. and Iraqi military officials released ten of the detained Iranians.

THE MAIN THRUST OF TEHRAN'S STRATEGY IN POST-SADDAM IRAQ HAS BEEN TO PERSUADE ALL SHI'I ISLAMIST FACTIONS TO WORK TOGETHER.

Tehran can also act against the United States and Israel through Lebanese Hezbollah. Founded by Lebanese Shi'i clerics sympathetic to Iran's Islamic revolution, the group committed terrorism against U.S. targets throughout the 1980s and 1990s, including the October 1983 bombing of the U.S. Marine barracks in Beirut, attacks on U.S. Embassy Beirut facilities in April 1983 and September 1984, and the hijacking of TWA Flight 847 in June 1985, in which a Hezbollah terrorist beat and murdered off-duty U.S. Navy diver Robert Stetham. Hezbollah also bombed Israel's embassy in Buenos Aires in 1992 and, two years later, bombed the Jewish community center in Buenos Aires, killing 85. An Argentine investigation determined that senior Iranian officials including the Supreme Leader had ordered the attack, and Iranian IRGC officers provided assistance to Hezbollah.

TEHRAN CAN ALSO ACT AGAINST THE UNITED STATES AND ISRAEL THROUGH LEBANESE HEZBOLLAH.

The Islamic Republic has long been Hezbollah's major arms supplier; it provides more than \$100 million annually to Hezbollah. Recent Iranian shipments to Hezbollah have included "Fajr" and Khaybar series rockets that, in 2006, Hezbollah fired at the Israeli city of Haifa (30 miles from the border), and over 10,000 Katyusha rockets that were fired at cities within 20 miles of the Lebanese border. In addition, Iranian authorities have also supplied Hezbollah with unmanned aerial vehicles that Hezbollah flew over the Israel-Lebanon border on November 7, 2004, and April 11, 2005. Israeli forces shot down at least three of these Hezbollah unmanned aerial vehicles during the 2006 fighting. On July 14, 2006, Hezbollah apparently hit an Israeli warship with a C-802 sea-skimming missile, which had also been supplied by Iran. UN monitors and international diplomacy have failed to prevent Iranian officials from re-supplying Hezbollah in contravention of the ceasefire. In May 2008, Hezbollah forces briefly turned their guns on fellow Lebanese when they seized West Beirut from the Lebanese Army, although, their demonstration of power complete, they later withdrew.

THE ISLAMIC REPUBLIC HAS LONG BEEN HEZBOLLAH'S MAJOR ARMS SUPPLIER; IT PROVIDES MORE THAN \$100 MILLION ANNUALLY TO HEZBOLLAH.

Not only does Hezbollah remain a potent proxy for Iranian action or retaliation, but Tehran might also use Hezbollah to create a diversion and deflect attention and pressure from Iran's nuclear program. Should Hezbollah, for example, reignite the summer 2006 conflict with Israel,

the ensuing crisis would occupy U.S. and international diplomacy and, in so doing, distract focus on the Islamic Republic's nuclear program.

Iran might use its relationship with Palestinian terrorist groups in any broad, sustained conflict with the United States. Even if these groups did not directly target U.S. citizens, they could conduct suicide bombings against Israelis or moderate Arab targets that would communicate an impression of U.S. policy failure. The State Department report on international terrorism for 2007 accused Iran of providing rhetorical, financial, and operational support to Hamas, Palestinian Islamic Jihad, the Al Aqsa Martyr's Brigades, and the Popular Front for the Liberation of Palestine-General Command. Of these groups, Palestinian Islamic Jihad is closest politically to Iran, although Hamas is moving closer to Tehran.

NOT ONLY DOES HEZBOLLAH REMAIN A POTENT PROXY FOR IRANIAN ACTION OR RETALIATION, BUT TEHRAN MIGHT ALSO USE HEZBOLLAH TO CREATE A DIVERSION AND DEFLECT ATTENTION AND PRESSURE FROM IRAN'S NUCLEAR PROGRAM.

Iran could also try to act against the United States in neighboring Afghanistan, both by undermining the central government and by instigating attacks on U.S. forces. While Iran has historical enmity toward the Taliban, this does not preclude tactical cooperation. NATO forces have intercepted Iranian weapon shipments in the Hilmand province during periods of enhanced Taliban activity. Tehran has also taken steps to make western Afghanistan more dependent upon the Iranian electrical grid and transportation system to the detriment of that region's links to the central government. This will enable Iran to enhance its influence and pressure over Afghanistan in the future.

IRAN COULD ALSO TRY TO ACT AGAINST THE UNITED STATES IN NEIGHBORING AFGHANISTAN, BOTH BY UNDERMINING THE CENTRAL GOVERNMENT AND BY INSTIGATING ATTACKS ON U.S. FORCES.

And while sectarian differences may seem to obviate any alliance between Iran and al-Qaeda, pragmatism may allow the Iranian government to overcome any antipathy. The 9/11 Commission suggested a low level of tacit cooperation, mostly involving free transit for jihadis training in Afghan terror camps. Since January 2002, U.S. officials have said it is unclear whether Iran has arrested senior al-Qaeda operatives who are believed to be in Iran. These figures are purported to include al-Qaeda spokesman Sulayman Abu Ghaith, top operative Sayf al Adl, and Osama bin Laden's son, Saad. U.S. officials blamed the May 12, 2003 bombings in Riyadh, Saudi Arabia against four expatriate housing complexes on these operatives, saying they have been able to contact associates outside Iran.

IRAN'S NUCLEAR PROGRAM

IRAN'S NUCLEAR PROGRAM

The Islamic Republic's nuclear program and accompanying U.S. concerns have a history going back at least two decades. Although the Shah laid the initial groundwork for an Iranian nuclear program, Iran's nuclear drive did not begin in earnest until a decade after his fall. In 1989, the Russian government offered to complete the Bushehr nuclear reactor begun by the German company Siemens 15 years earlier.

HISTORY OF IRAN'S NUCLEAR PROGRAM

Much to Washington's consternation, the Russian government began to work actively on the Bushehr plant in 1992, although Moscow did later cancel a 1995 agreement to build a centrifuge plant to produce highly enriched uranium. Delays caused by the difficulty of incorporating Russian technology into German-built facilities pushed back the promised completion date from 2000 to 2008. Technological constraints delayed the development of Iran's program, rather than any lack of intent or effort on the part of the Iranian regime. With the Russian shipment of 82 tons of lightly enriched uranium fuel, Bushehr may now power up to full capacity by December 2008.

Iranian officials justify their program in many different ways. Some argue that energy needs motivate the programs; others cite prestige or even security concerns. As the Islamic Republic develops a nuclear capacity, it will be impossible to determine Tehran's intent. While the 2007 U.S. National Intelligence Estimate suggests Iran ended its nuclear weapons program in 2003, ambiguity surrounds Iranian goals. Indeed, it is quite likely that the Iranian government has yet to decide whether or not they will build a bomb and transform an ostensibly civilian program into a military program. In the short-term, Tehran may not exercise its capacity but, should Iran develop the know-how, in the long-term, it probably will.

Iranian authorities long maintained a covert program alongside their declared nuclear reactor at Bushehr. Pressure mounted on Tehran to explain their covert enrichment program after the Mujahidin al-Khalq exposed details and satellite photos of facilities at Natanz and Arak. When the IAEA finally inspected Natanz in February 2003, they found that the Iranian program was further along than even U.S. intelligence had expected. Iran had already completed 164 centrifuges,

was constructing 1,000 more, and was building a facility to accommodate 50,000, enough centrifuges to produce enough bomb-grade material for as many as twenty crude weapons per year.

IRANIAN AUTHORITIES LONG MAINTAINED A COVERT PROGRAM ALONGSIDE THEIR DECLARED NUCLEAR REACTOR AT BUSHEHR.

Iran's nuclear facilities are dispersed across the country. The Islamic Republic operates an enrichment plant in Natanz and a uranium conversion facility in Isfahan. It is building a light-water research reactor in Bushehr with Russian assistance and a heavy water production plant near Arak, approximately 150 miles south of Tehran. It operates research facilities complete with small research reactors in Tehran and Isfahan. Uranium mines near the central city of Yazd provide raw material, although inspectors have also found traces of plutonium and highly enriched uranium, suggesting that the Iranian nuclear program also receives support from outside proliferators. Whereas once the Iranian government remained dependent on foreign expertise and imports, purchasing Chinese, Swiss, and German calutrons and a Belgian cyclotron, for example, as the Islamic Republic completes its centrifuge cascade (see Appendix D) it will have all components in place to enjoy a fully autonomous nuclear program.

In recent years, the Islamic Republic has accelerated progress. Debate exists, however, over whether Iran is successfully operating the cascades in unison and what technical hurdles remain in mastering this process. As

of May 2007, the IAEA reported that Iran was running roughly 1,300 of its centrifuges at Natanz; by July 2008, IAEA officials speaking to the press said that the Islamic Republic had installed 4,000 centrifuges, although only 3,500 were running regularly. The Agency also believes that Iran has already produced roughly 75 kilograms of over 4 percent enriched uranium and can produce between 50 and 90 kilograms more per month. If Iranian authorities wish to make a crude bomb's worth of 90-percent enriched uranium, they would need between 500 and 700 kilograms of this material to produce 20 kilograms of 90 percent enriched uranium.

IAEA inspections have cast doubt on the Iranian government's assertions that the Islamic Republic's program is for peaceful purposes only. A June 6, 2003 IAEA report found that the Iranian government could not explain the presence of uranium metal in its nuclear fuel cycle, since "neither its light water reactors nor its planned heavy water reactors require uranium metal for fuel." When the Iranian government explained that such metal was contamination on equipment purchased from Pakistan, it contradicted its earlier assertions that their enrichment program was entirely indigenous. However, it appears that Iran developed centrifuge enrichment using technology imported from Pakistan. The role of Pakistani nuclear scientist A.Q. Khan remains unclear, although it is known that he did travel to Tehran. IAEA inspections have also found traces of bomb-grade uranium at other sites, and revealed that Iranian scientists have experimented with Polonium-210, a substance used to initiate the chain reaction leading to the detonation of a nuclear bomb.

Iranian officials have never admitted to having a nuclear weapons program, but in response to international pressure they temporarily suspended their enrichment program in 2003, although they later restarted their program and subsequently reported that they had successfully enriched uranium. While Iran claims that its centrifuge enrichment program is for peaceful purposes and is intended to provide low-enriched uranium fuel for its Russian-supplied nuclear power reactor (a VVER-1000 PWR) at Bushehr, unresolved issues led the IAEA

Board of Governors on September 24, 2005 to find Iran to be in non-compliance with its safeguards agreement under the Nuclear Non-Proliferation Treaty.

THE IRANIAN GOVERNMENT SHOWS NO SIGN OF BOWING TO INTERNATIONAL PRESSURE TO HALT A NUCLEAR PROGRAM IN WHICH IT HAS INVESTED BILLIONS OF DOLLARS GAINED FROM TRADE AND OIL EXPORTS OVER THE YEARS.

Defiance

The Iranian government shows no sign of bowing to international pressure to halt a nuclear program in which it has invested billions of dollars gained from trade and oil exports over the years. On July 23, 2008, Ahmadinejad rejected international demands that the Islamic Republic cease enriching uranium, and called on the permanent members of the UN Security Council to accept reality.¹⁵ Two days later, while delivering the regular Tehran Friday sermon—the regime's official statement of policy—on behalf of the Supreme Leader, Rafsanjani dismissed Western diplomats' demands for a nuclear freeze. The defiance—coming after the five permanent members of the United Nations Security Council and Germany met with Iran's nuclear negotiator to discuss an incentives package to bring the Islamic Republic into compliance with its obligations—marks just the latest chapter in an ongoing saga.

Across the Islamic Republic's political spectrum, Iranian officials defend their right to nuclear power. The Iranian government interprets the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) to ensure that right, and says that the Treaty enables Iran to enrich uranium to provide low-grade fuel (3-5 percent U-235) for a nuclear reactor. Here, though, the devil is in the details. The same enrichment technology can

¹⁵ Fars News Agency, July 25, 2008.

manufacture weapons-grade uranium. The Iranian interpretation may be less than accurate from a U.S. legal standpoint. The State Department has yet to clarify to Congress whether it accepts the Iranian interpretation of its right under the Non-Proliferation Treaty to enrich uranium to low-grade fuel levels and, if so, under what basis it has come to that conclusion.

IAEA inspection reports (Appendix A) provide a timeline of international concern regarding Iran's nuclear program dating back to 2003. Apprehensions about Tehran's nuclear ambitions, however, predate the IAEA inspection reports. The 2007 National Intelligence Estimate reported that Iran maintained a nuclear weapons program at least until 2003, and confirmed that its dual use nuclear development has continued ever since.

INTERNATIONAL CONCERN ABOUT IRAN'S PAST CHEATING IS HEIGHTENED BY ITS FAILURE TO RATIFY THE IAEA'S 1997 ADDITIONAL PROTOCOL.

International concern about Iran's past cheating is heightened by its failure to ratify the IAEA's 1997 Additional Protocol. The genesis of the Additional Protocol lays in past inspection failures. Before Operation Desert Storm in 1991, the Iraqi government had successfully deceived IAEA inspectors about the scope and purpose of the Iraqi nuclear program. The Additional Protocol increases the depth and frequency of inspections. Even if Iran ratified the Additional Protocol, however, the IAEA does not have the capacity to detect diversion of a bomb's worth of fissile material from nuclear fuel plants within the time period it takes Tehran to complete the diversion. As IAEA inspectors have visited the Islamic Republic's declared nuclear facilities, they have had difficulty resolving anomalies and answering questions about Iranian activities.

On September 24, 2005, the IAEA Board of Governors found Iran to be in non-compliance with its safeguards agreement under the Nuclear Non-Proliferations Treaty. After a renewed attempt to break the diplomatic impasse, the IAEA referred the Iranian case to the United Nation's Security Council which, on December 23, 2006, unanimously passed UNSCR 1737, imposing sanctions on some trade and technology sharing. The Security Council augmented these sanctions with the passage of UNSCR 1747 on March 24, 2007, and the passage of UNSCR 1803, on March 3, 2008.

THE ADDITIONAL PROTOCOL INCREASES THE DEPTH AND FREQUENCY OF INSPECTIONS. EVEN IF IRAN RATIFIED THE ADDITIONAL PROTOCOL, HOWEVER, THE IAEA DOES NOT HAVE THE CAPACITY TO DETECT DIVERSION.

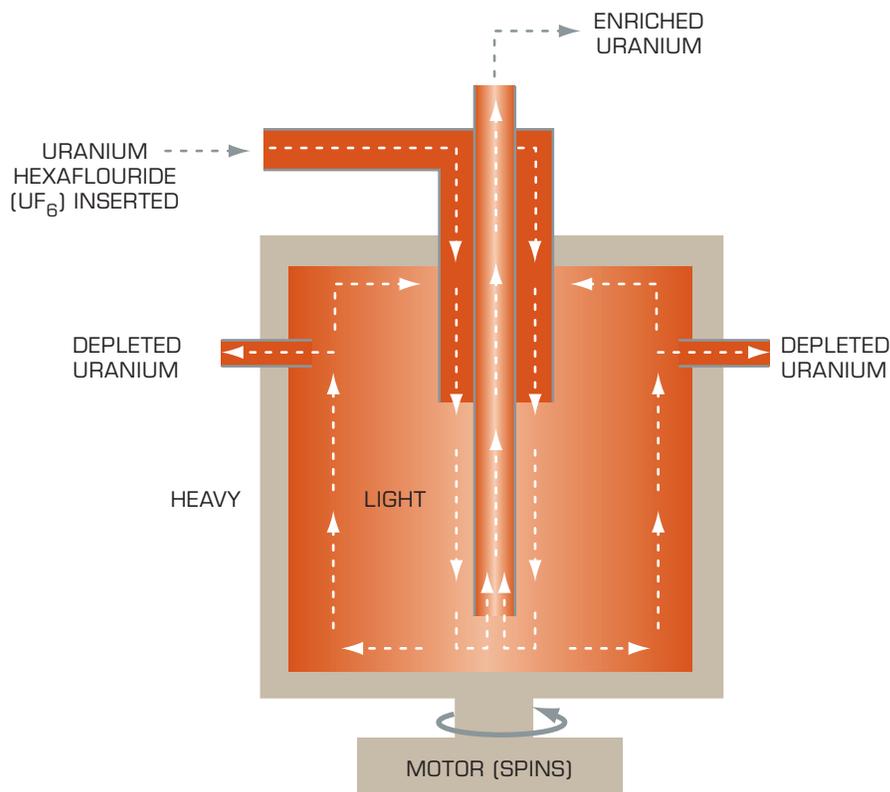
Ironically, the United States is not in compliance with UNSCR 1747 because the U.S. Treasury Department has yet to designate under U.S. law those individuals and entities which UNSCR 1747 targeted. The process of designation is more complicated in the United States than in the European Union because of U.S. requirements for due process. Under various Executive Orders, the U.S. Treasury Department must hold a substantive, evidentiary review, the conclusions of which go to the Office of Foreign Asset Control whose lawyers must certify the process. The designation then goes to the U.S. Department of Justice which reviews the proposed designation in the context of litigation risk. Once the legalities are worked out, the interagency process must concur, usually at the Policy Coordination Committee level. Such a process from start to finish can take weeks, months, or years. Lawyers, however, disagree whether such a drawn out process is necessary, or whether the U.S.

government has authority under the UN Participation Act to designate directly.

Even if the U.S. government fulfills its existing sanctions commitments, the Iranian government may find its pre-existing trade relationships capable of mitigating the bite of sanctions. The Russian government has repeatedly sought to delay or downgrade sanctions. There remains no prohibition on nuclear cooperation with Iran. Russian officials still assist in construction of the Bushehr reactor because, so long as Moscow protects its ability to provide such assistance by threatening to veto any Security Council resolution that would restrict it, such nuclear assistance remains permissible. Likewise, while the UN Security Council has prohibited the export of arms from Iran, in order to protect Iran as a Russian market, Russia has threatened to veto proposals in the Security Council to ban the export of arms to Iran.

There are three explanations for Russian intractability. First is strategic calculation. Moscow lost the Warsaw Pact and has since sought to create a new alliance, of which the Islamic Republic could be an important part. After having lost the other former Soviet states, Russia may be trying to re-establish its near abroad. Second is money. After the end of the Cold War, the Ministry for Atomic Energy (Minatom) fell on hard times. The government did not have money to fund new projects. Minatom—since renamed the Russian Federal Atomic Energy Agency (Rosatom)—found a new market in Iran. Third, Russian-Iranian nuclear cooperation may also span into the criminal sphere. Even if the Russian government sought to end its nuclear enabling of Iran, there may be enough Russian scientists who are willing to assist Iran privately in areas such as laser enrichment.

GAS CENTRIFUGE URANIUM ENRICHMENT



¹⁶ See study commissioned by this Task Force: Jones, Greg, "Iran's Centrifuge Enrichment Program as a Source of Fissile Material for Nuclear Weapons."

¹⁷ *Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006) and 1747 (2007) in the Islamic Republic of Iran*, IAEA, GOV/2008/4, February 22, 2008.

¹⁸ *Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006) and 1747 (2007) in the Islamic Republic of Iran*, IAEA, GOV/2008/15, May 26, 2008.

¹⁹ David Albright and Corey Hinderstein, "The Centrifuge Connection", *Bulletin of the Atomic Scientists*, March/April 2004, pp. 61-66. An early description of the URENCO plant at Capenhurst implies a range of 2.7 to 3.1 SWU per year per machine. See: "Capenhurst centrifuge plant inaugurated," *Nuclear News*, Vol. 20, No. 14, November 1977.

Beijing is also reluctant to impose harsh sanctions or further Chapter VII resolutions as forceful action against Iran might undercut its perceived energy security. However, the Chinese government is more likely to work behind the scenes than use its Security Council veto.

IRAN'S ABILITY TO PRODUCE WEAPONS-GRADE URANIUM

Iranian officials state that their centrifuge enrichment plant will provide low-enriched uranium fuel for its nuclear reactor in Bushehr. The same plant and technology, however, could produce enough highly enriched uranium to fuel a nuclear bomb in a matter of weeks and, under certain circumstances, within the period between IAEA inspections.

As of November 2007, Iran had nearly 3,000 centrifuges in operation at Natanz. In July 2008, Ahmadinejad announced that an additional 3,000 of the next-generation P-2 centrifuges had been installed. The IAEA, however, was only able to confirm 4,000 installed centrifuges of which 3,500 were regularly enriching uranium. According to the IAEA, the Natanz plant has thus far only produced low-enriched uranium which would be suitable for nuclear power reactor fuel but unusable for nuclear weapons.

THE CENTRIFUGES ALREADY INSTALLED AT NATANZ GIVE IRAN THE TECHNICAL CAPABILITY TO CREATE THE 20 KILOGRAMS OF 93.1 PERCENT HIGHLY ENRICHED URANIUM NECESSARY FOR A NUCLEAR WEAPON IN A MONTH.

Low-enriched uranium can be used as feedstock to create the fissile material for an atomic weapon: highly enriched uranium. According to a study commissioned by this Task

Force, the centrifuges already installed at Natanz give Iran the technical capability to create the 20 kilograms of 93.1 percent highly enriched uranium necessary for a nuclear weapon in a month, or possibly in as few as 2-3 weeks.¹⁶ However, Iran would first have to possess a sufficient feedstock—about 700 kilograms—of 4.8 percent low-enriched uranium. Iran does not yet appear to have an adequate supply of low-enriched uranium. The first physical inventory conducted at Natanz on December 12, 2007 found about 75 kilograms of uranium product with an enrichment of 3.8 percent.¹⁷ More recent IAEA inspections found that since February 2007, 3970 kilograms of uranium hexafluoride (UF₆) had been fed into the operating cascades at Natanz.¹⁸

Estimating the enrichment capacity of the Natanz plant—and any parallel covert enrichment plant—is not difficult. Iran's machines are similar to Pakistan's P-1 centrifuges which in turn are based on early URENCO technology; an elementary separation factor of 1.3 is consistent with early URENCO technology. A separation factor of 1.2972 equates to fifteen separation stages to enrich natural uranium to 4.8 percent. Current estimates of the annual separation capacity of an early URENCO plant suggest that its machines would range from two to three separative work units per year.¹⁹

Early pressurized water reactors used a low-enriched uranium fuel with uranium enriched to around 3 percent. Over time this enrichment has increased allowing for better fuel economy. Elemash, the Russian manufacturer of fuel for Russian pressurized water reactors, has indicated that reactors of the VVER-1000 type used at Bushehr can utilize fuel with an enrichment as high as 4.8 percent, the level of enrichment which the Iranian officials have stated that they have achieved. It is therefore reasonable to assume that any Iranian enrichment plant designed to produce low-enriched uranium fuel for its pressurized water reactor at Bushehr will produce uranium with an enrichment of 4.8 percent. However, even if an Iranian enrichment plant produces a somewhat lower enrichment than the 4.8 percent, it does not alter the conclusion that current safeguards do not prevent Iran's centrifuge

enrichment plant from potentially producing enough weapons grade uranium to produce a bomb without the knowledge of the international community.

For the 3,000 centrifuges at Natanz, the assumption of 2.5 separative work units per machine per year would mean that the total plant would produce 7,500 separative work units per year. The plant would then produce 1,070 kilograms of 4.8 percent product per year requiring 11.7 metric tons of natural uranium feed. For such a plant, equilibrium time would be less than four hours, and its inventory in the enrichment stages themselves would only be about 5 kilograms of uranium. In order to calculate the plant equilibrium time and inventory, it is necessary to know the “stage holdup time,” which is the time it takes material to flow through one stage. French officials have given information on the equilibrium time of centrifuge enrichment plants which suggests the stage holdup time is 180 seconds.²⁰

SINCE THE ANNUAL FUEL REQUIREMENTS FOR IRAN’S BUSHEHR PRESSURIZED WATER REACTOR IS 14.2 METRIC TONS, THE CURRENT PLANT IS NOT LARGE ENOUGH TO SUPPLY THE FUEL.

Since the annual fuel requirements for Iran’s Bushehr pressurized water reactor is 14.2 metric tons, the current plant is not large enough to supply the fuel. Iran has indicated that it plans to expand the Natanz plant to 50,000 centrifuges by 2012. At 2.5 separative work units per machine per year this larger plant would produce 125,000 separative work units per year which would be able to produce 17.9 metric tons of 4.8 percent enriched fuel using 195 metric tons of natural uranium feed. Such a plant would be able to supply the fuel for Iran’s single pressurized water reactor. The equilibrium time for this plant would be less than four hours, and the inventory

in the enrichment stages would be about 75 kilograms of uranium.

Building a plant to produce weapons-grade highly enriched uranium from natural uranium requires a much larger number of enriching stages. Using 58 enriching stages including the feed stage produces uranium with an enrichment of 93.1 percent. Using six stripping stages excluding the feed stage produces tails with an enrichment of 0.287 percent. To produce one kilogram of highly enriched product at a plant with these characteristics requires 219 kilograms of natural uranium feed and 204 separative work units. Using centrifuges producing 2.5 separative work units per machine per year, and assuming that 20 kilograms of highly enriched uranium are required to produce a nuclear weapon, then about 1,630 centrifuges would be required to produce one weapon’s worth of highly enriched uranium in a year.

If 4.8 percent uranium is used as feed instead of natural uranium and the tails enrichment remains 0.287 percent, then 20.6 kilograms of feed and 60.5 separative work units would be required to produce one kilogram of 93.1 percent enriched uranium. Since 204 separative work units are required to produce one kilogram of 93.1 percent enriched uranium starting from natural uranium, this means that the 4.8 percent enriched uranium already has 70 percent of the separative work units required to go from natural uranium to 93.1 percent enrichment. Table 5 shows variants of separative work units and Feed requirements to produce 20 kilograms of bomb-grade enriched uranium.

²⁰ See: C. Frejacques, et al., “Evolution Des Procèdes De Separation Des Isotopes De L’Uranium En France”, IAEA-CN-36/257, *Nuclear Power and its Fuel Cycle*, Vol. 3, IAEA, Vienna, 1977.

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TABLE 5: SEPARATIVE WORK UNITS (SWU) AND FEED REQUIRED TO PRODUCE 20 KG OF 93.1 PERCENT ENRICHED URANIUM FROM 4.8 PERCENT ENRICHED FEED AS A FUNCTION OF THE NUMBER OF STRIPPING STAGES

Number of stripping Stages*	Tails Enrichment (%)	Feed (kg) per 20 kg of HEU	SWU per 20 kg of HEU
21	0.287	412	1,210
6	1.99	648	645
5	2.26	695	614
4	2.56	788	584
3	2.91	934	554
0	4.24	3,150	471

*Excluding the feed stage.

An intermediate number of stripping stages is preferable since it balances both the feed and the separative work units requirements. It is reasonable to assume, therefore, that any clandestine Iranian enrichment plant uses five stripping stages and has a tails enrichment of 2.26 percent. This clandestine enrichment plant would have an equilibrium time of about one day.

the centrifuge enrichment process allow for relatively rapid production of highly enriched uranium. One of the major variables that would affect speed of enrichment is the number of centrifuges (Table 6).

The type of centrifuge used also matters for speed of enrichment (Table 7).

TABLE 6: TIME REQUIRED TO PRODUCE 20 KG OF HIGHLY ENRICHED URANIUM (HEU) BY BATCH RECYCLING AT CENTRIFUGE ENRICHMENT PLANT AT NATANZ

Number of P-1 Centrifuges	Time to Produce 20 kg of HEU (Days)	Stockpile of 4.8 percent enriched
3,000	95	1,780
10,000	37	2,250
20,000	24	2,940
50,000	17	5,000

Should Iranian officials decide to end cooperation with international safeguards, the technical characteristics of

TABLE 7: TIME REQUIRED TO PRODUCE 20 KG OF 93.1 PERCENT ENRICHED URANIUM FROM 4.8 PERCENT ENRICHED FEED AS A FUNCTION OF THE NUMBER OF CENTRIFUGES*

Centrifuge Type	Number of Centrifuges	Time to Produce 20 kg of HEU** (Days)
P-1	3,000	31
P-1	6,000	16
P-2	3,000	16

*Tails enrichment 2.26 percent.

**Includes one day to account for equilibrium time.

There are two main scenarios by which Iran might breakout from safeguards. The first scenario involves Iran using a clandestine enrichment plant to produce highly enriched uranium from either its stock of low-enriched uranium or from natural uranium, and the second class of scenarios involves Iran producing highly enriched uranium by batch recycling, presumably at its enrichment plant at Natanz.

Under the first scenario, if Iran breaks out of safeguards and uses a stockpile of 4.8 percent enriched uranium

The second class of scenarios involves production of highly enriched uranium by batch recycling at Natanz (Table 9). If Iran carries out its planned expansion from the current 3,000 centrifuges at Natanz to 50,000 by 2012, the time required for Iran to produce a weapon's worth of uranium will drop from 95 days to less than a month. The time required is so short that with the full 50,000 centrifuges, even 100 kilograms—five weapons' worth of highly enriched uranium—could be produced in little more than a month, even in the extreme case that the centrifuge separative capacity is only 1.0 separative work units/year-machine, instead of 2.5. This means that

TABLE 8: TIME REQUIRED TO PRODUCE 20 KILOGRAMS OF 93.1 PERCENT ENRICHED URANIUM AS A FUNCTION OF THE NUMBER OF CENTRIFUGES IN A CLANDESTINE ENRICHMENT PLANT

Centrifuge Type	Centrifuge Separative Capacity SWU/YR-Machine	Number of Centrifuges	Feed Enrichment and Amount	Time to Produce 20 kg of HEU* (Days)
P-1	2.5	3,000	4.8 percent enriched, 700 kg	31**
P-1	2.5	6,000	4.8 percent enriched, 700 kg	16**
P-2	5.0	3,000	4.8 percent enriched, 700 kg	16**
P-1	2.5	3,000	Natural Uranium, 4,400 kg	~200***
P-1	2.5	6,000	Natural Uranium, 4,400 kg	~100***
P-2	5.0	3,000	Natural Uranium, 4,400 kg	~100***

*Includes one day to account for equilibrium time.

**Tails enrichment 2.26 percent.

***Tails enrichment 0.287 percent.

as feed, then it can produce a weapon's worth of highly enriched uranium—20 kilograms—in a few weeks or perhaps one month, a period less than the current safeguards can monitor. If Iran were to feed natural uranium into the enrichment plant, the time would be 100-200 days. In this scenario, however, Iran would not have to break safeguards, since they do not apply to Iran's uranium mining operations. The IAEA would be unlikely to detect this production absent Iran allowing implementation of the Additional Protocol.

Iran could produce enough highly enriched uranium for a bomb in between the current IAEA inspections. In such scenarios, the Additional Protocol would not add safety because both the centrifuge plant at Natanz and the stockpile of enriched uranium are permitted under current international arrangements.

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TABLE 9: TIME REQUIRED TO PRODUCE HEU BY BATCH RECYCLING IN CENTRIFUGE ENRICHMENT PLANT AT NATANZ

Number of P-1 Centrifuges	Centrifuge Separate Capacity Machine SWU/ Yr-Machine	Amount of HEU Produced (kilograms)	Stockpile of 4.8 percent Enriched uranium feed Required (kilograms)	Time to Produce HEU* (Days)
3,000	2.5	20	1,780	95
10,000	2.5	20	2,250	37
20,000	2.5	20	2,940	24
50,000	2.5	20	5,000	17
50,000	2.5	1000	11,200	36
50,000	1.0	20	2,940	24

*Includes two days to account for equilibrium time and cascade fill time.

Since a plant designed to produce 4.8 percent enriched uranium from natural uranium feed has only 26 percent of the enriching stages required to enrich natural uranium to highly enriched uranium, the enriched uranium would have to be passed through the plant three additional times. Each pass would be in a batch mode, where the cycle produced the feed required for the next cycle. This feed would include not only the uranium required to produce the product but also the plant inventory required to fill the plant for the next cycle. Operating the plant in this fashion raises criticality concerns, especially for the last cycle.²¹

Diversion is easier when Iran is producing tens of thousands of centrifuges. Diverting even 6,000 centrifuges would reduce the time required to produce 20 kilograms of highly enriched uranium to just sixteen days. Though the Islamic Republic is currently using P-1 type centrifuges at Natanz, it has also received information from Pakistan to construct an improved P-2 centrifuge. The P-2 centrifuges have an output of 5 separative work units per machine per year, twice the output of the P-1 centrifuge. In early 2008, the Iranian government announced that it would install 6,000 of these P-2 centrifuges at Natanz.

A third Iranian option—albeit one that is more easily detectable—would be to reconfigure the centrifuge cascade by changing the piping. Centrifuge enrichment plants utilize parallel cascades to produce the desired

output. Such a reconfigured plant could operate as if it had been designed from the beginning to produce highly enriched uranium and could operate continuously. Fully reconfigured, a 125,000 separative work units per year plant could produce 613 kilograms of 93.1 percent enriched uranium per year from natural uranium feed or 339 kilograms of 93.1 percent enriched uranium per month from 4.8 percent enriched uranium feed.

DIVERTING EVEN 6,000 CENTRIFUGES WOULD REDUCE THE TIME REQUIRED TO PRODUCE 20 KILOGRAMS OF HIGHLY ENRICHED URANIUM TO JUST SIXTEEN DAYS.

The current centrifuge enrichment plant at Natanz has about 3,000 centrifuges of the P-1 type. At 2.5 separative work units per machine per year, the plant's output is 7,500 separative work units per year. The plant inventory is about five kilograms of uranium. If the Iranian objective is to produce 20 kilograms of highly enriched uranium, the feed, product and time required for each cycle may vary (Table 10).

²¹ "Safeguards Training Course: Nuclear Material Safeguards for Enrichment Plants, Part 4. Gas Centrifuge Enrichment Plant: Diversion Scenarios and IAEA Safeguards Activities", K/ITP--156/P4/R1, Martin Marietta Energy Systems, Inc., Oak Ridge, Tennessee, October 1988.

TABLE 10: TIME, PRODUCT AND FEED REQUIREMENTS FOR THE PRODUCTION OF 20 KG OF HEU BY BATCH RECYCLING IN A 7,500 SWU/YR PLANT DESIGNED TO PRODUCE LEU

Cycle	Product Enrichment and Quality	Feed Enrichment and Quantity	Time for Cycle (Days)
First	26.2 percent 206 kg	4.8 percent 1,780 kg	70
Second	71.4 percent 47 kg	26.2 percent 201 kg	16
Third	94.6 percent 20 kg	71.4 percent 42 kg	7
Total			95

*Includes two days to account for equilibrium time and cascade fill time.

Since the plant at Natanz is designed to produce 4.8 percent product from natural uranium, its cascade is more tapered than is optimal for the upper stages of an enrichment plant designed to produce highly enriched uranium. As a result, some of the separative work units output of the plant cannot be utilized, especially during the latter cycles of the batch production process. The flow at the product end of the cascade restricts the plant. The time required per cycle is then determined by the amount of product required and the amount of product the plant can produce per day, not by a separative work units calculation. For example, the current 3,000 centrifuge plant at Natanz can produce 1,070 kilograms of product a year, or 2.93 kilograms of product per day. The third cycle in Table 10 produces 20 kilograms, and 20 divided

by 2.93, equal to 6.83 days. In addition, equilibrium time of about four hours for each cycle and the cascade drain and fill time of about twelve hours adds about two full days for three cycles. Therefore, the production of 20 kilograms of highly enriched uranium requires a total of about 95 days, and so this method might not be attractive to Iranian officials.

Should Iran fulfill its plans to install all 50,000 centrifuges, and if these were all of the P-1 type, then the plant would be able to produce 125,000 separative work units per year. Again, under such a scenario, the time required to produce 20 kilograms of highly enriched uranium would be approximately 17 days (Table 11).

TABLE 11: TIME, PRODUCT AND FEED REQUIREMENTS FOR THE PRODUCTION OF 20 KG OF HEU BY BATCH RECYCLING IN A 125,000 SWU/YR PLANT DESIGNED TO PRODUCE LEU

Cycle	Product Enrichment and Quality	Feed Enrichment and Quantity	Time for Cycle (Days)
First	26.2 percent 578 kg	4.8 percent 5,000 kg	11.8
Second	71.4 percent 117 kg	26.2 percent 503 kg	2.4
Third	94.6 percent 20 kg	71.4 percent 42 kg	0.4
Total			17*

*Includes two days to account for equilibrium and cascade fill time.

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TABLE 12: TIME, PRODUCT AND FEED REQUIREMENTS FOR THE PRODUCTION OF 100 KG OF HEU BY BATCH RECYCLING IN A 125,000 SWU/YR PLANT DESIGNED TO PRODUCE LEU

Cycle	Product Enrichment and Quality	Feed Enrichment and Quantity	Time for Cycle (Days)
First	26.2 percent 1,300 kg	4.8 percent 11,200 kg	26
Second	71.4 percent 284 kg	26.2 percent 1,220 kg	6
Third	94.6 percent 100 kg	71.4 percent 209 kg	2
Total			36*

*Includes two days to account for equilibrium and cascade fill time.

TABLE 13: TIME, PRODUCT AND FEED REQUIREMENTS FOR THE PRODUCTION OF 20 KG OF HEU BY BATCH RECYCLING IN A 25,000 SWU/YR PLANT DESIGNED TO PRODUCE LEU

Cycle	Product Enrichment and Quality	Feed Enrichment and Quantity	Time for Cycle (Days)
First	26.2 percent 260 kg	4.8 percent 2,250 kg	27
Second	71.4 percent 57 kg	26.2 percent 245 kg	6
Third	94.6 percent 20 kg	71.4 percent 42 kg	2
Total			37*

*Includes two days to account for equilibrium and cascade fill time.

TABLE 14: TIME, PRODUCT AND FEED REQUIREMENTS FOR THE PRODUCTION OF 20 KG OF HEU BY BATCH RECYCLING IN A 50,000 SWU/YR PLANT DESIGNED TO PRODUCE LEU

Cycle	Product Enrichment and Quality	Feed Enrichment and Quantity	Time for Cycle (Days)
First	26.2 percent 340 kg	4.8 percent 2,940 kg	17
Second	71.4 percent 72 kg	26.2 percent 310 kg	4
Third	94.6 percent 20 kg	71.4 percent 42 kg	1
Total			24*

*Includes two days to account for equilibrium and cascade fill time.

To produce one hundred kilograms of highly enriched uranium—five weapons’ worth—would take slightly more than one month (Table 12).

To produce one bomb’s worth of highly enriched uranium in a batch recycling process with 25,000 (Table 13) and 50,000 SWU per year (Table 14) would take just 37 and 24 days respectively.

While Iran’s uranium enrichment program is significantly more developed than its plutonium reprocessing program, its plutonium program has been a cause of concern given the government’s failure to provide a complete history of its plutonium experiments and the discovery of highly enriched uranium on spent fuel containers. Iran is currently building a heavy water reactor at Arak which it claims will become operational by 2009. While Tehran says the reactor is strictly for research purposes, it is expected to produce enough plutonium for use in one to two bombs a year upon completion. Operative paragraph two of UNSC Resolution 1737 prohibits further construction on the facility, but Iran has failed to comply with this measure.

Though Resolution 1737 prohibits work on uranium enrichment-related activities and heavy water-related reprocessing activities, it does not prohibit the construction of light-water reactors, an exception carved out for the light-water reactor being constructed by Russia at Bushehr. This willingness to permit construction of a light-water reactor stems in part from the conventional wisdom that light-water reactors are less likely sources of proliferation, covert activity, and diversion to weapons programs as they use low-enriched uranium (LEU). This does not mean that light-water reactors do not pose a risk, however. The fresh fuel they require has enough U-235 to produce many bombs, and their spent fuel has enough plutonium to produce multiple weapons.

Part of the Iranian strategy in developing its nuclear program has been to argue that it has an “inalienable right,” under Article IV of the Nuclear Non-Proliferation Treaty, to nuclear technology for peaceful purposes and is thus legally permitted to develop a nuclear fuel cycle.

Iran, so goes the argument, must acquire a complete nuclear fuel cycle so as to achieve “energy independence.” This claim has come under scrutiny for two important reasons. First, while the Non-Proliferation Treaty does assure its signatories the right to nuclear technology for peaceful purposes, it does not necessarily ensure them a right to a complete nuclear fuel cycle. Outside sources, for example, might provide Iran with nuclear fuel to guarantee that there is no diversion to a weapons program. Tehran, however, has rejected such a possibility on several occasions and continues to insist it must have access to all aspects of the nuclear fuel cycle. This insistence on obtaining a full nuclear full cycle rather than just nuclear energy *per se* remains a source of international concern, especially given doubts as to whether an indigenous nuclear fuel cycle is either economically feasible or capable of leading to “energy independence.”

WHATEVER ENRICHMENT STRATEGY
THE ISLAMIC REPUBLIC MIGHT
PURSUE, THE FACT REMAINS THAT
IT CAN PRODUCE HIGHLY ENRICHED
URANIUM QUICKLY ENOUGH TO BUILD
A NUCLEAR BOMB.

Whatever enrichment strategy the Islamic Republic might pursue, the fact remains that it can produce highly enriched uranium quickly enough to build a nuclear bomb. Inspections are not fool-proof, even for declared facilities. Because inspectors do not conduct round-the-clock, real-time verification, inspections are more political than technically effective. Between March 2007 and February 2008, the IAEA conducted only nine unannounced inspections in Iran. There were no unannounced inspections for three months between the scheduled inspections. This means under current verification mechanisms, it could take the IAEA one month to detect any Iranian violation of its nuclear commitments. Should Tehran divert material, the IAEA will

only find out after the fact. Given the slow pace of UN Security Council diplomacy, it will take days if not weeks to authorize any counter-action.

The IAEA uses cameras to monitor facilities and sends inspectors to check seals placed on facilities. However, both because the IAEA must gain the consent of the inspected party and because of funding constraints, it does not remotely monitor facilities in near-real-time in Iran. Given the Islamic Republic's history of cheating, obfuscating, and lying, the lack of near-real-time monitoring represents a major procedural weakness. The IAEA or other international consortia should break with current practice, and use remote cameras which provide near-real-time surveillance capabilities and employ on-site inspectors 24 hours per day, seven days each week. However, video monitoring can only apply to Iran's declared sites. Written into any agreement should be verification procedures to address undeclared nuclear programs inside the country. Given the IAEA's inability to detect undeclared activities with confidence, however, such verification procedures might resemble mechanisms applied by the United Nations Special Commission (UNSCOM) to Saddam Hussein's Iraq.

LEGALITY OF IRANIAN NUCLEAR ACTIVITY

Manouchehr Mottaki, the Islamic Republic's Foreign Minister, denies that Iran has violated its Non-Proliferation Treaty obligations and argues both that the Islamic Republic has an inalienable right to nuclear development, including uranium enrichment, and that the United Nations Security Council Resolutions that demand Iran stop enriching uranium are illegal. This claim is based on an incomplete interpretation that does justice neither to the text nor expressed intention of the Treaty. First of all, in addition to the Article II ban on production of nuclear weapons, Article III.1 stipulates that non-nuclear weapon state parties to the Treaty must accept and abide by a safeguards agreement concluded with the International Atomic Energy Agency (IAEA) for the purpose of verifying compliance with Article II. The IAEA has found Iran to be in breach of that safeguards agreement and, consequently, of the NPT. Secondly, the inalienable right to nuclear development

that Iran claims under Article IV.1 of the NPT must be understood within the context of the goals and intentions of the Treaty: nonproliferation. No right, therefore, can be claimed under the NPT to a technology—such as enrichment—that cannot be adequately safeguarded and places a state mere days or hours from having weapons-grade nuclear material.

Iran's assertions of legality rest upon an interpretation of the NPT which holds that: (1) the only obligations incurred by non-nuclear-weapon state parties to the NPT (under Article II) are to neither acquire nuclear weapons nor divert nuclear materials for the purpose of constructing such a weapon (2) the NPT recognizes (in Article IV.1) that the development, research, production and use of nuclear energy is an inalienable right that constitutes a *jus cogens*—a preemptory norm that cannot be derogated by any law or treaty.

First, the Iranian government not only declares itself compliant with the terms of the NPT, but also claims that the International Atomic Energy Agency is of the same opinion.²² Such a claim rests upon reading the NPT as placing only an obligation “not to manufacture or otherwise acquire nuclear weapons or other explosive devices...”²³ However, while it is true that the IAEA has certified that Iran has not diverted known nuclear material from peaceful purposes, the claim that the manufacture of nuclear weapons or IAEA-verified diversion of nuclear materials for such purposes are the sole criteria of illegality is spurious.

In reality, the NPT imposes more obligations on signatories than Iranian officials acknowledge. Indeed, the NPT requires that states accept and abide by a safeguards agreement concluded with the IAEA, in addition to the ban on production of nuclear weapons prescribed in Article II, as Article III.1 stipulates:

Each non-nuclear-weapon State Party to the Treaty *undertakes to accept safeguards*, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy

²² Unofficial Translation, “Letter by H.E. Mr. Mottaki Foreign Minister of the Islamic Republic of Iran, Addressed to the United Nations Secretary General and Presidents of the Security Council and the General Assembly, On Iran's peaceful nuclear program and the unlawfulness of Security Council measures,” March 24, 2008, <http://www.iranianembassy.nl/letter.pdf>

²³ NPT, Article II

Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfillment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices.

The authority and conditions for the IAEA's application of safeguards are further spelled out in the Agency's Statute, Article XII.C, which requires that:

The staff of inspectors shall also have the responsibility of obtaining and verifying the accounting referred to in sub-paragraph A-6 of this article and of determining whether there is compliance with the undertaking referred to in sub-paragraph F-4 of article XI, with the measures referred to in sub-paragraph A-2 of this article, and with all other conditions of the project prescribed in the agreement between the Agency and the State or States concerned.

It is the first of these requirements, provided for by sub-paragraph A-6 of Article XII of the IAEA Statute, that is of particular concern here. It declares that states subject to IAEA safeguards must "account for source and special fissionable materials supplied and fissionable products and determine whether there is...use in furtherance of any military purposes."²⁴

On May 15, 1974, Iran signed a Safeguards Agreement with the IAEA accepting these requirements:

The Government of Iran undertakes, pursuant to paragraph 1 of Article III of the Treaty, to accept safeguards, in accordance with the terms of this Agreement, on all source or special fissionable material in all peaceful nuclear activities within its territory, under its jurisdiction or carried out under its control anywhere, for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices.²⁵

The IAEA Board of Governors has long questioned Iranian compliance with the Safeguards Agreement (See Appendix A). In September 2003, an IAEA Board of Governors resolution called for Iranian cooperation and transparency, citing "failures by the Islamic Republic of Iran to report material, facilities and activities as it was obliged to do pursuant to its safeguards agreement."²⁶ After this warning, on November 10, 2003, the Director General of the IAEA reported that Iran was not living up to its obligations under the Agreement.

Consequently, on November 26 2003, the IAEA's Board of Governors passed a resolution deploring Iran's "past failures and breaches of its obligation to comply with the provisions of its Safeguards Agreement."²⁷ The Board of Governors continued to express these concerns and calls for transparency in a number of resolutions adopted over the course of the next two years. Then, on September 24, 2005 the Board explicitly found that "Iran's many failures and breaches of its obligations to comply with its NPT Safeguards Agreement...constitute non-compliance in the context of Article XII.C of the Agency's Statute," and referred the matter to the United Nations Security Council.²⁸

This IAEA-verified breach of Iran's obligations under its Safeguards Agreement constitutes non-compliance with the IAEA Statute *and also* with the NPT; Iran has clearly not "accepted the safeguards, as set forth in [the safeguards] agreement," as specified by Article III.1 of the NPT.

IRAN'S MANY FAILURES AND BREACHES OF ITS OBLIGATIONS TO COMPLY WITH ITS NPT SAFEGUARDS AGREEMENT... CONSTITUTE NON-COMPLIANCE IN THE CONTEXT OF ARTICLE XII.C OF THE AGENCY'S STATUTE.

²⁴ Article XII.A-6

²⁵ INFCIRC/214, Agreement Between Iran And The International Atomic Energy Agency For The Application Of Safeguards In Connection With The Treaty On The Non-Proliferation Of Nuclear Weapons, Article I

²⁶ IAEA Board of Governors Resolution GOV/2003/69, Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran

²⁷ IAEA Board of Governors Resolution GOV/2003/81, Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran

²⁸ IAEA Board of Governors Resolution GOV/2005/77, Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran

Second, Tehran's assertion that "the right of the people of Iran to peaceful uses of nuclear technology is a clear example of the realization of 'the right to development,' 'right to natural resources' and 'right to self-determination,'"²⁹ is also questionable. The basis for this argument is Article IV.1 of the NPT: "Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I and II of this Treaty."³⁰

By claiming that nuclear development, including enrichment, is done "according to the NPT regulations and the IAEA Statute, and is for absolutely peaceful purposes," Iran has further argued that "the UN Security Council can not decide against this program or try to limit this inalienable right."

Thus, Iran claims a peremptory right to nuclear development that cannot be derogated by any international law or institution. According to this interpretation, the right to nuclear development is not simply granted by Article IV of the NPT, but is recognized as an inalienable and fundamental right of sovereign states. As the right is not created by law or treaty, Iran claims, the UN cannot abrogate this right, even by invoking Article 103 of the Charter, which states that "in the event of a conflict between the obligations of the Members of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail."

The Iranian argument is spurious; it does justice neither to the text nor expressed intention of the Treaty. First of all, it must be understood that for any non-nuclear weapon state party to the NPT, the right to develop, research, produce and use nuclear energy is subordinate to the goals of nonproliferation. The Treaty makes its conditionality clear: "Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for *peaceful purposes* without discrimination and *in conformity with articles I and II*

of this Treaty."³¹ Therefore, any circumstance in which a state's nuclear program is intended either for non-peaceful purposes or gives the state nuclear weapons constitutes a violation of Article IV.1. The central question for interpreting this right, therefore, is how broadly or narrowly to understand the non-proliferation condition placed on nuclear development.

The Vienna Convention on the Law of Treaties, which sets out the generally accepted principles of treaty interpretation, states that, "a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose."³² Should additional means of interpretations be necessary, the Vienna Convention allows that "recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion."³³ In the case of the NPT, there is sufficient textual, contextual, and supplementary evidence to support an interpretation in which civil nuclear development is a secondary objective, subordinated to the goal of containing the spread of nuclear weapons (as stated in Articles I and II).

NO RIGHT CAN BE CLAIMED UNDER THE NPT TO A TECHNOLOGY THAT CANNOT BE ADEQUATELY SAFEGUARDED AND PLACES A STATE MERE DAYS OR HOURS FROM HAVING WEAPONS-GRADE NUCLEAR MATERIAL.

Iran's claims about the legal status of its nuclear development are, therefore, doubtful. Given the safeguards obligations incurred by signatories of the Nuclear Non-Proliferation Treaty, which the IAEA Board of Governors has found Iran to have violated, Iran is clearly in breach of the NPT. Furthermore, no right can be claimed under the NPT to a technology—such

²⁹ Mottaki letter, *op. cit.*

³⁰ NPT, Article IV.1

³¹ NPT, Article IV.1, *emphasis added*

³² Vienna Convention on the Law of Treaties (VCLT), Article 31.1

³³ VCLT, Article 32

as enrichment—that undermines nonproliferation by placing a state mere days or hours from having weapons-grade nuclear material.

RESPONSES TO IRANIAN ENRICHMENT

In early 2006, the Bush administration and other countries formed the “Permanent Five (of the United Nations Security Council) Plus One (Germany)” – the “P5+1” grouping on the issue. In the three years prior to the alignment of these six countries, diplomacy had been led by three European Union countries – Britain, France, and Germany, acting as the so-called “EU-3.” The EU-3 had reached two agreements with the Islamic Republic for it to suspend uranium enrichment, but in both cases these broke down, most recently in August 2005, shortly after Ahmadinejad’s election. The P5+1 gained more diplomatic weight when, on May 31, 2006, the United States offered to join nuclear talks with Iran if it first suspended its uranium enrichment, but Iranian authorities have labeled this a precondition and refused. On June 1, 2006, the P5+1 agreed to a package of incentives and disincentives to be offered to Iran, including offering Iran entry into the World Trade Organization, an easing of U.S. sanctions, energy partnerships, guarantees of nuclear fuel for a civilian nuclear reactor, and other benefits in exchange for verifiable guarantees that Iran’s nuclear program could not be used for a nuclear weapon. Tehran ultimately rejected the deal.

After a renewed attempt to break the diplomatic impasse and after Resolution 1696 foreshadowed for Tehran the consequences of defiance, the IAEA referred the Iranian case to the United Nations Security Council which, on December 23, 2006, unanimously passed Resolution 1737, imposing sanctions on some trade and technology sharing as well as targeted sanctions against individuals and entities linked to Iran’s nuclear program (See Appendix C). On March 24, 2007, the United Nations Security Council augmented sanctions with the passage of Resolution 1747 and, a year later, augmented them yet again with Resolution 1803. But Russia, China, and other countries have been reluctant to impose harsh sanctions, which suggest there will be greater difficulty in passing a new sanctions resolution. Under French President Jacques Chirac, the French government suggested that

Paris might drop insistence that the Iranian government suspend enrichment and instead settle for a “partial suspension.” While Nicolas Sarkozy has taken a far tougher line on Tehran than Chirac, Iranian authorities may cite Chirac’s more generous offers as precedents from which to start bargaining.

The passage of Resolutions 1737, 1747, and 1803 came amid an effort by the Bush administration to ratchet up military pressure on Iran. In his January 10, 2007 statement on Iraq, President Bush signaled that the Administration is now favoring a containment option in the case of Iran. He confirmed in his speech that the United States would send a second U.S. aircraft carrier group into the Persian Gulf, and he announced the extended deployment of Patriot anti-missile batteries in the region, reportedly in Kuwait and Qatar. He has also proposed increased military aid to, as well as increased intelligence sharing with, the Persian Gulf states. Other reports say that U.S. aircraft have increased overflights of the Iran-Iraq border. At the same time, U.S. forces in Iraq arrested several Qods Forces officers allegedly involved in arming Iraqi Shi’i militias, including the Jaysh al-Mahdi. On September 20, 2007, U.S. forces arrested another alleged Qods Force operative in Sulaymaniyah, Iraqi Kurdistan. Secretary of Defense Robert Gates, has said that he sees the U.S. buildup as a means of building leverage against Iran that could be useful in bolstering U.S. diplomacy, and he has repeatedly denied that the military moves are a prelude or part of planning for any U.S. military attack on Iran. However, the President and his top aides have continued to stress that military options against Iran’s nuclear facilities remain “on the table.” Although the emphasis of Bush Administration policy has been to pressure Iran to a degree greater than of previous administrations, the Bush administration has nonetheless engaged Tehran directly on Afghanistan and Iraq.

The Bush Administration has offered broader direct dialogue if Iran curbs its nuclear program. On May 31, 2006, the State Department announced that it would join multilateral talks with Iran if it were to suspend its uranium enrichment, although the State Department

appears to have waved this precondition and redline when, on July 15, 2008, it announced that Undersecretary of State William Burns would attend multilateral talks with the Islamic Republic's nuclear negotiator.

However, the intelligence and policy communities in Washington and abroad do not know how far the Iranian government is from acquiring a nuclear bomb. Portions of a U.S. National Intelligence Estimate leaked in August 2005 reported that the Iranian regime was between five to ten years away from acquiring a nuclear bomb, but this Estimate assumed that Iran's production of nuclear fuel was entirely domestic. Should the Iranian government receive nuclear material from other sources—Tehran has yet to fully account for all of its uranium imports from Beijing, for example, and its relations with Pyongyang continue to develop—then it could happen much more quickly. Judgments about how far Iran may be from a bomb depend in part on an estimate of how difficult it would be for Iran to acquire nuclear materials from outside sources. A study commissioned for this report found that once Iran has amassed sufficient amounts of low-enriched uranium feedstock, it might be able to produce 20 kilograms of highly enriched uranium—the minimum amount necessary for a bomb—in as little as 16 days. This is the worst-case scenario, but one that certainly is possible.

THE THREAT POSED BY THE ISLAMIC REPUBLIC IS NOT ONLY DIRECT IRANIAN ACTION BUT ALSO AGGRESSION COMMITTED BY PROXY.

Indeed, Iran could arguably achieve significant strategic success by simply obtaining a nuclear capability—that is, the technological base and infrastructure necessary to produce enough weapons grade uranium for use in a weapon—without even producing a nuclear bomb. This would offer them a “breakout capability,” which would allow them to produce a weapon after withdrawing from the Nuclear Non-proliferation Treaty, expelling

inspectors, and enriching uranium to bomb-grade levels at the time of its choosing, as North Korea has done.

THE STRATEGIC THREAT OF A NUCLEAR IRAN

The danger of the Islamic Republic developing military nuclear technology is multifold. A nuclear-ready or nuclear-armed Islamic Republic ruled by the clerical regime could threaten the Persian Gulf region and its vast energy resources, spark nuclear proliferation throughout the Middle East, inject additional volatility into global energy markets, embolden extremists in the region and destabilize states such as Saudi Arabia and others in the region, provide nuclear technology to other radical regimes and terrorists, and seek to make good on its threats to eradicate Israel. The threat posed by the Islamic Republic is not only direct Iranian action but also aggression committed by proxy.

Western policymakers do not have the luxury of omniscience with regard to the state of Iran's program or the Iranian leadership's intentions. U.S. intelligence assessments are useful, but must be read with caution because of the intelligence community's consistent difficulty in predicting when states will achieve nuclear weapons capability. The Soviet Union's 1949 nuclear test, for example, took the U.S. intelligence community by surprise, as did the 1960 French test, and the Chinese acquisition of nuclear bombs in 1964. The Central Intelligence Community underestimated Iraq's progress before 1990, and overestimated it in 2003. The Intelligence Community was also caught by surprise by the nuclear tests in India in 1974 and 1998, and later by how close both Libya and Syria had come. In other cases, uncertainty prevailed in times of crisis. During the 1982 Falkland Islands War between Argentina and Great Britain, some analysts worried that Buenos Aires might quickly be able to acquire a nuclear bomb. That Iran's nuclear program remains shrouded in ambiguity only escalates the threat it poses.

U.S. policymakers must consider the worst-case scenario—a first strike by Iran against U.S. interests or allies. Such a strike might occur directly or by proxy, with

the Iranian leadership seeking to maintain deniability. While a primary target may be Israel, Iranian leaders may consider other targets: U.S. military bases or Saudi oil fields. In such strikes, the Iranian leadership need not rely on traditional delivery systems. There may be a strategic advantage for Iran, again in terms of deniability, if any nuclear device is ship or truck-borne rather than on a ballistic missile. Any use of an Iranian nuclear device may open U.S. policymakers to blackmail: following use of a nuclear device, Iranian leaders or terrorists may argue that they have other bombs pre-positioned in Western population centers or near other strategic targets and that they might detonate such bombs should there be either retaliation against Iran for its use of nuclear bombs, or should Western authorities not accede to specific demands.

Some suggest that Iran could be deterred in much the same way as the Soviet Union. Parallels to Cold War deterrence, however, are not convincing. First, although many analysts argue that Iran is like every other country, in point of fact there are ideological elements among Iran's leadership that actively believe that Iranian actions and violence can hasten the return of the Hidden Imam. Secondly, the opacity of Iran's nuclear command structure means that it is possible for those messianic hardliners to enjoy disproportionate influence there. Thirdly, Iranian nuclear development will likely spark proliferation across much of the Middle East. Although our allies during the Cold War felt secure under the United States' nuclear umbrella, that is no longer the case. Riyadh, for example, has already indicated it would want a matching capacity of its own. Already, many regional states have announced their intention to build nuclear power plants. Under the current Atoms for Peace initiative, Moscow, Paris, and Washington have committed to help Riyadh, Abu Dhabi, Amman, Cairo, Tripoli, and Ankara develop reactors. Furthermore, it is difficult to determine with certainty that Tehran would be able to resist the temptation to transfer technology. On July 13, 2008, Ahmadinejad told his Senegalese counterpart that he saw no problem in transferring technology to other Muslim countries.³⁴ History offers a guide: Moscow helped Beijing acquire its nuclear capacity despite political differences between

the two countries, and the rogue Pakistani scientist Abdul Qadir Khan helped Iran advance its program despite tensions between the two states. At the very least, this would spell the effective end of the Nuclear Non-Proliferation Treaty.

It should also be remembered that deterrence was less effective than is commonly assumed. The United States and Soviet Union came close to nuclear confrontation during both the 1961 Cuban Missile Crisis and the 1983 Korean Air 007 shoot-down. The 1999 India-Pakistan crisis over Kargil demonstrated the danger of conflict with and between nuclear states lacking sufficient command, control, and doctrine.

Even if Tehran does not build or test a nuclear weapon, its establishment of an indigenous enrichment capability has already placed the region under a cloud of ambiguity. An Iranian nuclear break-out would be fundamentally different from that of other countries because there has never been a true state sponsor of terrorism with nuclear weapons. Uncertainty over Iranian capabilities and intentions will make Iran more immune to conventional deterrence and give the Islamic Republic a *de facto* nuclear deterrent, which could embolden it to reinvigorate its export of revolution and escalate support for terrorist groups. Iran remains an ideological state. While many Iranian civilians and members of the government focus only upon seeking the best life for themselves and their family, more ideological elements remain committed to export of the Islamic revolution. Throughout the 1980s and early 1990s, application of this principle took the form of assistance to terrorist groups, attempts to undermine regional governments, and assassinations of dissidents. Should the Iranian leadership feel itself secure behind a nuclear shield, they may increase both their overt and covert aggression. The repercussions of such Iranian assertion would be felt not only throughout the Middle East, but also—because of Iran's position on the Strait of Hormuz—on the world energy markets. Iran would then become not just a regional threat, but an international one.

³⁴ *Kayhan* (Tehran), July 13, 2008.

POLICY OPTIONS

So what can Washington do to prevent the Islamic Republic from developing nuclear weapons? Policymakers have discussed several options, but each has its own risks and complications—and, disturbingly, rarely have these options been examined in detail. Many diplomats, think-tanks, and academics advocate engagement, but seldom do their reports consider either the complexities involved in preparing leverage for successful engagement or what strategies should be considered if engagement fails.

Many diplomats, think-tanks, and academics advocate engagement, but seldom do their reports consider either the complexities involved in preparing leverage for successful engagement or what strategies should be considered if engagement fails. More robust strategies involve both unilateral and multilateral sanctions, embargoes and blockades, exploitation of regime vulnerabilities, regime change, and military actions. Explanations of these strategies' advantages, disadvantages, and incumbent difficulties follow.

ENGAGEMENT

There are two general ways to engage the Islamic Republic between which lies a spectrum of options. One pole is negotiation without precondition and engagement without requiring anything in return. At the opposite end of the spectrum are negotiations with preconditions and strategies to squeeze Tehran hard while negotiations occur.

Some U.S. and European policymakers may see the North Korea multilateral talks as a paradigm for engaging Iran, but the first Gulf War may provide a better model. It was the George H.W. Bush administration's willingness to engage in talks, instead of ramping up to war right away, that preempted diplomatic stalling and ultimately persuaded Gorbachev to support a single UN resolution with a built-in timetable that gave time for diplomacy to work but also authorized the use of force.

In practice, past engagement with Iran has had only mixed success. Germany began a "critical dialogue" with the Islamic Republic in 1992 to address a wide range of concerns about Iranian behavior. This morphed into a more general European engagement policy. While Khatami lessened tensions with the West and relaxed

some social restrictions internally, Europe's dialogue did not resolve international disputes over the Islamic Republic's nuclear program; to the contrary, Iran's nuclear development continued alongside the European engagement. At the heart of the European engagement strategy has been an assumption that increased Western investment in and trade with Iran might encourage first economic and then political liberalization. Some European policymakers also sought to insert human rights benchmarks into this "China model," but, in practice, these fell by the wayside.

IN PRACTICE, PAST ENGAGEMENT WITH IRAN HAS HAD ONLY MIXED SUCCESS.

Between 2000 and 2005, the height of the Khatami presidency, European Union trade with the Islamic Republic almost tripled, and oil prices rose sharply. Rather than utilize the hard currency premium, the Iranian government invested perhaps 70 percent of its windfall into its nuclear and military programs. The 2007 National Intelligence Estimate confirmed that the Islamic Republic maintained a covert nuclear weapons program during Khatami's presidency.

The European Union, through the efforts of London, Paris, and Berlin, the so-called EU-3, continued to lead diplomacy. While Iranian officials have met with EU-3 diplomats, Tehran has simultaneously sought to exploit divisions within Europe. This was not hard. While the EU-3 says they speak for the entire EU, other member states—Sweden and Finland, for example—have privately expressed reservations at having to commit to EU-3 decisions, especially when they might run contrary to their own commercial interests.

On May 31, 2006, Secretary of State Condoleezza Rice sought to augment negotiations by committing Washington to talks with Tehran so long as the Iranian government suspended enrichment for the duration. In April 2007, U.S. and Iranian diplomats met at a multilateral forum in Sharm el-Sheikh. The following month, the U.S. and Iranian ambassadors in Baghdad met in a bilateral setting to discuss security issues, the first of several meetings which continued into early 2008. Both U.S. and Iranian diplomats denied these talks extended beyond the security issue. In July 2008, the State Department voided the May 31, 2006 redline when Rice dispatched Undersecretary of State William Burns to meet the Islamic Republic's nuclear negotiator even without any Iranian commitment to suspend its illicit uranium enrichment.

The Bush administration appears to have rejected the so-called "grand bargain" in which the Islamic Republic would end all actions the United States considers objectionable in return for U.S. lifting of sanctions, security guarantees, re-establishment of diplomatic relations, and firm assurances it would not support opposition groups trying to topple Iran's regime. Rumors arose in May 2003 that Tehran had offered Washington a grand bargain; these are not credible and appear to have originated with a freelancing Swiss diplomat and an Iranian-American lobbyist rather than with the Iranian government.

The Islamic Republic is vulnerable to pressure. The Iranian leadership lacks the self-confidence of popular rulers and knows many Iranians do not care for the revolutionary principles upon which the regime stands. Indeed, over the past year, Iranian officials have implemented a Societal Security Scheme and instituted an ideological purge in the universities to reinforce ideological compliance and indoctrination. Iranian apathy toward the Islamic Revolution does not mean that Iranians are ready to rise up and throw off the theocratic yoke. Rather, most Iranians are apathetic about politics and concentrate instead on guaranteeing the best possible life for their immediate families. The regime feels vulnerable to a Velvet Revolution, which is why they arrest elderly

Iranian-American grandmothers and dictate who can and cannot run in parliamentary elections.

If diplomacy is to work, U.S. officials must determine both what they expect from the Islamic Republic and what Iranian objectives they are prepared to meet. U.S. concerns about Iranian activities have been consistent across administrations: opposition to the Islamic Republic's nuclear and ballistic missile development; concern about Iranian support for terrorism; Tehran's violent opposition to the Middle East peace process; and human rights issues. U.S. military presence in Iraq and Afghanistan also makes Iranian activities in those countries an immediate concern.

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Successful diplomacy will require give-and-take, however. Iranian authorities have repeatedly insisted upon security assurances, lifting of economic sanctions, and the unfreezing of assets. These are only base demands; senior Iranian officials have also demanded U.S. abandonment of Israel, U.S. withdrawal from the Persian Gulf, and reparations for any number of perceived slights. Many of these more extreme Iranian demands are simply unacceptable and cannot be subject to negotiation. Nevertheless, U.S. officials will need to determine just what they are willing to offer the Islamic Republic for its forfeiture of its nuclear program and the abandonment of its terrorist proxies.

A major decision for Western policymakers will be whether to agree to negotiate with Iran about its nuclear program without any Iranian agreement to suspend enrichment. Dropping preconditions has the advantage of getting all parties to the table faster. But negotiation without precondition also has two major drawbacks: first, if Tehran does not negotiate in good faith, it may simply draw out talks while it masters enrichment technology. Second, agreeing to engage Iran while it continues its enrichment program in defiance of multiple UN Security Council Resolutions would precondition the outcome of those negotiations by, in effect, conceding that the West accepts Iranian enrichment. This would undercut the possibility of Iranian compliance with any future UN Security Council resolution. Regardless of which option the next President chooses, it is important that any negotiations with Iran have a predetermined timeline, for example 90 days, so that Iran cannot simply 'run out the clock.'

IF DIPLOMACY AND MULTILATERALISM ARE TO SUCCEED, THE UNITED STATES AND EUROPEAN UNION MUST AGREE TO A FIRM AND FINITE TIMELINE FOR TALKS TO OCCUR.

Should Washington wish to make that concession for negotiations and, in effect, bless the notion that the Islamic Republic will enrich uranium, policymakers might consider a number of other agreements:

- In return for Western acceptance of an Iranian civilian nuclear program, Tehran might agree that any low-enriched uranium produced would be moved outside the country to an IAEA facility so that there is no stockpiling of any low-enriched uranium.
- In addition, international authorities may demand Iranian ratification of the Additional Protocol and

the commitments that implementation of Additional Protocol implies.

Regardless of any agreement reached, U.S. policymakers must pay careful attention to verification mechanisms.

ALLIANCE BUILDING

But while negotiations may be either bilateral or multilateral, the subjects that Iranian officials and the West may seek addressed will be broader. European officials will likely accede to Iranian demands that the Middle East become a nuclear free zone, in effect disarming Israel's capability. It is not the place of U.S. officials to offer concessions on behalf of other sovereign countries, especially those like Israel which have legitimate security concerns. It is quite possible that Tehran will incorporate demands to internationalize the Arab-Israeli conflicts and, simultaneously, pursue policies that exacerbate it. Should Iranian officials adopt such a policy, U.S. officials and their European counterparts will have no choice but to pursue other options against the Islamic Republic. There is precedent for this: in 1990, Iraqi officials sought linkage between Iraq's withdrawal from Kuwait and Israel's withdrawal from the West Bank and Gaza. Had U.S. and European officials accepted such conditions, Kuwait today might still be Iraq's 19th province, and an appeased Saddam Hussein might well have continued his conquests southward.

As the stakes grow in the Iranian diplomatic crisis, many Western states seek to backtrack from their statements about the unacceptability of the Iranian nuclear program. There is a tendency, especially among some in Europe, to seek to accommodate the Islamic Republic. Other European capitals must understand how seriously Washington takes the possibility that Tehran will achieve breakout nuclear capacity; simultaneously, however, U.S. policymakers must show their European counterparts that the White House will go the extra mile for a peaceful resolution. Across the policy spectrum, U.S. officials should accept that there needs to be an effort to talk to the Iranian regime before Washington resorts to military means to deny the Islamic Republic breakout

nuclear capacity. However, the international community should also realize that any possibility that diplomacy will not achieve its aims or that the Iranian government will use such engagement as a mechanism to stall while Iranian technicians master nuclear enrichment will cause Washington to embark upon more robust strategies.

If diplomacy and multilateralism are to succeed, the United States and European Union must agree to a firm and finite timeline for talks to occur. Unfortunately, the international community is still a German election away from Berlin being able to make any real, binding decision on its policy toward Iran. Until then, Washington cannot expect German support for any significant coercive measures should diplomatic outreach toward Iran fail.

U.S. and European Union coordination with other regional and international players is also necessary. The President or another high-ranking U.S. official—not simply a visiting diplomat—will have to ask Saudi leaders whether they are determined to prevent the Islamic Republic from becoming a nuclear power and, given U.S. commitment to prevent Iranian nuclear weapons capability, whether Riyadh wishes to avert the mess that could result from military action. If so, Saudi officials need to determine what they will do to help the United States. The Saudis will be important to any deal for their leverage over Beijing. Sanctions can only be effective if China does not seek to take Europe's place as the Islamic Republic's main trading partner. By forcing China to choose between Iran and Saudi Arabia, the Saudis might persuade China to downgrade ties with Tehran as European sanctions take effect. Of course, it is possible that confronted with a choice, Beijing may cast its lot with Tehran over Riyadh, an outcome which the Saudis may not wish to risk and one which, by making sanctions less effective, might accelerate conflict.

It may be possible also to convince Moscow to reconsider its support for the Iranian government and its nuclear program. Bushehr is the pretext for Iran's entire enrichment program. If Moscow were to withdraw its support—and its engineers—the Iranians could

not ready the reactor for operation and would have no civilian reason to keep spinning their centrifuges. U.S. diplomats should send the message to Rosatom that, over the long-term, they would be much better off staying out of Iran. If the UN Security Council were to ban nuclear cooperation with Iran until it was in full compliance with its Non-Proliferation Treaty Safeguards Agreement, then it might provide cover for Rosatom to cease its work in Iran. Absent such UN Security Council cover, the firm may fear that any withdrawal from the Iranian market would brand them an unreliable partner as they bid on other states' nuclear programs. So long as Rosatom persists in its Iranian business, it risks soiling its commercial reputation at a time when it can compete with Westinghouse and AREVA.

SHOULD RUSSIA AND CHINA PLAY BALL, THEN THE DIPLOMATIC STAGE MIGHT BE SET FOR ENGAGEMENT.

The United States government has other commercial leverage over Russia and Rosatom. In 1995, the White House shelved bilateral nuclear cooperation with Russia under terms of Section 123 of the Atomic Energy Act. In July 2007, however, Presidents Bush and Putin initialed a 123 Agreement, and on May 13, 2008, Bush submitted this to Congress for approval. Many members of Congress have spoken out against pursuing nuclear cooperation—in theory worth more than \$10 billion to Moscow should Russia chose to become a repository for spent nuclear fuel—unless the Russian government first ceases nuclear cooperation with Iran. The prospect of joint commercial projects with Rosatom might entice greater Russian cooperation.

There is also room for discussion with regard to U.S. anti-ballistic missile bases in Eastern Europe. Putin has made clear his opposition to these facilities in the Czech Republic and Poland. He may seek to trade Russian flexibility for a U.S. agreement to cancel these bases. Under such circumstances—and given European

ambivalence both about ballistic missile defense and a commitment to have any U.S. ballistic missile defense apply to all NATO members-- it may prove useful to accept Putin's compromise offer of utilizing Azerbaijan for this purpose. While Russia's opening offer was not acceptable—Moscow would have retained the unilateral ability to power down the facility without notice—Putin's offer might have been an opening to bargain for Russian compliance on Iran. Both U.S. and Russian policymakers also need to consider what impact the expiration of the START treaty in 2012 will have on their respective positions.

Should Russia and China play ball, then the diplomatic stage might be set for engagement. A diplomatic process with Iran assumes that providing Tehran with the right combination of incentives and sanctions might encourage the Iranian leadership to drop its international defiance and forfeit its nuclear weapons program in return for regaining its international legitimacy and rejoining the international community. The logic of engagement is compelling on a number of levels. Tactically, encouraging diplomatic contacts lessens the opportunity for miscommunication to escalate into crises. Given the vulnerabilities of the Iranian economy, either the regime and/or the general Iranian public may conclude that the benefits of increased access to Western commerce and technology outweigh the benefits of nuclear weapons. Moreover, as engagement proceeds, increased ties to business elites and the middle class might moderate the regime, even if the Iranian leadership did not initially intend to change. Lastly, cultural and other Track II exchanges might bypass the regime and encourage moderation and understanding on the popular level.

However, U.S. policymakers must consider the possibility that neither Beijing nor Moscow will cooperate. In such a case, Washington may have little option but to pursue more unilateral and military strategies.

Iranian strategy is to stall in talks until it appears the United States or other international actors may pursue punitive measures. Only then will Tehran offer compromise, although this conciliation will only last

until pressure alleviates. Given the Iranian pattern of defiance coupled with insincere conciliation, European diplomats cannot simply propose amorphous time-lines and find excuses to suspend them as they pursue ever more unlikely "Hail Mary" attempts to win Iranian compliance.

In order to address such concerns, the United States and Europe might agree to a predetermined timeframe for negotiations after which, and regardless of whether talks remain ongoing, sanctions to which the United States and European Union committed to prior to the beginning of talks will take effect. The Iranians—and perhaps some European officials as well—should understand that their traditional delaying tactics no longer apply.

LEVERAGE BUILDING

Sanctions are a tool to strengthen leverage; they are not in and of themselves a fix, and they are certainly no panacea. When considering sanctions, options range from comprehensive and multilateral sanctions to targeted and unilateral sanctions. The most effective sanctions might be comprehensive sanctions against Iranian oil sales. Iran is oil-rich, but also energy-dependent. This dynamic dictates the range of economic policy options by which the U.S. might seek to influence Iranian behavior. Available strategies include not only enacting tougher sanctions and closing loopholes in existing ones, but also targeting Iran's major source of revenue by blocking oil exports; exploiting its insufficient refining capacity and growing gasoline consumption by halting gasoline imports; or a combination of both actions. The choice of instruments for implementing these actions depends upon the desired time horizon. In the following discussion, primary consideration will be given to short-term instruments.

Accumulated sanctions on Iran and pressures on companies not to invest in the country's hydrocarbon sector have been one set of factors that have impeded efforts by Tehran to increase its oil and gas production capacities and its refining capacity, expansion of which is required if Iran is to meet its current and future gasoline requirements. In early 2008, for example, both

Royal Dutch Shell and Spain's Repsol withdrew from participation in development of phase 13 of the South Pars gasfield, one of the Islamic Republic's largest projects. In July 2008, the French oil giant Total announced its withdrawal from Iranian projects. Just as critical, if not more so, in retarding Iran's potential growth, however, has been the failure of Iran to offer competitive terms and conditions to attract sufficient capital.

Oil revenues account for about 80 percent of Iran's export earnings and almost 50 percent of the government budget. While diplomats and analysts might also consider enhanced sanctions, the very tight energy market and the threat that higher petroleum prices might damage the international economy could undercut this strategy. The basis of the EU-3 strategy is to offer not only the carrots of engagements, but also threaten Iran with sticks, most often sanctions.

The Iranian government may find its pre-existing trade relationships capable of mitigating such sanctions' bite. The Nordic countries have already made it clear that, when it comes to sanctions, the EU-3 does not speak for them. The Russian government has repeatedly sought to delay or downgrade sanctions, and the Chirac administration had suggested that Paris might drop insistence that the Iranian government suspend enrichment—although Sarkozy's administration is significantly tougher. Beijing is also reluctant to impose harsh sanctions or further Chapter VII resolutions as forceful action against Iran might undercut its energy security. However, the Chinese government is more likely to work behind the scenes than use its Security Council veto. While they do not have veto power at the United Nations, the German and Japanese governments might also resist wide-ranging sanctions as they have, by some diplomats' estimates, extended more than \$20 billion in loan guarantees to their own companies doing business in the Islamic Republic. Indeed, the German ambassador to Tehran has bragged to Iranian journalists that rather than adhere to sanctions, German companies had simply laundered their trade through the United Arab Emirates.³⁵

Still, there may be some room for targeted sanctions to focus on Iran's economic vulnerabilities, such as the Islamic Republic's need to import much of its refined petroleum needs. Iran's government currently spends roughly \$5 billion per year to import refined gasoline, an expenditure which steadily draws down Iran's foreign exchange reserve fund. The international community may consider sanctions to retard Iran's ability to refine or liquefy its gasoline and other petroleum products. Iran does not have the technically trained human capital to add refining capacity on its own. It is dependent upon foreign investment and technical assistance in order to construct new refineries.

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Even sanctions that are effective seldom work quickly. Should the Iranian regime remain committed to its nuclear program, it may decide it can withstand the pressure of sanctions which, even at their harshest, would not compare to the deprivations suffered during the Iran-Iraq War. Some have argued that the state-dominated nature of Iran's economy could allow it to withstand private-sector divestment from its economy in ways other countries could not.

With no expectation that Iran will comply with the uranium enrichment suspension deadline contained in Resolution 1747, especially after the publication of the 2007 National Intelligence Estimate, an immediate question is whether, and if so what, further international sanctions might be imposed on Iran.

³⁵ Iranian Students News Agency (Tehran), Nov. 22, 2008.

U.S. Unilateral Sanctions

Any international or multilateral sanctions would add to the wide range of U.S. sanctions in place since the November 4, 1979 seizure of the U.S. embassy in Tehran. Some experts believe that U.S. sanctions have been somewhat successful by reducing Iran's ability to develop its key oil and gas sector.

Iran has been on the U.S. "terrorism list" since January 1984, following Hezbollah's October 1983 bombing of the U.S. Marine barracks in Lebanon. The list was established by Section 6(j) of the Export Administration Act of 1979, sanctioning countries determined to have provided repeated support for acts of international terrorism. The terrorism list designation bans direct U.S. financial assistance and arms sales, restricts sales of U.S. dual use items, and requires the United States to vote to oppose multilateral lending to the designated countries. U.S. law provides waivers, but successive foreign aid appropriations laws since the late 1980s ban direct assistance to Iran such as loans, credits, insurance, and Export-Import Bank credits without providing for a waiver.

THE U.S. PRESIDENT HAS AT HIS DISPOSAL AUTHORITY TO AUGMENT FINANCIAL PRESSURE THROUGH A SERIES OF EXECUTIVE ORDERS.

Iran also is prevented from receiving technology from the United States under anti-proliferation laws, including the Atomic Energy Act of 1954 and the Energy Policy Act of 2005 (P.L. 109-58). Several proliferation laws are unique to Iran. The Iran-Iraq Arms Nonproliferation Act (P.L. 102-484) requires denial of license applications for exports of dual use items to Iran, and imposes sanctions on foreign countries that transfer to Iran "destabilizing numbers and types of conventional weapons," as well

as WMD technology. The Iran Nonproliferation Act (P.L. 106-178) authorizes sanctions on foreign entities that assist Iran's WMD programs. Reflecting a Bush Administration decision to impose sanctions for violations, the U.S. government has sanctioned numerous foreign entities, including some U.S. allies. The following are sanctioned entities: China, Taiwan, India, North Korea, Belarus, Macedonia, United Arab Emirates, Spain, Ukraine, Russia, and Cuba.

The U.S. President has at his disposal authority to augment financial pressure through a series of Executive Orders. The Clinton Administration issued two Executive Orders in 1995: Executive Order 12957, imposed on March 15, 1995, prohibited certain transactions contributing to the development of Iranian petroleum resources. A ban on U.S. trade with and investment in Iran remains in place, imposed on May 6, 1995 under Executive Order 12959. The trade ban was partly intended to blunt criticism that U.S. trade with Iran made U.S. appeals for multilateral containment of Iran less credible. The trade ban prohibits U.S. firms from negotiating investment deals with Iran or to trade Iranian oil overseas. Under the provisions of the trade ban, some goods related to the safe operation of civilian aircraft may be licensed for export to Iran, and in December 1999, the Clinton Administration allowed the repair of engine mountings on seven Iran Air Boeing 747s. Clinton further augmented U.S. ability to implement offensive financial measures with Executive Order 13059, issued on August 19, 1997, which tightened restrictions on U.S. technology trans-shipped through or re-exported from third countries into Iran.

Entities designated as illicit actors under terms of the Executive Orders may include individuals, banks, corporations, charities, and governments. Designated Iranian entities include Bank Sedarat, Bank Sepah, Bank Melli (the national bank), the Islamic Revolutionary Guard Corps, its constituent Qods Force, and the Ministry of Defense and Armed Forces Logistics. Designation has multiple advantages. While the Executive Order empowers U.S. authorities to seize funds

traversing its financial system, the greater advantage may be simply disrupting the Islamic Republic's ability to pursue normal financial transactions.

The U.S. Treasury and State Departments have begun using U.S. financial regulations—as well as the new authorities in UN Security Council Resolutions 1737 and 1747—to pressure European banks not to do business with Iran. On December 20, 2005, the Treasury Department fined Dutch bank ABN Amro \$80 million for failing to report fully the processing of financial transactions involving Iran's Bank Melli (and another bank partially owned by Libya). In 2004, the Treasury Department fined UBS \$100 million for the unauthorized movement of U.S. dollars to Iran and other sanctioned countries, and it and three other European banks, Britain's HSBC, Switzerland's Credit Suisse, and Germany's Commerzbank A.G, have stopped dollar transactions from within Iran and pursuit of new business in Iran.

However, the trade ban is not comprehensive. While U.S. banks cannot do business directly with their Iranian counterparts, there has been a general exception for “turn transactions” in order to ensure that the oil market remains dollarized. Iranian banks are therefore able to dollarize their transactions through third-party, non-U.S. banks that have American branches. However, on September 8, 2006, the U.S. government announced it would ban the Iranian-owned Bank Sedarat from participating in such transactions because of its ties to Hezbollah. Iranian officials themselves acknowledge that the U.S. restriction makes it more difficult to fund energy industry and other projects in Iran.

Other modifications to the trade ban account for the small trade that does exist between the United States and Iran. Since April 1999, commercial sales of food and medical products to Iran have been allowed on a case-by-case basis and subject to Office of Foreign Asset Control licensing. Private letters of credit can be used to finance approved sales, but no U.S. government credit guarantees are available, and U.S. exporters are not permitted to deal

directly with Iranian banks. In April 2000, the trade ban was further eased to allow U.S. importation of Iranian nuts, dried fruits, carpets, and caviar.

Subsidiaries of U.S. firms are not barred from dealing with Iran, as long as the subsidiary has no operational relationship with the parent company. Some U.S. companies, however, have come under scrutiny for dealings by their subsidiaries with Iran. On January 11, 2005, Tehran announced it had issued a contract to the U.S. company Halliburton, and an Iranian company, Oriental Kish, to drill for gas in Phases 9 and 10 of South Pars. Under the deal, subsequently scrapped, Halliburton was to provide \$30 million to \$35 million worth of services per year through Oriental Kish. It was unclear whether Halliburton would have been considered in violation of the U.S. trade and investment bans or the Iran Sanctions Act.

Because of criticism, Halliburton announced on January 28, 2005, that it would withdraw all employees from Iran and end its pursuit of future business opportunities there, a process it had announced that it had completed in mid-April 2007. In 2005, General Electric also announced it would seek no new business in Iran. According to press reports, General Electric had been selling Iran equipment and services for hydroelectric, oil and gas services, and medical diagnostic projects through Italian, Canadian, and French subsidiaries.

Still, application of targeted financial measures has not been consistent. In late September 2006, the Bush Administration informed Congress that, in the interests of safe operations of civilian aircraft, it intended to permit a sale by General Electric of Airbus engine spare parts to be installed on several Iran Air passenger aircraft, albeit by European airline contractors.

In addition to the Executive Orders, the U.S. Congress has empowered the U.S. government to undertake further economic coercion against the Islamic Republic or its business partners. The Iran Sanctions Act, the successor to the Iran-Libya Sanctions Act of 1996, empowers the

United States to act against private companies investing in Iran. The law requires the President to impose sanctions on foreign (or U.S.) investment of more than \$20 million in one year in Iran's energy sector. These sanctions have succeeded in impeding a number of projects, including Lukoil's exploration of the Anaran oil field.³⁶ Given the potential sensitivities of our European allies, consultations with them on such legislation should take place as part of our intensive efforts to proceed on a common course.

In 2006, Congress amended the law to make exports to Iran of weapons of mass destruction or advanced conventional weapons technology sanctionable, and to call for, but not mandate, a 180-day time limit for the Administration to determine whether a project violates the Iran Sanctions Act. No projects have actually been sanctioned under Iran Sanctions Act, and only one—a 1997 investment by Total SA, Gazprom, and Petronas of Malaysia—was determined to have violated it, although Clinton waived sanctions on the grounds of national interest. In the subsequent decade, more than a dozen investment agreements with Iran—many of which are now operational and producing oil or gas—have helped Iran slow deterioration of its energy export sector. However, the Islamic Republic would have attracted far more investment if the Iran Sanctions Act had never been enacted. One major project that Iran believes would help its gas export sector considerably is a proposed gas pipeline from Iran through Pakistan to India.

U.S. OFFICIALS CAN WARN BOTH U.S. AND FOREIGN BANKS OF THE RISKS INHERENT IN BUSINESS DEALINGS WITH IRAN.

The U.S. government has other tools at its disposal. Section 311 of the Patriot Act of 2001 authorizes the Treasury Department to designate a foreign jurisdiction, financial institution, class of transactions, or type of account as being of "primary money laundering concern." This enables the Treasury Department to impose one or more of five special measures:

1. Requiring additional recordkeeping or reporting for particular transactions;
2. Requiring the identification of the foreign beneficiary owners of certain accounts at U.S. financial institutions;
3. Requiring the identification of customers of a foreign bank who use an interbank payable-through account opened by that foreign bank at a U.S. bank;
4. Requiring the identification of customers of a foreign bank who use an interbank correspondent account opened by that foreign bank at a U.S. bank; and
5. After consultation with the Secretary of State, the Attorney General, and the Chairman of the Federal Reserve Board, restricting or prohibiting the opening or maintenance of certain interbank correspondent or payable through accounts.

The net impact of Section 311 denies access to the U.S. financial system to entities designated as "special concerns." While the authority has been invoked seven times since the passage of the Patriot Act, it has yet to be applied to an Iranian entity.

The U.S. Treasury Department has not implemented Section 311 on Iranian interests for fear that the financial community may deem such action as too political, a judgment that might erode the specter of Section 311 action in other cases. Ironically, this self-restraint benefits the Islamic Republic in two ways. First, it allows Tehran to engage in deceptive financial behavior without consequence. Second, it undercuts the effectiveness of U.S. diplomacy as other states conclude that Washington's failure to implement Section 311 suggests the United States is not as serious as it claims.

In addition, there are a number of informal defensive measures that the U.S. government can apply to undercut any bank's cooperation with Iranian institutions. U.S. officials can warn both U.S. and foreign banks of the risks inherent in business dealings with Iran. These dangers include reputation risk and fiduciary obligation to shareholders. Because the Islamic Republic engages in

³⁶ Steven Mufson and Robin Wright. "Iran Adapts to Economic Pressure." *Washington Post*. October 29, 2007.

illicit and deceitful financial activities, transactions that the best international due diligence practices may consider legitimate may turn out to be illicit. When any bank's participation in illicit Iranian activity becomes public, the bank is likely to face fines and damage to its reputation.

IRAN'S OIL AND GAS PRODUCTION ACCOUNTS FOR THE BULK OF IRAN'S INCOME AND ITS ABILITY TO SATISFY CONSUMER NEEDS.

Disrupting Gasoline Imports and Oil Exports

While Tehran may have reaped an oil windfall in recent years, such money has failed to revive a moribund economy. The government's social welfare strategy includes the provision of implicit subsidies, not only for gasoline but also for medicines, bread, and other goods. The World Bank calls these subsidies "untargeted and ineffective." They undercut market development, drain resources, and encourage black markets and smuggling of goods out of the country. The Iranian government has responded by instituting both rationing and further price controls. While Iranians protested the imposition of gasoline rationing, the Iranian government has successfully tempered dissent by enabling Iranians to trade and profit from unused ration allotments.

Both the Iranian government and its opponents recognize the importance of Iran's energy sector: Iran's oil and gas production accounts for the bulk of Iran's income and its ability to satisfy consumer needs. Recognizing their vulnerabilities, Iranian authorities have proactively sought to minimize their exposure to sanction and economic coercion.

U.S. leverage has further declined with the publication of the 2007 National Intelligence Estimate on Iran's nuclear program (See Appendix B). Companies from China and, to a lesser extent, Russia appear to be taking advantage of a changed climate to sign contracts that would, if implemented, ease Iran's capacity constraints.

Since the gasoline market is fungible and global, it is almost impossible to try to limit gasoline imports at the country of origin. The only possible instruments are a blockade and targeting the companies involved in making petroleum product deliveries. Some of these companies are outside the reach of Washington, for example in Russia, but others might well be active in the United States, Israel or other places where pressure can be brought to bear. This would at best increase the difficulty Iran confronts on the import side, but its overall effect may be limited.

An alternative policy option would be to exploit Iran's economic dependence upon oil exports. Revenue from export of crude amounted to about \$54 billion in 2006, accounting for 63 percent of Iran's state revenue. Halting the export of Iranian crude would have significant economic repercussions for the regime.

Enforcing any sanctions may be easier said than done, however. In order to be effective, sanctions on Iranian crude would have to be multilateral. Currently, the main recipients of Iranian crude are Japan, China, India and South Korea. Together they receive more than half of Iran's oil exports. Convincing these countries, especially China, to forgo Iranian imports of crude might be farfetched. Iran's primary means for the export of crude oil is by tanker through the 34-mile wide Strait of Hormuz, through which approximately 17 million barrels per day, two-fifths of seaborne oil trade, move each day. Iran has the largest oil tanker fleet in the Middle East, with 29 ships including Very Large Crude Carriers. Important terminals in the Persian Gulf include Kharg Island, Kish Island, Abadan and Bandar Mahshahr. The Neka terminal on the Caspian Sea is used primarily to handle increased product imports from Russia and Azerbaijan, as well as crude swaps with Turkmenistan and Kazakhstan.

Without multilateral sanctions, the only way of halting the export of Iranian crude is the naval blockade of Iranian ports. The ramifications of such action would include an immediate jump in the price of crude oil and a global crude shortage. The extent and impact of such a shortage depends upon the Iranian reaction to

a blockade. The immediate consequence would be the loss of the 2.0 million barrels per day that Iran currently exports. This amount roughly corresponds to the existing spare production capacity in the world, most of which is found in Saudi Arabia. Mitigating this shortfall would require ramping up all available production, preferably ahead of any planned action against Iran.

Even if action is taken to exploit such vulnerabilities, though, sanctions can be undermined and even become counter-productive. For instance, Iranian authorities could circumvent an international embargo on its gasoline imports by smuggling product in, and divert blame for higher prices at the pump to outside enemies. If Russia opposed an embargo, it could blunt the domestic impact upon Iran with shipments through the Caspian. This could not fully compensate for Iran's domestic loss, but it could ease it.

SHOULD IRAN OR ANY IRANIAN-SPONSORED GROUPS ATTEMPT TO INTERFERE WITH THE EXPORT OF OIL THROUGH THE PERSIAN GULF, CURRENT SPARE PRODUCTION CAPACITY COULD NO LONGER COVER THIS LOSS.

Iranian authorities could also retaliate effectively against any such pressure, given the tight energy market. Iran exerts considerable influence in the southern region of Iraq, where virtually all of Iraq's current production and exports are sourced, and could disrupt the regions production—almost 2 million barrels per day—in order to drive up energy costs internationally. Should Iran or any Iranian-sponsored groups react by attempting to interfere with the export of oil through the Persian Gulf, however, current spare production capacity could no longer cover this loss.

In order to better plan for Iran's possible retaliation, Washington needs to treat the Strategic Petroleum Reserves realistically. The Department of Energy's drawdown schedule depicts a capability to pull down 4.4 million barrels of oil per day from the Strategic Petroleum Reserve caverns, for 90 days in case of emergency. On its face, this appears adequate to calm markets in the event of a cutoff of Iranian oil exports or Iranian action to punish others by inducing a radical increase in oil prices. It is uncertain, however, that the Strategic Petroleum Reserves can produce and distribute such a level since it has never been tested at such levels. For that reason, the U.S. Government should test the SPR system at different levels at different durations of time and fix any problems that might arise. Of course, other members of the Paris-based consumer group, the International Energy Agency, should do the same to be properly prepared to mitigate the impact from any Iran oil-induced economic shock.

IRANIANS MAY BE FIERCELY NATIONALISTIC, BUT FEW WOULD SHED MANY TEARS AT THE CLERICAL LEADERSHIP'S FALL SO LONG AS IT DID NOT INVOLVE FOREIGN OCCUPATION.

U.S. policymakers must also consider alternative ways to export oil from the Persian Gulf. Beyond fleshing out current military contingency planning, U.S. officials should engage in serious discussions with the Saudis to resolve their issues with Iraq and revive and rehabilitate the Iraqi Petroleum Saudi Arabia (IPSA) pipeline which ends in the Red Sea port of Yanbu. This would provide an additional outlet for Iraqi and Saudi oil exports. The United States might also work on refurbishing the Turkish pipeline in northern Iraq and restoring it to its original, larger capacity of 1.6 million barrels/day. The United States might also explore other long term oil infrastructure options including a pipeline from Iraq to the Jordanian port of Aqaba on the Red Sea.

MAP 5: MIDDLE EAST: OIL AND GAS INSTALLATIONS



REGIME CHANGE

Within the course of Iranian history, the current theocracy is an anomaly. Far from being predetermined as some historians suggested when trying to explain the events of 1979, the Islamic Revolution was largely a fluke, caused by a unique confluence of events. Iranians may be fiercely nationalistic, but few would shed many tears at the clerical leadership’s fall so long as it did not involve

foreign occupation. Because nuclear knowledge cannot be reversed, should the Islamic Republic not forfeit its nuclear ambitions, the only permanent resolution may be regime change. Western officials might pursue regime change with a number of different strategies, each risky and some counterproductive. These include exploitation of economic and demographic pressure points, supporting opposition groups, and exploiting Iran’s ethnic diversity.

IRAN'S REGIME FACES A DEMOGRAPHIC NIGHTMARE. IRAN'S POPULATION IS OVERWHELMINGLY YOUNG.

Exploiting Economic and Demographic Pressure Points

Iran's regime faces a demographic nightmare. Iran's population is overwhelmingly young. There are insufficient opportunities for the 700,000 young people who enter the job market each year. The regime has not addressed the difficulties women face in equal employment. Even with the oil boom, unemployment has increased well into the double digits. Across successive Iranian administrations, the government has done little to promote a more favorable environment for private sector development.

Perhaps the most effective pressure point which the United States can exploit to undermine the Iranian leadership is growing labor unrest. In recent months, strikes among teachers, textile workers, and bakers have challenged the government's traditional role as the regulator of organized labor. Bakery union leader Mahmoud Salehi remains in solitary confinement. Labor unrest came to a head in December 2005, though, when several thousand Tehran bus drivers belonging to the Syndicate of Workers of the Tehran and Suburbs Bus Company (*sharkat-e vahed*) went on strike, paralyzing the capital. Their leader, Mansour Ossanlou, called the strike action to protest government refusal to discuss housing and education benefits, working conditions, and recognition of the union. Iranian security forces responded by arresting Ossanlou. Learning of planned protests calling for his release, security forces rounded up the union's board of directors and arrested several hundred workers. The Tehran municipality seized control of the company and dismissed many workers who refused to return to their jobs. On January 31, 2006, the student union at Tehran's Amir Kabir University demanded the "unconditional release" of the arrested workers. On July 15, 2006, the Labor Ministry invited

six bus drivers and union representatives to negotiate a solution, but when the six arrived at the ministry, security forces arrested them. Finally, on August 9, 2006, the Iranian government released Ossanlou. While the government rearrested Ossanlou in July 2007, his actions undercut the legitimacy of the regime. Citizens were likely bemused when the official media denied there had been a bus strike, even as tens of thousands of workers were stranded when their buses did not show up.

PERHAPS THE MOST EFFECTIVE PRESSURE POINT WHICH THE UNITED STATES CAN EXPLOIT TO UNDERMINE THE IRANIAN LEADERSHIP IS GROWING LABOR UNREST.

There is little indication that the political elites are willing to undertake the reforms needed to make effective use of the country's labor potential. Should U.S. officials find a way to support independent labor or dissidents, they might increase the Iranian government's accountability to its own citizens, and therefore diminish Tehran investment in nuclear and military adventurism. If the Solidarity movement in Poland is any model, such a strategy would take years and, while a Gdansk strategy might achieve its goals in the long-term, it may risk further crackdowns in the near-term.

Supporting Opposition Groups

Many proponents of regime change urge the United States to support Iranian opposition groups. There are two major categories of groups: those based outside Iran, and those which claim to operate inside Iran. Of the latter, those that cultivate only an ethnic constituency are considered below.

Assistance to Iranian opposition groups can take a variety of forms, ranging from direct support for a political party to support for alternative media, such as Persian language television stations broadcasting from Los

Angeles or elsewhere. Many externally-based political groups applied for a portion the 2007 Congressional allocation of \$20 million to foster democratic opposition in Iran.³⁷ While Iranian political parties in exile are able to cooperate with other groups outside of Iran, few can demonstrate much following inside the country.

The most controversial external group is the Mujahidin al-Khalq Organization. Founded in the 1970s, the Mujahidin al-Khalq Organization has conducted terrorism against both Western and Iranian interests. While it has provided useful and verified intelligence on the Iranian nuclear program, the group's alliance with Saddam Hussein during the Iran-Iraq War makes it widely hated across Iranian society. Iranians look at the Mujahidin al-Khalq Organization in the same way that many Americans view John Walker Lindh, the American student who joined the Taliban to fight against his own people. Still, many in the U.S. Congress urge support for the Mujahidin al-Khalq Organization as they consider it the most organized of Iranian opposition groups. Organization aside, any support for the Mujahidin al-Khalq will backfire. Not only will revelation of theoretical U.S. government support for the Mujahidin enable the current government to rally Iranians around the flag, but the Mujahidin's bizarre philosophy and cultish behavior could also very well lead to a regime even more extreme than Khamenei's.

Exploiting Ethnic Diversity

Some policymakers—including some members of the U.S. Congress—propose exploiting ethnic divisions within Iran. Such a strategy is also unlikely to succeed and, indeed, will likely backfire.

The sensitivity of Iranians to separatism runs deep. Iran experienced many separatist movements throughout the twentieth century. That many enjoyed foreign support, if not sponsorship, has furthered Iranian suspicion about a hidden hand behind unrest along Iran's periphery. Iranians remember British assistance to Arab and Baluchi separatists in the nineteenth and early twentieth century and Soviet support for separatist movements in Gilan, Azerbaijan, and Kurdistan.

At its root, such a strategy exploits the fact that Iran is a heterogeneous country rich in diversity. While Iran is officially a Persian-speaking country, half of all Iranians speak a language other than Persian at home. Many advocates of playing the ethnic card underestimate the integration of minorities into the ruling structure. Khamenei is an ethnic Azeri. Khatami, so often embraced by the West as a reformer, is half-Azeri. The largest ethnic minority—approximately one-quarter of the population—are the Azeris, more of whom live in Iran than in independent Azerbaijan.

Approximately eight percent of Iran's population is Gilaki or Mazandarani. Concentrated along the Caspian littoral, these people speak a language related to Persian, but share major similarities with the Zazaki of Turkey. Perhaps seven percent of Iran's population is Kurdish. While predominant in the Iranian province of Kurdistan, they are not limited to it. Iran often names provinces after an ethnic group, but either makes the province smaller than the concentration of that minority or, as in the case of Azerbaijan, divides it so as to undercut separatism. Arabs no longer predominate in the oil-rich Khuzistan province across the Shatt al-Arab from Iraq, but Arabic-speakers do make up approximately three percent of Iran's population. Smaller minorities of Baluch live along the Pakistani border, while many Turkmen live in northeastern Iran, across from the former Soviet Republic of Turkmenistan.

While any discussion of ethnic separatism normally pushes Iranians to rally around the flag, this strategy would have most resonance among non-Shi'a minorities, such as the Baluch or Kurds.

³⁷ The oft-cited figure of \$75 million is incorrect. While the White House requested \$75 million, Congress allocated \$66 million, of which \$46 million was designated for Voice of America, Radio Free Europe/Radio Liberty, and various State Department translation and outreach programs.

MILITARY OPTIONS

Too often, the public, diplomats, and many policymakers equate military options with bombing or invasion, but these are only the last resort. A military component underlies both deterrence and containment. Indeed, both these options require robust planning and military presence. Non-military policies would be expected to buttress the military option through the “DIME” paradigm—Diplomatic, Military, Informational, and Economic. Such an integrated approach can reduce the potential need to employ actual military force by convincing Iran that any such confrontation would be counter-productive, and that it faces determined international and regional solidarity against Tehran. Diplomacy would come into play in paving the way for a credible deterrent and to build the capacity needed to actually carry out military action, if needed.

Any U.S. deterrent policy would bifurcate into two general strategies: nuclear deterrence and non-nuclear deterrence.

A NUCLEAR DETERRENT STRATEGY WOULD REQUIRE MOVING TO A DECLARED U.S. STANCE THREATENING THE POTENTIAL USE OF NUCLEAR WEAPONS SHOULD IRAN EVER USE A NUCLEAR WEAPON OR ALLOW ITS PROXIES TO DO SO.

Nuclear Deterrence

A nuclear deterrent strategy would require moving to a declared U.S. stance threatening the potential use of nuclear weapons should Iran ever use a nuclear weapon or allow its proxies to do so. While threatening any use of nuclear weapons even as a defensive capacity or in a retaliatory manner remains a taboo subject among

Washington policymakers, it is irresponsible to delay further such discussions given the implications of Iran developing nuclear weapons or the capacity to develop such weapons. The U.S. administration may need to announce that it reserves the right to respond to any attack against itself or its allies with overwhelming force and, perhaps, nuclear weapons. Alternatively, the U.S. government could consider a declaration of automaticity: In the event Iran or any suspect proxy utilizes nuclear weapons, Iran will be hit with a devastating retaliatory strike. In the interim, though, this requires preparation for such a response.

THE U.S. ADMINISTRATION MAY NEED TO ANNOUNCE THAT IT RESERVES THE RIGHT TO RESPOND TO ANY ATTACK AGAINST ITSELF OR ITS ALLIES WITH OVERWHELMING FORCE AND, PERHAPS, NUCLEAR WEAPONS.

Non-Nuclear Deterrence and Capacity Building

Non-nuclear deterrence requires that the United States undertake a series of steps designed to demonstrate to Iran that the United States and its coalition partners are capable of decisive military action to stop Iran’s nuclear program.

Components of non-nuclear military deterrence require a multi-pronged strategy, the most important of which would be to construct the alliances needed to station U.S. forces in position to confront Iran.

In the case of Iran, much of the diplomatic work has been done or is ongoing. As a result of the repeated need for the United States to stabilize the Persian Gulf, several of the smaller Gulf Cooperation Council states already host U.S. military facilities that could be used in the event of

a real or threatened U.S. confrontation with Iran. An initial phase of U.S. diplomatic strategy would be geared toward guaranteeing that the Gulf Cooperation Council states would allow the use of these facilities against Iran.

COMPONENTS OF NON-NUCLEAR MILITARY DETERRENCE REQUIRE A MULTI-PRONGED STRATEGY, THE MOST IMPORTANT OF WHICH WOULD BE TO CONSTRUCT THE ALLIANCES NEEDED TO STATION U.S. FORCES IN POSITION TO CONFRONT IRAN.

Among the key facilities that are used by the United States under post-1991 Gulf War defense pacts with almost all the Gulf Cooperation Council states, and which would be needed to build a credible deterrent against Iran are:

- Bahrain: The large naval command center used by the United States (NAVCENT, U.S. Fifth Fleet), as well as Shaykh Isa Air Base that has been used by the U.S. Air Force in past crises.
- Qatar: Al Udeid Air Base, which houses the forward headquarters of U.S. Central Command, as well as another facility that is used by the United States to pre-position armor and other heavy Army equipment.
- United Arab Emirates: Al Dhafra Air Base and Jebel Ali port, the latter of which can handle docked U.S. aircraft carriers and support ships. Dhafra has been used by the United States for refueling of aircraft used in the Operation Iraqi Freedom and Operation Enduring Freedom (Afghanistan) theaters.

- Kuwait: Several air bases, including Shaykh Ali Al Salem, as well as the large Camp Arifjan which is the staging area for U.S. forces moving in and out of Iraq.

- Saudi Arabia: Prior to the war in Afghanistan, Saudi Arabia had hosted U.S. aircraft at Prince Sultan Air Base south of Riyadh and still reportedly hosts a small Combined Air Operations Center for U.S. aircraft in the Persian Gulf, although the main Combined Air Operations Center for the United States is at Al Udeid in Qatar.

- Oman: Hosts several air bases that are used by U.S. aircraft and also house pre-positioned U.S. Air Force munitions. These air bases are: at Seeb International Airport (military side); Masirah Island, Thumrait Air Base; and a newly upgraded base at Musnanah.

A deterrence strategy against Iran must also include enhanced access to military facilities in countries East, West, and North of Iran. This involves diplomacy with Georgia, Azerbaijan, Turkmenistan, Uzbekistan, Turkey, and possibly Pakistan to gain their approval to host the U.S. forces and support staff needed for military action. The United States has had access to some facilities in these countries for operations in Afghanistan, but Russian pressure has introduced interruptions and uncertainty in U.S. access; Uzbekistan cut off U.S. access to its air base in 2004. Pakistan is highly sensitive to any U.S. presence and is unlikely cooperate with the United States against Iran. Azerbaijan and the United States cooperate in Caspian Sea security, and Azerbaijan appears the most likely anchor of a northern containment strategy for Iran. Turkey is a NATO ally, but its leadership is unreliable, and its cooperation with Iran on energy projects and other issues will dissuade Ankara's participation in U.S. military strategy against Iran. The objective would be to enable U.S. military as broad access as possible to Iran from all directions.

A DETERRENCE STRATEGY AGAINST IRAN MUST ALSO INCLUDE ENHANCED ACCESS TO MILITARY FACILITIES IN COUNTRIES EAST, WEST, AND NORTH OF IRAN.

In addition, the White House, State Department, and Pentagon must begin diplomatic activity geared toward recruiting coalition partners willing to join military action if need be. Deterrence cannot occur without active planning for military contingencies. U.S. policymakers would need to determine with coalition partners the modalities of any military contingency in order to clarify whether a military response in face of Iranian provocation would be U.S.-led, NATO-led, or United Nations-led.

Next, the military would need to deploy additional assets to facilities in the region, not only to participate in any campaign against Iranian forces, but also to defend regional allies and coalition partners against Iranian retaliation. The United States might, for example, emplace additional Patriot Advanced Capability-3 (PAC-3) batteries not only in the Gulf Cooperation Council states but also in Israel, which is likely to be targeted by Iranian missiles if the United States were to conduct a strike on Iran. The buildup would include additional Special Operations Forces, Army, Air Force, and Navy personnel in the region to man Patriot air defense batteries, perform force protection missions, and assess and protect critical energy infrastructure that the Iranian military might target. Some U.S. forces would likely protect Iraq's oil infrastructure.

The U.S. Navy would probably deploy additional mine sweeping capabilities and would send U.S. submarines to the Persian Gulf and Indian Ocean to counter Iran's Kilo class subs. Part of the naval buildup would also include Aegis class U.S. ships to the Mediterranean and the Persian Gulf to detect Iranian missile launches and suicide combat aircraft missions, and to assist with

countering that potential threat. To accomplish this buildup, the Pentagon would need to develop regional capacity by improving host facilities to accommodate the assets needed for military action and also to increase and improve the offensive and defensive capabilities of potential coalition partners in the region. The United States would also need to build more interoperability in all domains to include tactics, techniques, and procedures, equipment, munitions, and information and intelligence sharing capability.

The Pentagon would also need to transfer additional weapons to allies in order to support the effort to strengthen deterrence by providing advanced weaponry to key allies and to improve inter-operability and intelligence sharing. As part of the effort to stiffen the resolve of the Persian Gulf states against Iran, the United States has already devised a new policy, called the "Gulf Security Dialogue." It focuses on enhancing the defense capabilities of the Persian Gulf states and is driving a large package of about \$20 billion in new U.S. weapons sales to the Persian Gulf states, such as Patriot-3 air defense systems, new littoral combat ships equipped with advanced technology, other maritime capabilities, and precision-guided munitions (Joint Direct Attack Munition, JDAM) for Saudi and Emirati combat aircraft. Congress was notified of some of these sales in December 2007 and January 2008. In October 2006, the United States, four Persian Gulf states, and twenty other nations held naval exercises designed to improve their counter-proliferation capabilities against Iran. The Gulf Security Dialogue builds on initiatives from earlier Administrations to promote greater intra-Gulf Cooperation Council defense cooperation on such systems as air defense and missile defense. Ideally, the United States can bring the Gulf Cooperation Council emirates into a state of readiness in which they can assist the United States and perhaps handle at least a couple days of war should the Islamic Republic launch a surprise attack. This would provide enough time for the United States to augment its forces in the region and defeat Iranian aggression.

New weapons sales are necessary to bring the Gulf Cooperation Council to this state of military readiness and ability. These sales will require a reformulation of calculations used to maintain Israel's Qualitative Military Edge. Israel is not opposing the new sales to the Gulf Cooperation Council states. Both Washington and Jerusalem have apparently calculated that Israel and the moderate Arab states face a common enemy in Iran that outweighs the threat which Gulf Cooperation Council states pose to Israel.³⁸ Such consideration of augmented sales might not be extended to Egypt, both because of the possibility of instability following President Hosni Mubarak's death and because the government remains hostile to the Jewish state despite the 1978 Camp David Accords.

In order to augment effective deterrence, U.S. leaders may consider ordering covert operations in Iran to identify potential targets or to conduct pre-conflict operations aimed at Iranian military capabilities.

Embargo: Should containment alone fail, the international community may want to consider initiating a blockade of Iran to prevent it from obtaining weapons components and supplies. The United States and its Coalition partners might ratchet up the embargoed items to include industrial base items and refined petroleum. Should Washington wish to maintain international support, the U.S. Navy would have difficulty imposing a blockade without UN approval, as this would constitute an act of war.

A POSSIBLE COMPONENT OF DETERRENCE WOULD BE A SHOW OF FORCE BY THE UNITED STATES.

There could be a leakage in the blockade through Iran's north if cooperation with a Caspian partner is not reached. A fall-back U.S. position could involve mining Iran's Caspian ports or conducting air interdiction of shipping to and from those ports.

Another aspect of an embargo might be imposition of a no-fly zone over Iran. No-fly zones are easy to recommend, but extremely hard to execute. Creation of a no-fly zone would require dozens, if not hundreds, of airplanes able to operate around the clock from bases in regional countries. This in turn would require a massive logistical investment. It is also very difficult for pilots in a no-fly zone to differentiate between military and civilian aircraft. However, while costly in material and funding, the no-fly zone would pressure the Iranian government by constraining commerce, neutering the Islamic Republic's ability to strike directly at neighboring states with its air force, and prevent aerial-borne nuclear trade and transport of nuclear engineers from states assisting the Iranian program.

Show of Force: Another possible component of deterrence would be a show of force by the United States. The process of deploying additional U.S. ships and aircraft to the region could serve that purpose. The Bush Administration has employed this option when, for example, President Bush announced in January 2007 that he had authorized additional aircraft carrier groups to the Persian Gulf. At present, there are two aircraft carriers in the Persian Gulf region at all times; any buildup would require sending at least two additional aircraft carrier task forces to the region, probably to the Indian Ocean so as not to prompt an Iranian attack on the additional ships. In order to minimize any Iranian attempts to preempt the build-up, the U.S. deployments would have to occur rapidly, in the space of weeks, if not days. There is some danger that Iran may stage an incident—accusing U.S. forces of downing another Iranian civilian airliner, for example—to encourage European states, Russia, and China to demand a drawdown of U.S. forces. U.S. diplomats might discuss with Afghan and Iraqi leaders the possibility of stationing additional U.S. personnel in these countries to counter Iranian retaliation.

During the buildup, there would be no announced ultimatum specifying requirements for nuclear compliance. The Iranian leadership would be aware of the deployments and would understand the build-up to be an implicit threat.

³⁸ William Wunderle and Andre Briere, "Augmenting Israel's Qualitative Military Edge," *Middle East Quarterly*, Winter 2008. <http://www.meforum.org/article/1824>

Upon completion of the build-up, the President or a designated senior U.S. official would issue a formal ultimatum to Tehran demanding a verifiable halt of uranium enrichment and revelation and dismantlement of all nuclear facilities that could be used to further a nuclear weapons program. If Iran does not comply, the United States would impose an embargo or use military force. Given Iran's capabilities, the ultimatum may not include a designated timeframe in order both to limit Iran's ability to preempt U.S. action and to retain maximum flexibility for a diplomatic settlement.

Kinetic Action: Should deterrence fail, a decision may need to be made about whether or not to undertake actual military action. A ground invasion of Iran is widely discounted among experts. The size and complexity of the operation are daunting, the Iranian population would resist, and U.S. forces are already overstretched. U.S. policy remains to render Iran non-nuclear, not change the regime as a ground invasion would. Therefore, the debate over military action generally centers on air and naval operations against Iranian targets, although Special Operations Forces would play some role.

BECAUSE THE U.S. MILITARY ALREADY HAS FORCES DEPLOYED PERMANENTLY WITHIN STRIKING DISTANCE OF IRAN, THE PENTAGON HAS MORE ADVANTAGE THAN MANY PEOPLE—AND THE IRANIAN LEADERSHIP—REALIZE.

If the Commander-in-Chief decided to strike Iran, the United States would benefit from the capacity building and diplomacy that was already undertaken in the deterrence phase of U.S. policy. Because the U.S. military already has forces deployed permanently within striking distance of Iran, the Pentagon has more advantage than many people—and the Iranian leadership—realize. At least for the first strike, U.S. forces could enjoy

tactical surprise. Such action could range from targeted strikes against Iranian nuclear and weapons facilities to a wider campaign to remove organs of the state, such as Revolutionary Guard command locations and encampments. Such strikes may include a variety of military contingents. On one end of the spectrum are unilateral military strikes by the United States or other powers. On the other would be coordinated U.S. and Coalition action. Incumbent in each scenario is both the need to consider and plan for the second and third order effects and to recognize that military action is only one component of a wider strategy to incorporate simultaneously diplomatic, information, and economic components.

While public discussion usually centers upon development of nuclear weapons capability as the trigger for military action, the red line may actually be much sooner. Military action has become more difficult since the Bushehr reactor became fueled, for any strike could have profound ecological implications. When the Israeli Air Force bombed the Osirak nuclear reactor, they timed their attack against awareness that French concerns were preparing to fuel it.

Any military strike would be risky. Iran's nuclear facilities are dispersed and buried, and some may be unknown to foreign intelligence. Regardless of which country or countries execute a strike, Iranian authorities would likely retaliate against U.S. troops in Iraq, order terrorist operations against U.S. interests elsewhere and perhaps attack key infrastructure facilities in Iraq. While the Iranian public is apathetic if not antagonistic toward its leadership now, the prospect of a foreign power striking at Iran would likely rally the larger Iranian population around the flag. While any military strike would delay the Iranian nuclear program, the Iranian nuclear program appears to be past the point where it can be eliminated by air strikes alone. Still, policymakers might consider whether delaying Iran's program in the short-term would allow Washington to take advantage of that space to stop Iran's nuclear program altogether. It is also possible that the delays and increased costs that a devastating strike would impose on Iran's nuclear program might be

followed by a different set of dynamics that would cause or compel the Iranian leadership to change course.

CALCULATIONS AND COMPLICATIONS OF AN ISRAELI MILITARY STRIKE

The 1981 Israeli air strike on Iraq's Osirak reactor significantly delayed, if not crippled, Iraq's nuclear program, and the September 6, 2007 Israeli strike on a Syrian nuclear facility effectively ended that country's covert program. For Israel to repeat these episodes with Iran would not be an easy decision for the Israelis. Jerusalem cannot be certain how far back they will set the Iranian program, although Israeli officials could significantly damage Iran's nuclear capability.³⁹

WHILE THE UNITED STATES
RETAINS STRATEGIC DEPTH
IN EVENT OF CONFLICT WITH
IRAN, ISRAELI OFFICIALS MUST
CONSIDER THE HIGH PROSPECTS
THAT HEZBOLLAH WILL FIRE
ROCKETS INTO ISRAEL.

Nevertheless, any Israeli strike would be fraught with complications and lack tactical surprise. Iran is neither Iraq nor Syria. Its nuclear program is more dispersed than was Iraq's, and Iran has far greater strategic depth than Syria. Successful action will require dozens of sorties. Israeli bombers cannot traverse Saudi Arabia, the Persian Gulf, and Iraq without detection and, perhaps, engagement. It is possible that Turkey would allow Israeli fighters to traverse its airspace, but because all of the fighters would need to enter Iran from the same direction, the pilots would be exposed. Regardless of how Israel might try to strike, it is likely that Iranian air defense will know that the Israelis are on their way before they reach Iranian airspace. The Israeli Air Force will get one shot; Jerusalem will not be able to sustain a multi-day let alone a multi-week campaign. However, Israeli

officials may initiate action in order to force the United States and its allies into a larger campaign.

And, while the United States retains strategic depth in event of conflict with Iran, Israeli officials must consider the high prospects that Hezbollah will fire rockets into Israel. Today, the Lebanese-based Iranian proxy group has upwards of 30,000 missiles, many of which can reach Tel Aviv. In addition, Israeli planners will be worried about Hamas activity on the orders of or in sympathy to Iran. Israeli officials concede that Hamas has smuggled Katyusha rockets into Gaza, although they have not yet been fired. Lastly, Israeli leaders must factor into their decision the likelihood that terrorists would respond by attacking Jewish communities worldwide.

THE OBJECTIVE OF ANY MILITARY
CAMPAIGN TO END THE THREAT
POSED BY IRAN'S NUCLEAR
PROGRAM WOULD BE EITHER TO
DESTROY KEY ELEMENTS OF THE
PROGRAM OR TO COMPEL TEHRAN
TO DISMANTLE THESE ELEMENTS
IN A VERIFIABLE MANNER.

Should Israeli officials conclude that an Iranian nuclear program constitutes an existential threat, and if they also conclude that U.S. policy will not achieve the goal of denying Iran the technology it could use to construct a nuclear weapon, then it may feel that it has no choice but to act unilaterally, despite the incumbent costs. If the Israeli military was able to end Iran's nuclear capability with a neat and clean campaign, Arab states may not complain. However, the chance that any Israeli strike will be decisive is unlikely. If the Gulf Cooperation Council and Arab League members believe that Iran retains an offensive capability, can easily reconstitute its nuclear program, and that the Islamic Revolutionary

³⁹ Whitney Raas and Austin Long. "Osirak Redux? Assessing Israeli Capabilities to Destroy Iranian Nuclear Facilities," *International Security*, Vol. 31, No.4 (Spring 2007), p.11

Guards Corps will destabilize the region, then the moderate Arab states will likely rally against Israel in post-strike diplomacy.

If U.S. policymakers do not want Israel to strike Iran, then they have to convince Jerusalem that Iran is not going to cross the nuclear threshold. This will require constant dialogue at a very senior level. However, convincing the Israelis either that diplomacy is working or that an Iranian nuclear breakout capability does not pose an existential threat may be easier said than done. An Israeli military strike, with or without the prior knowledge or approval of the United States, remains a wild card.

What would U.S. military action look like?

The objective of any military campaign to end the threat posed by Iran's nuclear program would be either to destroy key elements of the program or to compel Tehran to dismantle these elements in a verifiable manner. Military action would not seek to change the Iranian regime, although civil unrest or regime change may be an unintended consequence. While any action would increase energy costs and perhaps lead to recession and fuel shortages—perhaps offset with the release of some stockpiles from the Strategic Petroleum Reserve—such economic effects must be weighed against an alternative future in which Tehran gains a nuclear weapons capability, thereby positioning Iran to threaten the Western economic outlook anyway.

If a decision is undertaken to strike Iran, initial target selection would prioritize:

- Iranian air defense and missile sites and communications systems.
- Other mechanisms of regime retaliation, such as Revolutionary Guards facilities.
- Sites related to Iran's ballistic missile, chemical, biological, and nuclear programs.

- Munitions storage facilities, including those containing sea mines.
- Air fields, aircraft facilities, and helicopters, whether on the ground or airborne.
- All Kilo class submarines, midget subs, destroyers and Hudong patrol boats, and as many Revolutionary Guard Navy-operated Boghammer small boats as possible.

Ground armor, including tanks, need not be included in the initial phase of major strike operations.

Munitions used in the initial assault would include all those in the U.S. arsenal, including Tomahawk cruise missile, Joint Standoff Weapon, JDAMs carried by F-15, F-16, F-18, F-117, F-22, and larger JDAMs carried by the B-2 Stealth and B-1B bomber. Extensive bombardment by B-52's is also possible. A-10 Warthogs might participate as well, depending on target selection.

It is possible that Iranian retaliation could damage a major U.S. ship or cause unexpected military setbacks. It is also likely that Iran, through its proxies, will attack U.S. forces in Iraq or Afghanistan, commit terrorist actions in the region or abroad, fire ballistic missiles against Israel and the Persian Gulf states, fire cruise missiles at Persian Gulf energy and desalination installations, assist Hezbollah to fire rockets at Israel, and commit attacks on neutral shipping. These counter actions can be defended against or responded to if and when they happen using the forces emplaced in the region during the buildup phase. The retaliation will also be countered by U.S. escalation, as necessary.

If escalation is necessary, the U.S. might expand its targeting to include:

- Ground armor, including tanks and artillery positions;
- Electric power plants, and electrical grids;

- Bridges;
- Manufacturing plants, including steel, autos, buses, etc.

U.S. plans would not include targeting of civilians. A U.S. or Coalition ground invasion is not likely due to military constraints and the domestic pressures that would result in any operation with high U.S. casualties.

While not expected, it is possible that the U.S. campaign could lead to local uprisings against a weakened state, or to major civil unrest in response to deteriorating living standards and goods shortages. The United States is not likely to have enough “on-the-ground” information about the state of the regime’s grip on power to influence internal events one way or the other. If such information is acquired, however, and U.S. air power is perceived as able to shift events in Iran to the U.S. advantage, such operations could be considered.

PREPARATION FOR POST-KINETIC ACTION MUST ACCOMPANY ANY MILITARY PLANNING. SUCH PLANNING WOULD INCLUDE A SHIFT TO A LONG-TERM MONITORING MISSION TO DETERMINE IF THE IRANIAN GOVERNMENT SEEKS TO REBUILD ANY WMD CAPABILITY.

Post-Kinetic Action

Preparation for post-kinetic action must accompany any military planning. Such planning would include a shift to a long-term monitoring mission to determine if the Iranian government seeks to rebuild any WMD capability. Incumbent in such plans would be the possibility

that the United States would need to strike as needed to address any reconstitution of nuclear capability. In addition, the U.S. would need to implement long-term containment of Iran’s ability to retaliate.

Policymakers and the intelligence community would also need to watch for signs of regime dissolution and decide whether or not to intervene to shape political outcomes.

Policymakers would also need to plan for humanitarian relief to counter any crisis that could result from kinetic action. The predicate for such planning is that the United States would lose international support for military action against Iran – or for future action against other states – if it conducted strikes against Iran and then neglected to address the humanitarian consequences of the strikes. U.S. activities might include prolonged airdrops of food and medical supplies to Iran, as well as the need to protect and, if necessary, resettle refugee populations. These activities could last years or perhaps even decades.

APPENDIX A: SUMMARY OF IAEA INSPECTION REPORTS

- **GOV/2008/15 (26 May 2008):** Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006), 1747 (2007) and 1803 (2008) in the Islamic Republic of Iran:

This report documents continuing Iranian progress in centrifuge installation and operation, and nuclear enrichment, as well as new construction at its heavy water reactor at Arak. In addition, the IAEA reports the Iranian intention to install a new generation of centrifuges. The IAEA reports that between March 2004 and May 2008 Iran produced 320 tons of UF₆. When confronted by the IAEA with documents both detailing conversion of uranium dioxide to UF₄ and development and testing of high voltage detonator firing equipment and exploding bridgewire, Iranian officials denied the authenticity of the documents and said the documents did not show that Iran had been working on nuclear weapons.

In conclusion, the IAEA summarized, “The alleged studies on the green salt project, high explosives testing and the missile re-entry vehicle project remain a matter of serious concern,” and that “The Agency’s overall assessment of the nature of Iran’s nuclear programme also requires, inter alia, an understanding of the role of the uranium metal document, and clarifications by Iran concerning some procurement activities of military related institutions.”

- **GOV/2008/4 (22 February 2008):** Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006) and 1747 (2007) in the Islamic Republic of Iran:

Outstanding issues resolved in this report: (1) The source of uranium particle contamination; (2) Polonium-210; (3) Gchine Mine administration and uranium production; (4) The IAEA received a 15-page document outlining the procedures for “reducing UF₆ to uranium metal and machining of

enriched uranium metal into hemispheres, which are components of nuclear weapons.” The IR-40 (Iran Nuclear Research Reactor) is still under construction but operating, and satellite imagery shows that the Heavy Water Production Plant is operating. The report finds that Iran has not stopped the enrichment process and that the green salt project, the testing of high explosives, and missile re-entry vehicle are of major concern seeing as how they relate to the possible military dimension of the program.

- **GOV/2007/58 (15 November 2007):** Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006) and 1747 (2007) in the Islamic Republic of Iran:

The report establishes a working plan to answer questions for resolving outstanding safeguards implementation issues. These issues include the acquisition of P-1 and P-2 Centrifuges and their origins, the history surrounding fuel cycle facilities and technology, heavy water reactor related projects, uranium conversion, questions of source of contamination, and additional issues that are resolved in GOV/2008/4.

- **GOV/2007/48/Corr. 1 (7 September 2007):** Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006) and 1747 (2007) in the Islamic Republic of Iran:

The IAEA affirms that Iran has been cooperating on the level of declared nuclear material, but it is not able to ascertain the scope and nature of its nuclear program. The report outlines that Iran has not complied with the UN Security Council due to the fact that Iran did not suspend enrichment activities; it continued the Pilot Fuel Enrichment Plant (PFEP) and the construction of the Fuel Enrichment Plant (FEP), the construction of the IR-40, and finally the operation of the Heavy Water Production Plant.

- **GOV/2007/22 (23 May 2007):** Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council Resolutions in the Islamic Republic of Iran:

This report parallels UN Security Council Resolution 1747 (2007). Iran continues uranium enrichment and declared that it has reached enrichment levels of 4.8 percent; the IAEA in GOV/2007/48 indicates that enrichment is actually at 3.7 percent. Outstanding issues include: Uranium contamination at the Physics Research Centre, P-1/P-2 centrifuges, and uranium casting into hemispheres. The construction of the IR-40 and the operation Heavy Water Production continue.

- **GOV/2007/8 (22 February 2007):** Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council Resolution 1737 (2006) in the Islamic Republic of Iran:

Issues include the finding that contamination on centrifuges in Iran and Libya originate from the same country; acquisition of P-1 and P-2 centrifuge technology; continuing work on PFEP, FEP, and heavy water projects; many inconsistencies concerning Iran's plutonium experiments. Iran did not agree to transparency measures involving the "Green Salt Project," which deals with the conversion of uranium dioxide into UF₄, high explosive testing, or missile re-entry systems.

- **GOV/2007/7 (9 February 2007):** Cooperation between the Islamic Republic of Iran and the Agency in light of United Nations Security Council Resolution 1737 (2006):

An agreement made unilaterally by Mohammed El Baradei from outside his immediate mandate, it outlines the direction in which technical cooperation will take place between Iran and the IAEA. No technical cooperation will be provided to Iran that relates to the proliferation of sensitive

nuclear activities that coincide with the provisions of Resolution 1737. The report also enables the IAEA to provide technical cooperation under its auspices to eleven national, twenty regional, and two interregional projects.

- **GOV/2006/64 (14 November 2006):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

The IAEA reports that Iran has not enabled the IAEA to monitor remotely the PFEP. The IAEA also found no ongoing reprocessing activities at the Tehran Research Reactor (TRR), the Molybdenum, Iodine and Xenon Radioisotope Production Facility (MIX), and at the Iran Nuclear Research Reactor (IR-40). No progress reported on determining the contamination described in GOV/2006/53. Iran did not give new information concerning P-1/P-2 centrifuge programs, uranium metal enrichment, or plutonium experiments, nor did Iran express the possibility of discussing studies related to the Green Salt Project or the design of a missile re-entry vehicle.

- **GOV/2006/53 (31 August 2006):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Report coincides with UN Security Council Resolution 1696. The IAEA reports that Iran has cooperated by granting the IAEA access to nuclear material and facilities, but that the Iranian authorities have denied the IAEA certain operating records at PFEP. Iran continues to test P-1 centrifuges in the PFEP. Iran neither has suspended enrichment activities, nor has it acted in accordance with the Additional Protocol. Iran did not respond to IAEA requests to investigate the Physics Research Centre (PHRC), the Green Salt Project, high explosive testing, and Tehran's design work of missile re-entry vehicles, nor did Iranian authorities grant the IAEA permission to place remote monitoring equipment at PFEP.

Report also discussed continuing construction work at IR-40 in Arak and FEP at Natanz. No indications of ongoing reprocessing activities at TRR, the MIX Radioisotope Production Facility, or hot cells at IR-40. No progress on contamination issues stated in GOV/2006/27, paragraphs 8-9. There is uranium particle contamination at the technical university. Iran still has not given the IAEA a 15-page document on the reduction of UF₆.

- **GOV/2006/38 (8 June 2006):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Reported no resolution to a contamination issue that was discussed in GOV/2006/26. Iran did not make any information available to the IAEA regarding P-1 and P-2 centrifuges. Construction at IR-40 continues. Iran did not implement the provisions of the Additional Protocol. Iran did not respond to the IAEA's request to carry out environmental sampling at PHRC. Iran also did not respond to the agency's request to interview a former head of the PHRC. Iran will not reveal information concerning the Green Salt Project, high explosives testing, and the design of a missile re-entry system.

- **GOV/2006/27 (28 April 2006):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Addresses a letter that Iran sent to IAEA stating their actions and position on issues related to the nuclear program. Iran declined to show the IAEA a handwritten document pertaining to an offer made to Iran in 1987 by a foreign intermediary to assist Iran's nuclear program. Iran did not provide the IAEA with any documentation concerning 500 sets of P-1 centrifuge components acquired in the mid-1990s. Additional issues: transparency of PHRC, interviewing a former head of PHRC, and Iranian denial of the existence of a Green Salt Project.

- **GOV/2006/15 (27 February 2006):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Discusses developments since November 2005 in the areas of contamination, P-1/P-2 centrifuge technology acquisition, plutonium experiments, and continued work at IR-40 in Arak. Iran requested that the IAEA remove seals applied at various facilities, all of which were involved in the enrichment process, and removed the seals in the presence of IAEA inspectors on 10 and 11 January 2006.

- **GOV/2005/87 (18 November 2005):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

While Iran suspended uranium enrichment through the gas centrifuge and laser programs, uranium conversion is continuing at UCF. Construction of IR-40 is continuing. Iran has provided additional documentation on the 1987 offer regarding P-1 and P-2 centrifuges but has not provided enough documentation for the IAEA on the mid-1990s offer to ensure that the centrifuge program was not conducted between 1995 and 2002.

- **GOV/2005/67 (2 September 2005):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Report briefly outlines Iran's nuclear status in November 2004 and summarizes subsequent developments. Enrichment activities were renewed in August 2005 but were suspended again later that month. Contamination and P-1 and P-2 centrifuge programs continue to be major outstanding issues. Evidence supports Iran's assertion that HEU contamination came from foreign sources, but the origin of LEU contamination is unknown. Iran has continued to withhold information concerning the centrifuge programs, and the IAEA is unable to determine the extent or duration of the programs.

- **GOV/2004/83 (15 November 2004):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Report offers responses to the requests of resolution GOV/2004/79 and offers details into the chronology surrounding the enrichment of uranium since 1985. Two issues that can assure the IAEA that there is no undeclared enrichment activity include resolution of the origin of LEU and HEU particle contamination and P-1 and P-2 centrifuges. Also elaborates on Iran's uranium mining programs at Saghand, Yazd, and Gchine. The report emphasizes that Iran concealed its enrichment program by denying access to the Kalaye Electric Company, moving equipment to Pars Trash, and by submitting incomplete declarations to the IAEA. From 1989 to 1993 Iran attempted to extract polonium from two bismuth targets at TRR.

- **GOV/2004/60 (1 September 2004):** Implementation of the NPT Safeguard Agreement in the Islamic Republic of Iran:

This report corresponds to Iran's suspension of uranium enrichment, resolution GOV/2004/49, and inspections of nuclear program sites in June 2004. Iran claims that contamination of LEU and HEU particles found at Natanz, the Kalaye Electric Company workshop, Farayand Technique, and Pars Trash came from imported P-1 centrifuges. The IAEA questions this explanation for technical reasons. Paragraphs 47-55 discuss Iran's suspension of uranium at PFEP Natanz. This report also has an annex which discusses "Verification Activated" related to uranium conversion and enrichment, plutonium separation, Polonium-210 production, laser enrichment, the heavy water reactor program, and finally IAEA monitoring activities.

- **GOV/2004/34/Corr.1 (18 June 2004) and GOV/2004/34 (1 June 2004):** Implementation of the NPT Safeguards Agreement in the Islamic Republic

of Iran:

Summarizes IAEA progress in Iran from March to June 2004. Iran has suspended most enrichment work, but some private facilities are continuing production. Iran continues UF6 generation, claiming this was not included in the suspension agreement. Iran has resisted divulging information on the origin of uranium contamination at Natanz, Kalaye, and Farayand, as well as the import, manufacture, and use of P-2 centrifuge components. IAEA also finds that Iran understated the amount and age of plutonium produced in plutonium separation experiments.

- **GOV/2004/11 (13 March 2004):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Summarizes IAEA progress in Iran from November 2003 to March 2004. Iran has been mostly compliant with suspending enrichment and providing documentation on facilities and material, though more information is needed in many areas. Iran has provided no information regarding the P-2 centrifuges, and the source of contamination at Kalaye and Natanz remains unresolved. Other outstanding issues are Iran's laser isotope enrichment research and production of Polonium-210.

- **GOV/2003/75 (10 November 2003):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Focuses on progress made since GOV/2003/63. Declares that Iran's existing nuclear program consists of a "practically complete front end of a nuclear fuel cycle." Uranium centrifuge enrichment has been in development for 18 years and laser enrichment programs for 12. Iran has not reported the processing and use of nuclear materials or facilities but pledges to do so, and claims to have adopted a policy of full disclosure.

- **GOV/2003/63 (26 August 2003):** Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran:

Assesses progress made on the Safeguards Treaty and establishment of an Additional Protocol with Iran since GOV/2003/40. Iran's cooperation in providing information to the IAEA increased, but "information and access were at times slow in coming and incremental and... some of the information was in contrast to that previously provided by Iran." Some issues regarding Iran's enrichment program remain unresolved.

- **GOV/2003/40 (6 June 2003):** Implementation of the NPT safeguards agreement in the Islamic Republic of Iran:

This report expands on a 17 March 2003 discussion of safeguards programs operating in Iran and further actions needed to enforce them. As of the March meeting, Iran had failed to report the import, processing, and use of uranium supplies, or the facilities where nuclear material was used, stored, or discarded. Iran subsequently supplied information on the import of some uranium supplies, but not their processing or use, and has provided design information and access only to some of its nuclear facilities.

APPENDIX B: SUMMARY OF U.S. NATIONAL INTELLIGENCE ESTIMATES

November 2007

The U.S. press has often mischaracterized “Iran: Nuclear Intentions and Capabilities,” the controversial National Intelligence Estimate. The NIE found that Tehran halted its nuclear weapons program in 2003, but manipulated the definition of weapons design and uranium enrichment to a point that diverged with technical norms and reality.

Overt work to master uranium enrichment continues, however, to constitute the greatest technological challenge to construction of an indigenous nuclear weapons capability. The Intelligence Community found with “moderate-to-high confidence” that “Tehran at a minimum is keeping open the option to develop nuclear weapons,” and assessed with “high confidence” that the Islamic Republic has the scientific, technical and industrial capacity eventually to produce nuclear weapons if it decides to do so.

The 2007 National Intelligence Estimate reported that the Islamic Republic halted its weapons program in 2003 because of international pressure, and found that Tehran’s decisions are guided by a cost-benefit analysis rather than a rush to weaponize irrespective of political, economic, and military costs. The Estimate did not, however, provide data to support its assertion, nor did it provide evidence to support its recommendation that a policy in which diplomats provides opportunities for Iran to achieve security, prestige, and regional influence might ameliorate Iranian excesses.

May 2005

The May 2005 Intelligence Community Estimate found with high confidence that the Islamic Republic sought to develop nuclear weapons regardless of international obligations and pressure. It projected that the Iranian government would not likely achieve a nuclear weapon before the early-to-mid 2010s, but also found that under certain circumstances, Iran could produce enough fissile material for a weapon by the end of 2010.

APPENDIX C: SUMMARY OF UN SECURITY COUNCIL RESOLUTIONS

S/RES/1803: 3 March 2008

UN Security Council Resolution 1803 adds entities and persons involved in Iran's illicit nuclear program subject to asset freezes and to voluntary restrictions on their travel by U.N. member states. In addition, the Resolution bans outright travel for five named Iranian individuals. The Resolution suggests that Bank Melli and Bank Sedarat are involved in Iran's proliferation activities, and calls upon U.N. member states to "exercise vigilance" over the activities of these banks, thereby giving authority to any country to ban the processing of transactions with these banks. The Resolution also gives member states the authority to inspect the cargoes of Iran Air Cargo and the Islamic Republic of Iran Shipping Line when there is reason to believe that these entities are carrying goods considered contraband under Resolutions 1737 and 1747. As did the previous Resolutions, 1803 gave Iran 60 days to comply.

S/RES/1747: 24 March 2007

UN Security Council Resolution 1747 augmented UNSCR 1737 by prohibiting Iranian sale of weapons outside its territory and by calling upon international financial institutions not to offer grants, assistance, or loans to Iran unless they are for humanitarian or developmental purposes. As did the previous Resolution, UNSCR gave Iran 60 days to comply with the provisions on suspension of uranium enrichment and heavy water projects. The Resolution calls on U.N. member states not to sell arms to Iran but does not require a ban. UNSCR 1747 greatly expanded the number of entities and persons that were sanctioned in UNSCR 1737. Among the most significant additional entities and persons sanctioned were: Bank Sepah; several Iranian manufacturers of equipment for the IRGC; the deputy commander of the IRGC; the Chief of the IRGC Joint Staff, the Commander of the IRGC Navy; the Commander of the IRGC Ground Forces; the Commander of the Basij (a volunteer militia under the IRGC involved in internal security); and the Commander of the IRGC "Qods Force," – the unit of the IRGC that supports Iranian protégé movements abroad, such as Lebanese Hezbollah.

In an annex, the Resolution also details and reiterates an incentive offer to Iran presented in June 2006, which would be negotiated in earnest if Iran complies with the Resolution's demands.

S/RES/1737: 27 December 2006

UN Security Council Resolution 1737 calls upon Iran to comply with the IAEA Board of Governors resolution (GOV/2006/14) and to suspend both uranium enrichment and all heavy water projects within 60 days. UNSCR 1737 places sanctions on Iran to stop the transfer of materials, training/knowledge, technology, and nuclear weapon delivery systems that might assist Iran's enrichment or heavy water work, but welcomes outside assistance to help Tehran develop a peaceful nuclear project, so long as Iran first halts enrichment. UNSCR 1737 also freezes the assets of ten named Iranian entities that are involved in Iran's nuclear and missile programs and 12 named persons involved in those programs, including Yahya Rahim Safavi, then the chief of the Islamic Revolutionary Guard Corps. The Resolution also calls on United Nations member states to disallow travel to their territories of the named persons. The Resolution was worded to not require cessation of work on the Russian-built civilian nuclear reactor at Bushehr.

S/RES/1696: 31 July 2006

UN Security Council Resolution 1696 calls "on Iran to without further delay take the steps required by the IAEA Board of Governors in its resolution GOV/2006/14" and suspend its uranium enrichment by August 31, 2006 or face possible diplomatic and economic sanctions.

APPENDIX D: BASICS OF URANIUM ISOTOPE SEPARATION

The majority of elements consist of two or more isotopes, atoms that have the same number of protons but differing numbers of neutrons. The different isotopes of an element all have approximately the same chemical properties but can have quite different nuclear properties. Natural uranium has two principal isotopes, U-235 and U-238. The isotope U-235 is desirable for processes involving nuclear fission. However, U-235 represents only about 0.7 percent of natural uranium; 99.3 percent is U-238. To harness uranium for nuclear reactions, uranium must be enriched to increase the percentage of U-235. When technicians describe uranium as a certain percentage enriched, the percentage refers to the proportion of U-235.

To enrich uranium by centrifuge, technicians feed uranium into the plant, which outputs two streams. The product stream has uranium with a higher enrichment than the feed, while the tails stream consists of uranium with a lower enrichment than the feed. For example, to produce one kilogram of 4.8 percent enriched product requires 6.98 kilograms of natural uranium feed and also produces 5.98 kilogram of tails if the tails enrichment is 0.287 percent. The sum of the product and tails will equal the feed.

Uranium hexafluoride is used in centrifuges because uranium fed into a centrifuge must be gaseous at near room temperature. Since flow through a single centrifuge is low, an enrichment plant consists of a number of centrifuges—the so-called stage—that operate in parallel. An enrichment plant consists of a number of stages connected in series. Such a series-connected group is known as a cascade.

The portion of the cascade between the feed point and the product end is the enriching section. Since uranium has significant economic value, stages are used to reduce the enrichment of the tails produced by the enrichment plant. These stages are known as the stripping section, and are located between the feed point and the tails end.

The use of a stripping section reduces significantly the amount of feed required.

Plants must operate for a while to create the internal enrichment gradient in the plant so that the product with desired enrichment can be produced. This time is the equilibrium time, which for many enrichment processes can be long, but is shorter for a centrifuge enrichment plant.

APPENDIX E: ADDITIONAL COMMENTS

Henry Sokolski:

This report rightly argues in its executive summary that allowing Iran to enrich uranium even a little would be a mistake. The narrative unfortunately is not as clear and might be misunderstood to endorse Iran enriching uranium on its soil as a tolerable end-state. Such a view is unworthy of support since any overt enriching in Iran (even a little) would make it virtually impossible for inspectors to unmask possible covert fuel-making in Iran. As the executive summary makes clear, even allowing Iran to do this temporarily is imprudent and dangerous.

The report also, at times, spotlights worst case analyses—e.g., Iran targeting the U.S. or its allies in a first nuclear strike or transferring nuclear weapons to terrorist organizations. Yet, it would be a mistake to allow U.S.-allied planning to be driven by such extreme, unlikely scenarios. Instead, the U.S. and its friends should prepare first and foremost against an Iran emboldened by its ever-increasing nuclear weapons-ready status. As the report notes, this more certain set of circumstances is already in play and is more than bad enough.

Finally, although the report's analysis of how Iran might make weapons uranium is useful, it's not the entire story. Here, the 2006 analysis of Iran's plutonium bomb options, by the House Permanent Select Committee on Intelligence,¹ and the technical analysis upon which it is based by Victor Gilinsky fully describe the technical reasons why Iran's reactors also are a major worry.

¹ *Recognizing Iran as a Strategic Threat: An Intelligence Challenge for the United States.* Staff Report of the House Permanent Select Committee on Intelligence Sub-committee on Intelligence Policy. August 23, 2006

APPENDIX F: BIOGRAPHIES OF PARTICIPANTS

Daniel Coats, co-chair of the Steering Committee, is a senior counsel in King & Spalding's Government Advocacy and Public Policy Practice Group. He was a member of the U.S. House of Representatives and the U.S. Senate, where he served on both the Senate Armed Services and the Senate Intelligence Committee. He subsequently served as the U.S. Ambassador to the Federal Republic of Germany. Coats was a leading voice in the Senate for military reform and transformation and an advocate of a bi-partisan approach to national security issues. He is a former member of the Defense Policy Board, the Defense Panel on Globalization and Privatization, and the Joint Forces Command Board of Visitors.

Charles S. Robb, co-chair of the Steering Committee, is a former Governor and U.S. Senator from Virginia with service on the Armed Services, Intelligence, and Foreign Relations Committees. He spent the 1960s on active duty with the U.S. Marine Corps (including command of an infantry company in Vietnam) before receiving a law degree from the University of Virginia and a Federal Appellate Clerkship. In 2004, he was appointed by President George W. Bush as co-chairman of the Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, and served subsequently on the Iraq Study Group. He is currently on the President's Intelligence Advisory Board, the Secretary of State's International Security Advisory Board and the FBI Director's Advisory Board.

Ashton B. Carter is chair of the International Relations, Security, and Science faculty at Harvard's Kennedy School of Government. He is also Co-Director (with former Secretary of Defense William J. Perry) of the Preventive Defense Project, a research collaboration of Harvard and Stanford Universities. Dr. Carter served as Assistant Secretary of Defense for International Security Policy during President Clinton's first term.

Gregory "Grog" Johnson joined the Bipartisan Policy Center as a Senior Military Fellow at the BPC in February 2008. A retired four-star admiral, whose last military post

was commander of U.S. Naval Forces, Europe and Joint Force Command, Naples, 2001-2004. He retired from active duty in December 2004. He is founder of Snow Ridge Associates, a member of the Energy Security Leadership Council, sits on the board of directors of Integrian, and is an Outside Director of CACI International.

Kenneth Katzman, a consultant to the project, is a specialist in Middle East affairs for the Congressional Research Service where he advises members of congress on Iran, Iraq, and Afghanistan. A New York University Ph.D., Dr. Katzman wrote a dissertation on "Iran's Islamic Revolutionary Guard Corps: Radical Ideology despite Institutionalization in the Islamic Revolution." His book, *The Warriors of Islam: Iran's Revolutionary Guard* was published in 1992. In 1998, he contributed several expert working papers on the ballistic missile capabilities of Iran and Iraq for the Commission to Assess the Ballistic Missile Threat to the United States (the "Rumsfeld Commission"). He is a regular contributor to the policy website of the Abu-Dhabi-based Emirates Center for Strategic Studies and Research.

Ronald Keys is an independent consultant (RK Solution Enterprises) and joined the Bipartisan Policy Center as a Senior Military Fellow at the BPC in February 2008. General Keys' last assignment was as Commander, Air Combat Command, the Air Force's largest major command. He was responsible for organizing, training, equipping, and maintaining combat-ready forces for rapid deployment and employment for more than 1,200 aircraft, 27 wings, 17 bases and 200 operating locations worldwide with 105,000 active-duty and civilian personnel. He retired from the U.S. Air Force in 2008. General Keys holds a Bachelor of Science degree from Kansas State University and a Master's degree in business administration from Golden Gate University.

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companies and exchanges. He is author of *Churchill's Promised Land* (Yale University Press, 2007) and has a PhD in diplomatic history from Harvard University, a MBA from Columbia Business School, and a BA from the University of Chicago.

Edward Morse is a Managing Director and Chief Energy Economist at Lehman Brothers. Before joining Lehman in July 2006, Morse spent seven years at Hess Energy Trading Company. For the decade before that he was publisher of *Petroleum Intelligence Weekly* and other industry newsletters as well as CEO of Energy Intelligence Group. He received his Ph.D. from Princeton University, where he taught for six years before joining the senior research staff at the Council on Foreign Relations. During the Carter and Reagan administrations, Morse was Deputy Assistant Secretary for International Energy Policy and represented the United States at the International Energy Agency.

Stephen Rademaker is Senior Counsel to BGR Holding, LLC. He served previously as Policy Director for National Security Affairs and Senior Counsel to Senate Majority Leader Bill Frist. From 2002 to 2006 he was an Assistant Secretary of State with responsibility for arms control and non-proliferation. From 1993 to 2002 he held various staff positions in the U.S. House of Representatives. He also has served as General Counsel of the Peace Corps, Associate Counsel to the President in the Office of Counsel to the President, and as Deputy Legal Adviser to the National Security Council.

Dennis Ross is The Washington Institute's counselor and Ziegler distinguished fellow. Ambassador Ross was U.S. point man on the peace process in both the George H. W. Bush and Bill Clinton administrations. Prior to his service as special Middle East coordinator under President Clinton, Ambassador Ross served as director of the State Department's Policy Planning Staff during the George H. W. Bush administration.

Michael Rubin, drafter of this report, is a resident scholar at the American Enterprise Institute and a senior lecturer

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Henry Sokolski is the Executive Director of the Non-proliferation Policy Education Center. From 1989 to 1993, he served as Deputy for Nonproliferation Policy in the Office of the Secretary of Defense, prior to which he was Senior Military Legislative Aide to Senator Dan Quayle.

Chuck Wald is Vice President – International for L-3 Communications, a retired four-star general, a current board member of the Bipartisan Policy Center and former Senior Military Advisor at the BPC. General Wald was the Deputy Commander of U.S. European Command, 2002 to 2006, when he retired from active duty. His prior assignment was air commander of U.S. Central Command, when he headed the allied air campaign in Afghanistan in 2001-2002. He has combat time as an O-2A forward air controller in Vietnam and as an F-16 pilot over Bosnia. Other duties include Deputy Chief of Staff for Air and Space Operations at the Pentagon, Chief of the U.S. Air Force Combat Terrorism Center, and director of Strategic Planning and Policy at the U.S. Air Force headquarters.

Kenneth R. Weinstein is CEO of Hudson Institute, the international strategic policy research organization based in Washington, DC. Weinstein, who directs the institute's research, project management, and outreach, writes on American foreign policy and strategy, has published op-eds and articles in such major publications as the *Wall Street Journal*, *Le Figaro* and the *Asahi Shimbun*. He holds a Ph.D. in government from Harvard University. In 2006, he was awarded an honorary knighthood by the French government as a Chevalier of Arts and Letters for his work promoting improved U.S.-French relations.

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