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An Analysis of U.S. Policies Targeting the Iranian Nuclear Program

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An Analysis of U.S. Policies Targeting the Iranian Nuclear Program

by

Bryan T. Hamilton

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts
Department of Government and International Affairs
College of Arts and Sciences
University of South Florida

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DEDICATION

I would like to dedicate this thesis to my wife, Jennifer, who has provided me with tremendous support not just during my time writing this thesis but also throughout my career in the Army to keep me moving forward. You understood that this process was one that would require more time away from you; thank you for taking care of our son and being so wonderful. I would not be successful without you.

I must also thank my mother, Judy Hamilton, whose support and reassurance was critical; she read and reviewed drafts of this manuscript when I knew it probably put her to sleep. Lastly, I must thank my friend and mentor COL Kemp Chester for encouraging me to attend this university and pursue this specific degree. Thank you, sir, for encouraging me to attend a school that would force my thoughts to be challenged by those that think differently from myself.

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ABSTRACT

Iran's nuclear program continues to present a major challenge to U.S. policy. At the core of this challenge is one fundamental question: Is Iran attempting to build a nuclear weapon? Objective analysis reveals that Iran's dependence on oil and natural gas provides sufficient economic merit for Iran to pursue a peaceful nuclear program; without nuclear power to meet rising domestic energy needs, Iran's economy will suffer. Though the economic justification is valid, the security of Iran and the survival of its regime are overarching; acts of foreign interference in Iran's affairs have fueled the regime's quest for a nuclear weapon. For this reason, U.S. administrations since the 1979 revolution have striven to derail Iran's nuclear program through policies of containment, isolation, and denial of nuclear technology. Considering the current standoff between Iran and the U.S., we must ask another key question: How effective have U.S. policies been? The answer is simple; Iran has made significant progress in its nuclear program. Sanctions, political pressure, and threats proved no obstacle to Iran; worse still, ignoring IAEA and other's reports that found no convincing evidence that Iran is building nuclear weapons damaged U.S. efforts significantly. Iran's progress makes it clear that U.S. policies have failed, and its strategies must be discarded in favor of a new approach. This research implicates that a non-confrontational engagement policy, which acknowledges Iran's needs to build a peaceful nuclear program will provide President Obama and the U.S. the highest probability of preventing Iran from acquiring nuclear weapons.

INTRODUCTION

Since the Islamic Revolution of 1979, Iran and the United States have been at odds with one another at nearly every turn. Over the past three decades, there has been a tremendous amount of animosity between the two governments with few opportunities for the resumption of normal diplomatic relations. When these opportunities did arise, though, those in power were not able to capitalize sufficiently. Today, Iran and the United States stand at odds with one another once again, and this conflict has centered upon Iran's nuclear program, its goals and motivations.

The Walkthrough

The course of this research paper will cover all of the aspects of Iran's nuclear program from its roots to present day, at least as close as to the publication date of this manuscript as possible. Beginning with my research design in the following section, I will lay out my core questions along with the other principle elements of my research along with a very brief discussion of my methodology. Most importantly, the research design section will present my hypothesis for this research.

Following this introduction, I will immediately begin a detailed description of the history of Iran's nuclear efforts beginning from the 1950s. This history will detail the origins of the program that received much cooperation from the west to support Mohammad Reza Shah. Following the section on the Shah, I will describe the nuclear progress, and lack thereof, made by the revolutionaries following the Iranian Revolution.

This section will flow directly into our present day conflict with the current Iranian President, Mahmoud Ahmadinejad which will attempt to bring the reader up to speed on some of the more current events in the Iranian program.

Immediately following a description of the history of the program, an analysis of two key justifications of the Iranian program will be in order. Beginning with the economic reasoning behind the program, an explanation of the significance of oil in the Iranian economy will be in order along with why oil isn't the answer to Iran's energy woes that many believe that it is. Continuing with the same theme, the discussion will flow to the argument over Iran's vast natural gas reserves and why these reserves are also not the solution to Iran's energy problems.

Following the economic justifications for Iran's nuclear program, the research moves to the "security blanket" that the nuclear program provides to Iran. This chapter will detail why this reasoning, though not necessarily comforting to those who fear a nuclear armed Iran, is sound and rational for Iran. It details the history of foreign interference within Iran that has pushed Iran in this direction leaving them little choice but to protect the security of the state of Iran.

The following two chapters represent a breakdown of U.S. Presidential administration policies toward the Iranian nuclear program beginning with President Eisenhower all the way up to the current Obama administration. The first of these two chapters focuses on each of the administrations prior to the 1979 Iranian revolution. After reading the history of the Iranian nuclear program; one should expect to see cooperation to be the name of the game between these Presidents and the Shah of Iran. The chapter which covers the Post-Revolutionary administrations certainly gives off a

very different feel which is absent of much cooperation. These sections detail many of the efforts by the U.S. to derail Iran's nuclear program at every turn.

Following the discussion of the U.S. policies, my conclusion will offer a review of my research questions, my hypothesis, and my discoveries in this research. I will discuss my findings as well as whether or not I believe I provided sufficient evidence to prove my hypothesis. This final chapter will present the implications and significance of this body of research; it will also detail areas of areas of research in this subject that may still be useful to the field.

Lastly, I will present my personal recommendations for breaching the existing stalemate over Iran's nuclear program. Not only will I discuss what I believe is critical to the United States' own efforts, but I will also detail the steps that Iran must take to reassure the international community of its intentions. Though not intended to be an all-inclusive list of issues, I contend that my recommendations represent the most critical issues to be resolved for success to be had.

Research Design

The speculation in the United States has been that Iran is definitively pursuing nuclear weapons. It almost appears as if many in the media and the government have completely avoided the primary questions to be addressed herein. So that there is no confusion up front, my hypothesis is that U.S. policies after the Iranian Revolution have been ineffective at halting the advancement of the Iranian nuclear program. With this in mind, my primary research question is how effective have U.S. attempts been in altering Iran's nuclear efforts. In answering this question, it is important to also answer the

question as to how has the United States attempted to combat Iran's efforts towards attainment of a nuclear program.

However, in understanding the answers to the first two questions, it is also critical that one be able to answer one of the other primary questions of this research. Why is Iran pursuing a nuclear program? Is it truly for peaceful purposes, or are their intentions designed to attain a military capability for their nuclear program? In addressing this question we must examine the rationale behind Iran's economic justifications. What must also be examined are Iran's claims of a civil and peaceful nuclear program; are they merely a front for the acquisition of nuclear weapons and added security? Stated again; my hypothesis is that U.S. policies after the Iranian Revolution have enabled the advancement of the Iranian nuclear program.

The independent variable (IV) in this research could easily be considered to be plural rather than a singular variable; however, the IV is the United States' policy towards Iran and its nuclear program. In this sense, policy is defined as a program of actions adopted by a government. Here, each U.S. administration had the opportunity to administer their own set of policies directed at the Iranian nuclear program. Unfortunately this is not a variable that can yield any legitimate or strong quantifiable data, its measurement will strictly be of a qualitative nature. This variable will be examined through a look at specific U.S. strategies that came out of policies such as sanctions, political pressure, or military threats.

The dependent variable is the Iranian nuclear program. This variable will be measured on multiple fronts to include cooperation with other states, technological advances, and all in all the overall progress of the program from 1979 forward. This

variable can be measured through the number of centrifuges in operation, number of facilities operational, or even in the amount of enriched uranium produced indigenously, though this last indicator could be considered a byproduct of the number of centrifuges functioning. Though these measurements will yield some quantifiable data, its analysis will also be qualitative in nature.

This research could be conducted as a comparative case study with two cases with a temporal comparison between U.S. policies pre and post-Iranian Revolution.

Obviously these two cases would be split by the occurrence of the 1979 revolution, but because my objective is to examine the effectiveness of U.S. policies towards the Iranian nuclear program after the revolution, this research will be presented as an individual case study. This study will have multiple units of analysis, though, where each U.S. administration and its own policy or policies towards Iran's nuclear program will be examined. The goal will be to demonstrate that the policies of the U.S. administrations after the 1979 Iranian Revolution have facilitated the advancement of Iran's nuclear program.

I do expect a degree of contrast within this single case, and while John Stuart Mill's most different method of comparison is meant for comparative case studies, it may prove useful within this individual case study when using it to examine the different administrations. Mill states that, "the circumstance in which alone the two instances differ, is the effect, or the cause, or an indispensable part of the cause, of the phenomenon."¹ Although this style of case study proves extremely difficult to establish causality in the complex world of international relations, the objective of this research

¹ Mill, John Stuart. "Two Methods of Comparison." *Comparative Perspectives: Theories and Methods*, 1970: 207.

will be to establish how critical, or in the words of Mill, “indispensable” the U.S. policies have been, and still are, in advancing the Iranian nuclear program in the post-revolutionary period.

IRANIAN NUCLEAR HISTORY

The Iranian nuclear program has a lengthy and tumultuous history that extends back over fifty years and finds its roots in the 1950s. This section will provide a detailed description of the facts that have brought the Iranian nuclear program to the position it is in now. The program has been beset by problems of all kinds, but the political trouble which the Iranian nuclear program has found itself in today certainly carries its own irony when one looks back at its foundations. A look at these facts may seem to indicate that the positions of those involved with the Iranian nuclear program have taken a complete 180 degree turn from where they stood in the beginning and up until the Iranian revolution in 1979. See table 1 for a summary of Iran's nuclear history.

The Shah's Nuclear Ambitions

In the aftermath of World War II, Mohammad Reza Shah, the head of state of Iran from 1941-1977, sought to obtain nuclear technology for Iran, and in the wake of the Mossadeq coup, the United States represented the stepping stone to nuclear technology that the Shah was seeking. In 1957, the U.S. and Iran signed the Agreement for Cooperation Concerning Civil Uses of Atoms after approximately two years of negotiating, and two years later, in 1959, the Shah announced the plans for Tehran University's Nuclear Research Center that would be supplied with a five megawatt (MW)

Table 1: Summary of the Historical Evolution of Iran’s Nuclear Program

Date	Event
1957	U.S. and Iran sign Agreement for Cooperation Concerning Civil Uses of Atoms
1967	Tehran Nuclear Research Center completed; Iran receives 5.54kg enriched uranium from U.S.
7/1/68	Iran signs Nuclear Non-proliferation Treaty (NPT)
2/2/70	Iran ratifies the NPT
1974	Atomic Energy Organization of Iran(AEOI) founded
1974	Iran signs the IAEA Safeguards Agreement
1974	German firm Kraftwerk Union begins work on Bushehr nuclear reactor
1974	Iran signs contract with French firm Framatome to build Darkhovin nuclear reactors
March 1975	\$15 billion agreement with U.S. for construction of eight nuclear reactors
1975	AEOI signs contract with Massachusetts Institute of Technology for training of nuclear engineers.
7/10/78	Iran and U.S. signs U.S.-Iran Nuclear Energy Agreement – grants “most favored nation” status to Iran for reprocessing of spent fuels
1979	Shah’s government falls to Iranian Revolution
1984-1987	Iraq bombs Bushehr reactor a total of six times
1984	Esfahan Nuclear Research Center opens
1985	Uranium mining in Yazd province begins

Table 1: Summary of the Historical Evolution of Iran’s Nuclear Program (Cont)

Date	Event
1987	Iran signs agreement with Pakistan for training nuclear engineers
1/8/1995	Iran signs \$800 million agreement with Russia for completion of part of Bushehr reactor
2002	Nuclear facilities in Natanz and Arak discovered by the United States and publicly announced
10/21/03	Iran signs Sa’d Abaad agreement with EU-3; IAEA Additional Protocol enacted; Iran suspends uranium enrichment activity
2004	Iran reportedly received support from Pakistani scientist A.Q. Khan
11/15/04	Iran signs Paris Agreement with EU-3 extending Sa’d Abaad agreement
June 2005	President Mahmoud Ahmadinejad elected to first term
2009	Iran begins testing indigenously produced centrifuges termed IR-2 and IR-3
September 2009	Discovery of Fordow Fuel Enrichment Facility announced by U.S. President Obama
May 2010	Iran reaches agreement with Turkey and Brazil for nuclear fuel
8/21/2010	Russia and Iran load fuel into the Bushehr nuclear reactor for the first time

thermal research reactor purchased from the U.S.² While it was announced that this research center would be built in 1959, it would require nearly eight years for the facility

² Kibaroglu, Mustafa. “Iran’s Nuclear Ambitions from a Historical Perspective and the Attitude of the West.” *Middle Eastern Studies* 43, no.2 (2007): 225.

to begin operations, and in 1967 the facility received 5.54 kilograms of enriched uranium, of which 5.16 kilograms were fissile isotopes capable of producing a nuclear bomb.³

Shortly after the startup of the Tehran reactor, the Nuclear Non-proliferation Treaty (NPT), see Appendix 1, was available for signatures by states, and Iran signed the NPT on the first day, July 1, 1968. The treaty was ultimately ratified by the Majles, the Iranian Parliament, on February 2, 1970.⁴ Four years after ratifying the NPT, Iran would sign the International Atomic Energy Agency's (IAEA) Safeguards Agreement which, among other things, ensures that states must declare to the IAEA the existence of any facility no later than 180 days before introducing any nuclear materials into the facility.⁵ Less than a year after signing the NPT, Iran would extend the cooperation agreement with the U.S. for 10 more years. With this cooperation providing vital support, Iran could pursue more practical uses of nuclear power. So in December of 1972, Iran's Ministry of Water and Power started a feasibility study concerning the construction of nuclear power plants (NPP) in southern Iran.⁶

While the receipt of the equipment required for the operation of the nuclear reactor standing at Tehran University was a significant step in the Iranian nuclear program, Iran still lacked the indigenous knowledge to be self-sustaining. However, there were hundreds of Iranian students enrolled in university nuclear programs

³ Sahimi, Muhammad. "Iran's Nuclear Program. Part V." *Payvand's Iran News*. December 22, 2004. <http://www.payvand.com/news/04/dec/1186.html> (accessed July 23, 2010).

⁴ Ibid.

⁵ Sahimi, Muhammad. "When did Iran begin building the Qom nuclear facility?" September 29, 2009. <http://www.pbs.org/wgbh/pages/frontline/tehranbureau/2009/09/when-did-iran-begin-building-the-qom-nuclear-facility.html> (accessed July 29, 2010).

⁶ Sahimi, Mohammad. "Iran's Nuclear Program. Part V."

throughout Europe and the U.S., and by the early 1970s, these trained scientists were returning to Iran to establish nuclear research and development departments in their universities.⁷ Considering these newly established departments in Iranian universities, when the Shah finally made public his ambitious nuclear power program in 1974, there was a sufficient base of scientific knowledge available.

While many credit a 1974 Stanford Research Institute study that found that Iran's need for energy would increase to 20,000 MW within 20 years, there can be little disputing the impact that the 1973 Yom Kippur War had in the Shah's decision making process. The spike in oil prices resulting from the OPEC boycott provided the Shah with a huge sum of currency that could provide the necessary monetary support for the nuclear expansion. And in March of 1974, the Shah declared a goal of establishing 23,000 MWs of nuclear power in Iran "as soon as possible."⁸ The resulting Atomic Energy Organization of Iran (AEOI), founded after the Shah's announcement, was led by Dr. Akbar Etemad who is today considered the father of the Iranian nuclear program; this organization took the lead in meeting the Shah's goals for the nuclear program under the direction of the Shah. The 1974 establishment of the AEOI also coincides with the Shah calling for a Middle East Nuclear Weapons Free Zone (MENWFZ).⁹

The Shah's ambitious plan resulted in Iran seeking numerous contracts for the construction of NPPs. Two European states, Germany and France, were heavily involved

⁷ Kibaroglu, Mustafa. "Good for the Shah, Banned for the Mullahs: The West and Iran's Quest for Nuclear Power." *Middle East Journal* 60, no.2 (2006): 213.

⁸ Sahimi, Muhammad. "Iran's Nuclear Program. Part V." *Payvand's Iran News*. December 22, 2004. <http://www.payvand.com/news/04/dec/1186.html> (accessed July 23, 2010).

⁹ Bahgat, Gawdat. "Nuclear Proliferation: The Islamic Republic of Iran." *Iranian Studies*. 39, no.3 (2006): 309.

in the development of the Iranian nuclear program. Both Germany and France were awarded contracts to build a total of eight NPPs, and their support did not stop there. In 1975, Iran was permitted to purchase a 10% share in Eurodif, a uranium enrichment company that was established among France, Belgium, Spain, and Italy.¹⁰ Cooperation did not stop there; as mentioned previously many Iranian students traveled to Germany and France to pursue educations related to nuclear technology. The AEOI also signed agreements with Germany for the purchase of uranium enrichment technology and nuclear fuel requirements. Iran further expanded their program by signing agreements with South Africa for the acquisition of uranium yellowcake and the financing of an enrichment plant there; beneath all of these efforts was a quest for indigenous nuclear capability.¹¹

The Shah's efforts at securing his nuclear program through cooperation with the United States and others was a spectacular one; table 2 represents an extensive list of agreements reached for nuclear cooperation with Iran. In March of 1975, a \$15 billion agreement was reached for the construction of eight nuclear reactors that would provide Iran with a total of 8,000 MW of power.¹² Additionally, in 1975, the AEOI signed a contract with the Massachusetts Institute of Technology to train their nuclear engineers.¹³ Throughout 1975 and 1976, Iran continued to negotiate with the U.S. in the areas of

¹⁰ Barnaby, Frank. *How Nuclear Weapons Spread: Nuclear-Weapon Proliferation in the 1990s*. London: Routledge, 1993, p 114-117.

¹¹ Bahgat, "Nuclear Proliferation: The Islamic Republic of Iran," p. 309.

¹² Kibaroglu, "Good for the Shah, Banned for the Mullahs: The West and Iran's Quest for Nuclear Power," p. 214.

¹³ Sahimi, Mohammad. "Iran's Nuclear Program. Part I: Its History." *Payvand's Iran News*. October 3, 2003. <http://www.payvand.com/news/03/oct/1015.html> (accessed July 23, 2010).

uranium enrichment and reprocessing facilities, but it was not until 1977 that another major agreement was made. On April 12, 1977, Iran signed another agreement with the

Table 2: Pre-1979 Agreements for Nuclear Cooperation with Iran

Date	Event
1957	U.S. signs Agreement for Cooperation Concerning Civil Uses of Atoms
1969	Commissariat a l'Energie Atomique (CEA) of France signs agreement to repair Tehran research reactor
3/13/69	U.S. extends 1957 agreement for 10 years
1974	Iran agrees to loan \$1 billion to CEA for uranium enrichment plant in France; receives 10% ownership
June 1974	France signs preliminary agreement to supply five 1,000 MW reactors to Iran
June 1974	U.S. and Iran reach provisional agreement to provide two nuclear reactors to Iran
November 1974	German Kraftwerk Union (Siemens) agrees to build two nuclear reactors at Bushehr
November 1974	Agreement with French company Framatome reached for two nuclear reactors at Bandar-e Abbas
November 1974	Under previous two agreements; France and Germany agree to provide enriched uranium to Iran
11/3/74	U.S. and Iran agree to form U.S.-Iran Joint Commission for nuclear cooperation
February 1975	India signs a nuclear cooperation agreement
1976	South Africa signs agreement to provide \$700 million of uranium yellowcake
4/12/77	U.S. signs agreement for nuclear cooperation, technological exchanges, and safety
10/3/77	Australia signs nuclear waste storage agreement

Table 2: Pre-1979 Agreements for Nuclear Cooperation with Iran (Cont)

Date	Event
11/11/77	Iran and German Kraftwerk Union sign agreement to build four nuclear reactors near Esfahan
1/1/78	U.S. President Carter and Shah agree on plan for Iran to purchase 6-8 nuclear reactors from U.S.
7/10/78	U.S.-Iran Nuclear Energy Agreement signed

Source: Nuclear Threat Initiative (www.nti.org)

U.S. to exchange nuclear technology and cooperate in the areas of nuclear safety, and months later on President Carter’s infamous trip to Tehran another bilateral agreement was made. This agreement effectively granted Iran “most favored nation”¹⁴ status for reprocessing of spent fuels (a very hot issue now) and announced the purchase of 6-8 light water reactors from the U.S. Signed on July 10, 1978, this agreement became known as the U.S. – Iran Nuclear Energy Agreement, but the Shah put plans for his NPPs on hold as he sought to maintain power. As the Islamic Revolution gained momentum, its leaders criticized the Shah for allowing so much foreign influence in Iran’s internal affairs. Fearful of the direction of Iran in the event the Shah was removed from power, the U.S. halted the practice of supplying Iran with highly enriched uranium also.¹⁶ Once the Shah was ousted from power, the U.S. - Iran agreement was no more.

¹⁴ Sahimi, Muhammad. “Iran’s Nuclear Program. Part V.”

¹⁶ Ibid.

The Post-Revolution Years

The Iranian Revolution represented a rejection of foreign and external influences within Iran; its leaders were intent on independence for Iran. For the nuclear program, this meant that its progress would be reversed. While both Ayatollah Ruhollah Khomeini and Prime Minister Mehdi Bazargan put a stop to efforts at the nuclear program, more importantly, the U.S., Germany, and France all halted support to the AEOI. Khomeini's infamous slogan of "Na Sharq, Na Gharb, Faqat Jumhuri-ye Islami" (Neither East, nor West, only the Islamic Republic) epitomized his rejection of the nuclear modernization efforts. Further worsening the standing of Iran's fledgling nuclear program was the flight of many scientists involved with Iran's nuclear program.¹⁷

It required little time before the post-revolutionary leaders realized the mistake they had made in dismantling the nuclear program. Though Iran's two Bushehr reactors built by German firms were incomplete, Iraq bombed the site six times between 1984 and 1987 subsequently destroying the entire core areas of both reactors.¹⁸ The sheer brutality of the Iran-Iraq War that included the use of chemical weapons by the Iraqis against Iranians opened the eyes of the revolutionary leadership to the utility of modern military technology. The possession of this technology to include nuclear weapons would've likely deterred Iraq's early aggression against Iran.¹⁹ It was during the early 1980s when President Hashemi Rafsanjani received the blessings of Khomeini to attempt to resume

¹⁷ Vaziri, Haleh. "Iran's Nuclear Quest: Motivations and Consequences," in Raju, G.C. Thomas, ed., *The Nuclear Non-Proliferation Regime*. Princeton: Princeton University Press, 1986, p. 315.

¹⁸ Sahimi, "Iran's Nuclear Program. Part I: Its History."

¹⁹ Vaziri, "Iran's Nuclear Quest," p. 316.

construction of the NPPs by Germany and France. To the dismay of Rafsanjani, both the German and French firms refused to resume work, and once Iran realized that no support was likely to be provided by the West, it turned to alternative suppliers to support the nuclear program.

In 1984, the Iranian regime indicated a commitment to pursuit of a nuclear program with the opening of the Esfahan Nuclear Research Center; China provided support in the form of both fuel fabrication and conversion facilities necessary for uranium enrichment.²⁰ Additionally, Iran found support from Pakistan with the signing of an agreement in 1987 which sent 39 Iranian nuclear scientists to Pakistan for training in Pakistani nuclear facilities.²¹ A mere three years later, in 1990, Iran would sign two more nuclear cooperation agreements, this time with the Russians and Chinese, and on January 8, 1995, after Iran had failed to secure support from other states to complete the Bushehr reactor, the Russian Ministry of Atomic Energy agreed to complete block one of the Bushehr reactor for \$800 million.²² Though this agreement was signed nearly 15 years ago, diplomatic and financial problems have prevented the reactor from becoming active on the electric grid until potentially later this year or in 2011. Each of these agreements played critical roles in advancing the Iranian nuclear program.

Since this agreement with Russia, Iran's nuclear program has been beset by numerous U.S. and United Nations' sanctions attempting to prevent the acquisition of dual-use technology that could support both peaceful and military applications of nuclear

²⁰ Kibaroglu, "Iran's Nuclear Ambitions," p. 235.

²¹ Ibid.

²² Bahgat, "Nuclear Proliferation: The Islamic Republic of Iran," p.310.

technology. The Iran-Libya Sanctions Act of 1996, subsequently renamed the Iran Sanctions Act in 2006, put major restrictions on significant investments in the Iranian energy sector. However, the election of the reformist President Khatami in 1997 opened the door for other states to make lucrative nuclear sales to Iran despite the sanctions.²³

Despite the sanctions, the Iranian nuclear program made substantial progress through the late 1990s and early into the 21st century. In 2002, the progress of the Iranian program was revealed through the discoveries of two nuclear facilities previously unknown. The uranium enrichment facility at Natanz and the heavy water production facility at Arak were announced in a press conference in Washington, D.C. by an Iranian resistance movement.²⁴ As a result, Iran's nuclear program came under increased scrutiny from the International Atomic Energy Agency (IAEA), and it was revealed in 2004 that the now infamous rogue Pakistani scientist, A.Q. Khan, had provided extensive support, to include providing Pakistani centrifuges and designs, to the Iranian nuclear program.²⁵

When the IAEA concluded their inspections they detailed a series of previously unknown advancements and facilities within the Iranian nuclear program. Iran subsequently conceded that the plants at Natanz and Arak were not alone; another plant was also under construction in Esfahan in order to convert yellowcake into enriched uranium.²⁶ Advancements in their nuclear program included efforts in laser isotope separation which can enrich uranium as well as the revelation that Iran had begun mining

²³ Pollack, Kenneth. *The Persian Puzzle*. New York: Random House, 2004, p. 362.

²⁴ Kibaroglu, "Iran's Nuclear Ambitions," p. 237.

²⁵ Pollack, *The Persian Puzzle*, p. 363.

²⁶ *Ibid*, p. 364.

their own uranium ore²⁷ from the more than 5,000 metric ton of deposit discovered in 1985 in eastern Yazd province.²⁸

In the aftermath of the IAEA inspections, on October 21, 2003, Iran signed the Sa'd Abaad Agreement with the EU-3 which amounted to Iran signing the IAEA Additional Protocol and agreeing to voluntarily suspend uranium enrichment activity.²⁹ Note that by being a signatory to the NPT, Iran was already subjected to the Comprehensive Safeguards Agreements in accordance with the NPT and IAEA, and though the Additional Protocol is not a requirement, the IAEA is “mandated with the task of timely detection of the diversion of significant quantities of fissile material from peaceful to military purposes in the non-nuclear weapons states that are parties to the NPT.”³⁰ To put it simply, the Additional Protocol represents a “strengthened safeguards measure” designed to give the IAEA expanded access to both nuclear related information and declared / undeclared nuclear facilities, but without ratification, Iran is not obligated to adhere to it.³¹ As stated above, the Sa'd Abaad Agreement enacted the Additional Protocol in Iran, but in agreeing to this, few incentives were given to Iran. In exchange for Iran pledging to “refrain from developing fissile material,” the EU-3 conceded Iran's right to pursue a peaceful nuclear program and agreed to provide “technical assistance

²⁷ Pollack, *The Persian Puzzle*, p. 364.

²⁸ Sahimi, Muhammad. “Iran's Nuclear Program. Part III: The Emerging Crisis.” *Payvand's Iran News*. October 6, 2003. <http://www.payvand.com/news/03/oct/1039.html> (accessed July 23, 2010).

²⁹ Sahimi, Muhammad. “Iran's Nuclear Program. Part VI: The European Union's Proposal, Iran's Defiance, and the Emerging Crisis.” *Payvand's Iran News*. September 9, 2005. <http://www.payvand.com/news/05/sep/1070.html> (accessed July 23, 2010).

³⁰ Kibaroglu, “Iran's Nuclear Ambitions,” p. 238.

³¹ International Atomic Energy Agency. “IAEA Safeguards Overview: Comprehensive Safeguards Agreements and Additional Protocols.” *IAEA*. http://www.iaea.org/Publications/Factsheets/English/sg_overview.html (accessed September 29, 2010).

and good will.”³² So why did Iran choose to sign the agreement when so little was given in return?

First, the intense pressure resulting from the identification of the facilities in Natanz and Arak and other advancements played a role in Iran signing the IAEA’s Additional Protocol, but there was one other factor that was likely more critical. The U.S. only months earlier had quickly decimated Saddam Hussein’s army in a coalition victory in Iraq. Considering that President George W. Bush had placed Iran squarely into his Axis of Evil, Iran was fearful that they were next on the hit list. American troops were now positioned in both Afghanistan and Iraq, and U.S. naval carriers were well within striking distance in the Persian Gulf supporting U.S. operations in the region. Additionally, the fact that President Bush had used the perception that Saddam was developing nuclear weapons as his central justification for the Iraq War certainly put the Iranian leaders on notice that the same could be done for them. At that point in time the U.S. and coalition were still searching for evidence of Saddam’s weapons program; few thought that it would turn out that there was no Iraqi nuclear program. So one could make the argument that Iran’s leaders were in such a position that they had no choice but to sign the Sa’d Abaad agreement and cooperate in order to avert a military strike.

Ultimately, with the institution of the Additional Protocol inspections the Iranian program was not found in violation of the NPT by the IAEA as inspections found no evidence of illegal nuclear activities.³³ Additionally, Iran continued negotiating with the EU-3 (Britain, France, and Germany) in regards to potential economic and political

³² Mokhtari, Fariborz. “No One Will Scratch My Back: Iranian Security Perceptions in Historical Context.” *The Middle East Journal* 59, no. 2 (2005): 209.

³³ Bahgat, “Nuclear Proliferation: The Islamic Republic of Iran,” p. 310.

incentives that could prevent the development of nuclear weapons in Iran. After just over a year of negotiations, the EU-3 and Iran signed on November 15, 2004 what is known as the Paris Agreement. This agreement effectively extended the suspension that Iran's nuclear program had agreed to under the Sa'd Abaad agreement while the negotiations between the EU-3 and Iran were underway. This temporary agreement included all enrichment related and reprocessing activities, the manufacturing and importing of centrifuges and their components, and any work on plutonium separation.³⁴ More important in this agreement was an affirmation of Iran's inalienable rights to possess nuclear technology for peaceful civilian usage in accordance with Article IV, as shown in Appendix 1, of the NPT. As stated above, this agreement was temporary while the EU-3 and Iran negotiated over a set of incentives designed to ensure that Iran was not on the path to develop nuclear weapons, and despite the exchanges of several proposals between the EU-3 and Iran over the nuclear program, no further agreements were reached.

The Ahmadinejad Era

So in 2005 with the election of Iranian President Mahmoud Ahmadinejad, the confrontation over Iran's nuclear program accelerated. But how could Iran move from such a weak position in 2003 to a stronger more assertive position in 2005? First of all, the IAEA had not discovered any smoking gun pointing to an Iranian nuclear weapons program; so the U.S. justifications for the Iraq War could not be applied to Iran and Ahmadinejad. Additionally, U.S. forces were tied up in a resurgent insurgency in Iraq, and casualties in Afghanistan were even on the rise; with American citizens increasingly

³⁴ Kibaroglu, "Iran's Nuclear Ambitions," p. 238.

expressing disapproval over the war in Iraq, President Bush not only didn't have the political capital to strike Iran but was also unprepared for potential consequences.³⁵

Another major factor in Ahmadinejad's confrontational behavior was the state of the oil market at the time. With oil prices on the rise, any confrontation between the U.S. and Iran would only serve to drive prices higher and damage the U.S. economy. OPEC was at nearly maximum production capacity; replacing lost Iranian oil due to a conflict was unlikely. Iran, who possessed little foreign debt at the time, ~\$10 billion, was rather well insulated from any conflict.³⁶

Additionally, Iran was also gaining the support of other regional powers. China and India had recently signed oil and natural gas contracts with Iran for in excess of \$100 billion, and China had also invited Iran to be an observer to the Shanghai Cooperation Organization which includes China and Russia.³⁷ This organization represented additional political support to the Ahmadinejad regime.

Each of these pieces provides ample explanation to Ahmadinejad's belligerent attitude towards the West. He was in a very strong position, and he was well aware of it. And when Iran's nuclear dossier was referred to the United Nations Security Council (UNSC) on February 4, 2006,³⁸ President Ahmadinejad stated that Iran would ignore any UNSC "political" resolution and would regard issues of the Iranian nuclear programs as

³⁵ Sahimi, "Iran's Nuclear Program. Part VI: The European Union's Proposal, Iran's Defiance, and the Emerging Crisis."

³⁶ Ibid.

³⁷ Ibid.

³⁸ Kibaroglu, "Iran's Nuclear Ambitions," p. 238.

“technical” ones to be discussed with the IAEA.³⁹ Ahmadinejad even went so far as to refer to the Iranian nuclear program as a “train without brakes.”⁴⁰

Throughout 2007 and 2008, Iran continued to advance its nuclear program. By August of 2007, Iran was operating nearly 3,000 centrifuges at the Natanz Fuel Enrichment Plant (FEP).⁴¹ However, as of September 2007, some analysts argued that the plant was beset by technical difficulties as relatively small amounts of uranium hexafluoride (UF₆) had been used in the centrifuge cascades indicating their performance was subpar. David Albright, an analyst from the Washington based Institute for Science and International Security (IISS), commented that, “Iran likely has managed to learn how to operate individual centrifuges and cascades adequately. However, it still may be struggling to operate a large number of cascades at the same time in parallel.”⁴²

By the end of 2008, Iran’s nuclear program resolved the majority of their technical problems concerning centrifuge operations ensuring the units would spin at the proper speeds and for the necessary amounts of time to produce enriched uranium, and the facilities would begin to function at or near their intended capacity. The Natanz FEP was then operating approximately 3,800 P1 centrifuges which had been designed by Pakistan with two additional cascades of up to 2,100 and 3,000 P1 centrifuges expected to come online in 2009; two more centrifuge cascades were also under construction as of

³⁹ Nicoll, Alexander and Delaney, Jessica. “Nuclear Iran: How close is it?” *Strategic Comments* 13, no.7 (2007). <http://www.iiss.org/publications/strategic-comments/past-issues/volume-13-2007/volume-13-issue-7/nuclear-iran/?locale=en> (accessed July 14, 2010).

⁴⁰ Chubin, Shahram. “The Iranian Riddle after June 12.” *The Washington Quarterly*. 33, no.1 (2009): 167.

⁴¹ Ibid.

⁴² Ibid.

early 2009 at the Natanz FEP.⁴³ Though there are some disputes over the number of centrifuges in operation in Iran, the nuclear program has progressed very rapidly over the past few years. Shahram Chubin contends that it has advanced from 164 centrifuges in 2003 to approximately 8,000 in mid-2009,⁴⁴ and Muhammad Sahimi stated that the Natanz facility was reported by the Iranians to have the capability to house as many as 55,000 centrifuges.⁴⁵ However, Iran Watch.org lists different numbers for Iranian centrifuge progress. Figure 1 below shows the gap that exists between experts in how far along Iran truly is, but there is still no disputing the extensive progress made.⁴⁶

In addition to the fact that the operation of the plant has progressed, other aspects of the nuclear program have also advanced. As stated earlier, the centrifuges which Iran first put to use came directly from Pakistan through the A.Q. Khan network. Known as the P1 and P2 centrifuges, these centrifuges have comprised the majority of Iran's fuel enrichment cascades. However, as of early 2009, Iran had begun testing their own next generation of centrifuges: the IR-2, IR-3, and potentially a longer centrifuge.⁴⁷ Each of these centrifuges are projected to have a much greater enrichment output while also outperforming Iran's current centrifuges, the P1.⁴⁸ If successful, these indigenous Iranian

⁴³ Albright, David and Shire, Jacqueline. "Nuclear Iran: Not Inevitable." *Institute for Science and International Security*. January 21, 2009: 7.

⁴⁴ Chubin, "The Iranian Riddle after June 12," p. 167.

⁴⁵ Sahimi, Muhammad. "Double Standards for Iran's Nuclear Program." December 2, 2009. <http://original.antiwar.com/sahimi/2009/12/01/double-standards-for-irans-nuclear-program/> (accessed July 28, 2010).

⁴⁶ Iran Watch. *Iran's Nuclear Timetable*. September 9, 2010. <http://www.iranwatch.org/ourpubs/articles/iranuclear timetable.html> (accessed September 29, 2010).

⁴⁷ Albright and Shire, "Nuclear Iran: Not Inevitable," p. 8.

⁴⁸ Albright and Shire, "Nuclear Iran: Not Inevitable," p. 8.

centrifuges will certainly replace the P1 and provide Iran with larger amounts of low enriched uranium faster than before.

Figure 1: Number of Centrifuges Deployed Over Time

Date of IAEA inventory	Centrifuges being fed with UF6	Other centrifuges (installed or being installed)
2/17/2007	0	656
5/13/2007	1,312	820
8/19/2007	1,968	656
11/3/2007	2,952	0
12/12/2007	2,952	?
5/7/2008	3,280	2,624
8/30/2008	3,772	2,132
11/7/2008	3,772	2,132
2/1/2009	3,936	1,968
6/1/2009	4,920	2,296
8/12/2009	4,592	3,716
11/2/2009	3,936	4,920
1/31/2010	3,772	4,838
5/24/2010	3,936	4,592
8/28/2010	3,772	5,084

Source: Iran Watch.org

In September of 2009, President Obama announced publicly that the U.S. had used overhead satellites to observe Iran building the Fordow Fuel Enrichment Facility for nearly five years in the mountains near the holy city of Qom.⁴⁹ While Iran claimed that the facility had already been disclosed to the IAEA, the pressure resulting from this find again placed Iran at the negotiating table. Iranian officials met with the five permanent members of the UNSC plus Germany (P5 + 1) in Geneva to discuss the program, and on October 1, 2009 Iran’s representatives tentatively agreed to a proposal sending 75% of its LEU to Russia for enrichment to 19.75% which would then be sent to France to be

⁴⁹ Mattair, Thomas R. “The United States and Iran: Diplomacy, Sanctions, and War.” *Middle East Policy* 17, no. 2 (2010): 57.

converted into fuel rods that cannot be used for military applications.⁵⁰ The proposal also permitted inspection of the Fordow facility by the IAEA, which was inspected with no issues, but when the October agreement went to the Iranian government for approval, it was rejected outright by Supreme Leader Khamene'i and Foreign Minister Mottaki who proposed a simultaneous exchange of LEU and fuel rods that was rejected by the P5 + 1.⁵¹ Just a few months later in May of 2010, Iran's nuclear program, supported by Brazil, reached an agreement with Turkey that strongly resembled the initial proposal by the P5 + 1. Iran will ship over half of its stockpile of LEU to Turkey for further enrichment and conversion to fuel rods.⁵²

Most recently, on August 21st, 2010, a new era dawned in the Iranian nuclear program. The Russians began loading fuel into the Bushehr nuclear reactor. While this does not immediately place the reactor into an operational mode, it represents a critical point in the Iranian program that took decades to achieve. If Iran can overcome some new problems within the plant which will be discussed later, Iran will have its first nuclear power plant online and connected to the electricity grid likely within six to seven months, and other reactors will soon follow.

While the recent history of the Iranian nuclear program is a very confrontational one, we must not forget that the program originated from the U.S. and Europe. The state of the program today represents as near an indigenous capability as Iran has ever had.

While Iran desires to possess the complete nuclear cycle, they have conveyed throughout

⁵⁰ Sahimi, "Double Standards for Iran's Nuclear Program."

⁵¹ Ibid.

⁵² Sahimi, Muhammad. "How Dare They Make a Deal With Iran?" May 25, 2010. <http://original.antiwar.com/sahimi/2010/05/24/how-dare-they-make-a-deal-with-iran/> (accessed July 29, 2010).

history that they are not committed to nuclear weapons. Despite this, does Iran have a real need, economic or security related, to possess the nuclear cycle? That is the subject to be addressed in the following chapter.

ECONOMIC JUSTIFICATIONS

The debate over Iran's reasons for obtaining nuclear technology ranges from economic to security to the desire to possess nuclear weapons. This chapter will be focusing solely on the economic justifications, though some individuals have argued that Iran has no legitimate economic reason to have a civilian nuclear program. This argument generally posits that the significant oil and natural gas reserves that Iran possesses as national resources render the need for nuclear power marginal at best. These individuals argue that Iran's claim that the program is for peaceful purposes is easily tossed aside when one takes a look at Iran's huge reserves of oil and gas; thus the true purpose of the Iranian nuclear program can only be the development of nuclear weapons. Neoconservatives such as Michael Ledeen, Richard Perle, and Andrew McCarthy are largely responsible for this argument and rationale; they believe "that the Iranians know what they want: nuclear weapons and the means to deliver them."⁵³ Kenneth Pollack goes so far as to argue that Iran's failure to declare the previously mentioned facilities in Natanz and Arak to the IAEA "made it clear that they were for military purposes; there was no other plausible reason for having concealed them."⁵⁴

While many of these individuals argue over the perceived intentions of the Iranian regime, an objective look at the economic figures surrounding Iran's energy sector and nuclear program are extremely revealing. There are several indicators that present a

⁵³ Ross, Dennis and Makovsky, David. *Myths, Illusions, and Peace: Finding a New Direction for America in the Middle East*. London: Viking Press, 2009, p. 184.

⁵⁴ Pollack, *The Persian Puzzle*, p. 363.

glaring picture of the Iranian need for energy sources at the present time. To obtain a thorough understanding, one must look at population growth, domestic energy consumption rates, and oil and natural gas production rates. However, what is just as important is to understand how reliant the Iranian economy is upon their oil and natural gas export revenues.

Iran's population has nearly doubled since 1974 to the current 70 million of which approximately 70% are under the age of 30, and projections have the population potentially growing to 100 million by the year 2025.⁵⁵ These figures alone demonstrate an ever increasing need for energy sources within Iran; between 1977 and 2003, sources show that Iran's domestic energy consumption rate has increased at a rate of 5.5% per year.⁵⁶

The Importance of Iranian Oil

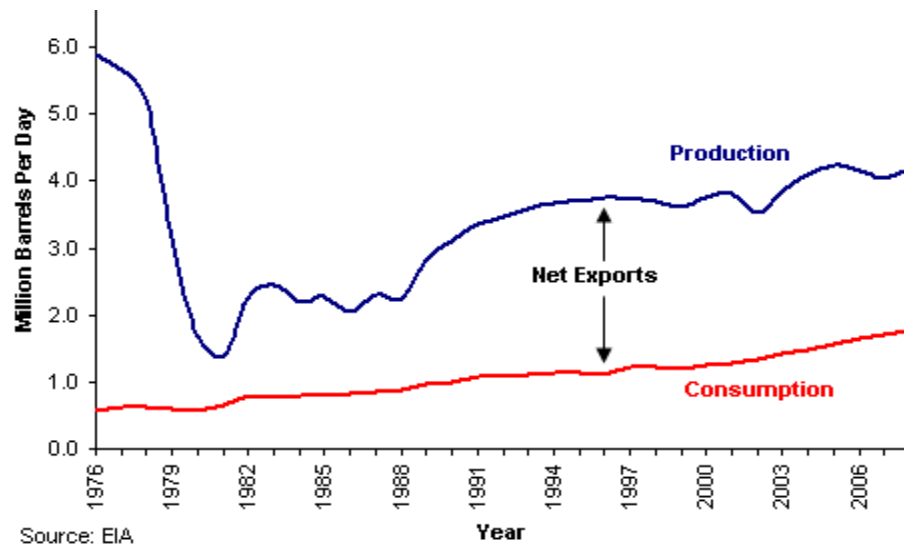
Statistics from the U.S. Energy Information Administration (EIA) demonstrate the growing economic problem in Iran that is tied to energy. In 1980, Iran's domestic oil consumption was a mere 590,000 barrels per day (BPD), but in 2009, this figure had risen to just over 1.8 million BPD. Yet while the consumption has more than tripled, the production rates have lagged and risen by only about 150% from 1.7 million BPD in 1980 to just under 4.2 million BPD in 2009; see figure 2.⁵⁷

⁵⁵ Sahimi, Muhammad. "Iran's Nuclear Energy Program. Part IV: Economic Analysis of the Program." *Payvand's Iran News*. December 7, 2004. <http://www.payvand.com/news/04/dec/1056.html> (accessed July 23, 2010).

⁵⁶ Ibid.

⁵⁷ U.S. Energy Information Administration. *Iran Energy Profile*. July 14, 2010. http://tonto.eia.doe.gov/country/country_energy_data.cfm?fips=IR (accessed August 10, 2010).

Figure 2: Iran's Petroleum Production and Consumption



I contend that a look at two rankings paint a stark picture of the economic and energy problems in Iran; according to the EIA, Iran ranks 4th in the world in oil production as of 2008. Despite this lofty ranking, Iran's petroleum Net Export/Import ranking is 198th in the world; Iran nets just over 2.4 million BPD compared to the Middle East average of 19 million BPD and OPEC's 28.1 million BPD.⁵⁸ These rankings reveal significant problems for a state overwhelmingly dependent upon oil revenue.

Iran must also contend with being an OPEC member as they are subjected to production quotas. Iran's total production of 4.2 million BPD is barely enough to cover their OPEC quota of 3.817 million BPD.⁵⁹ As a result, Iran must import many oil products, including gasoline, for domestic consumption. The government in the past spent nearly \$6 billion per year on importing and subsidizing gasoline⁶⁰ for its

⁵⁸ U.S. Energy Information Administration. *Iran Energy Profile*. July 14, 2010.

⁵⁹ Sahimi, "Iran's Nuclear Energy Program. Part IV: Economic Analysis of the Program."

⁶⁰ Ibid.

increasingly gasoline hungry public; however, recent efforts to curb domestic gasoline consumption through government controlled price increases via subsidy reduction and rationing resulted in an 8 percent reduction in gasoline imports from 2008 to 2009.⁶¹ This rationing system also reduced private motorist gasoline quotas from 26 gallons/month (g/m) to 21 g/m in December 2009, and there is a possibility of further reductions to 16 g/m.⁶² As an effort to save revenue and combat sanctions, Iran's rationing system has reduced domestic gasoline consumption by nearly 20 percent since January 2010, but Iran has still spent nearly \$10 billion on gasoline imports since 2008 as it does not have sufficient refining capacity to meet its domestic consumption requirements.⁶³

Considering that a study in 1998 revealed that 57 of Iran's 60 oil fields were in need of major repairs, upgrading, or repressurizing by natural gas,⁶⁴ the likelihood for Iran to see a significant increase in production on the horizon is unlikely. In fact, the combination of the Iran-Iraq War, lack of investment, sanctions and the natural decline of the oil fields have eroded production; it is estimated that between 400-700,000 BPD is lost annually and will not be recovered without significant structural upgrades.⁶⁵ A 2005 report by the International Energy Agency noted that Iran required an estimated \$75

⁶¹ U.S. Energy Information Administration. *Iran Energy Profile*. July 14, 2010. http://tonto.eia.doe.gov/country/country_energy_data.cfm?fips=IR (accessed August 10, 2010).

⁶² U.S. Energy Information Administration. "Iran Country Analysis Brief." *Energy Information Administration*. January 2010. <http://www.eia.doe.gov/cabs/Iran/pdf.pdf> (accessed August 12, 2010), p. 6.

⁶³ Erdbrink, Thomas, and Colum Lynch. "Iran is ready for planned U.S. sanctions targeting fuel imports, analysts say." *WashingtonPost.com*. June 24, 2010. <http://www.washingtonpost.com/wp-dyn/content/article/2010/06/23/AR2010062303770.html> (accessed August 12, 2010).

⁶⁴ Sahimi, "Iran's Nuclear Energy Program. Part IV: Economic Analysis of the Program."

⁶⁵ U.S. Energy Information Administration. "Iran Country Analysis Brief," p. 4.

billion in oil infrastructure investments between the years 2004-2030 in order to sustain oil production and refining.⁶⁶

Looking at the projected power requirements for Iran, by projected growth rates of 7-9 percent it is conceivable that Iran will require 70,000 megawatts (MW) of power in 2021 up from the current installed capacity of approximately 43,000 MW.⁶⁷ For each 1,000 MW of power to be produced by oil, it requires approximately 20-25 million barrels per year; if one uses the price of a barrel of oil in 2010, around \$75/barrel, Iran stands to lose \$1.5 to 1.875 billion/year per for every 1,000 MW of electricity produced by oil.⁶⁸ To be more precise, oil provides 18% of Iran's current electricity which equates to 112-140 million barrels per year for the 2021 projections⁶⁹; if oil were to hypothetically remain at \$75/barrel (which is unlikely), Iran would be losing \$8.4 to 10.5 billion/year in total revenue. These figures alone should provide ample economic justification for Iran's pursuit of civilian nuclear power.

As stated earlier, Iran has been and continues to undergo significant growth. While electricity production has witnessed approximately 8.5% in annual growth between 1977 and 2001, the electricity consumption rate has been outpacing it at 8.8%.⁷⁰ Additionally, as mentioned above, Iran's oil consumption rate is also outpacing the production rates. It is not difficult to understand that this predicament could lead to Iran

⁶⁶ International Energy Agency. *World Energy Outlook: 2005 Fact Sheet - Iran*. 2005. http://www.iaea.org/papers/2005/iran_fs.pdf (accessed August 12, 2010).

⁶⁷ U.S. Energy Information Administration. *Iran Energy Profile*. July 14, 2010. http://tonto.eia.doe.gov/country/country_energy_data.cfm?fips=IR (accessed August 10, 2010).

⁶⁸ Sahimi, "Iran's Nuclear Energy Program. Part IV: Economic Analysis of the Program."

⁶⁹ Sahimi, Muhammad. "Forced to Fuel: Iran's Nuclear Energy Program." *Harvard International Review* 26, no.4 2005): 43.

⁷⁰ Sahimi, "Iran's Nuclear Energy Program. Part IV: Economic Analysis of the Program."

becoming a net importer of oil in the coming years. Considering that oil makes up 80% of Iran's total export earnings, 45% of Iran's annual budget and 15% of the GDP, becoming a net importer of oil would be devastating to the Iranian state, its economy, and its citizens.⁷¹ These figures alone present a plausible and understandable case for the acquisition of civilian nuclear technology.

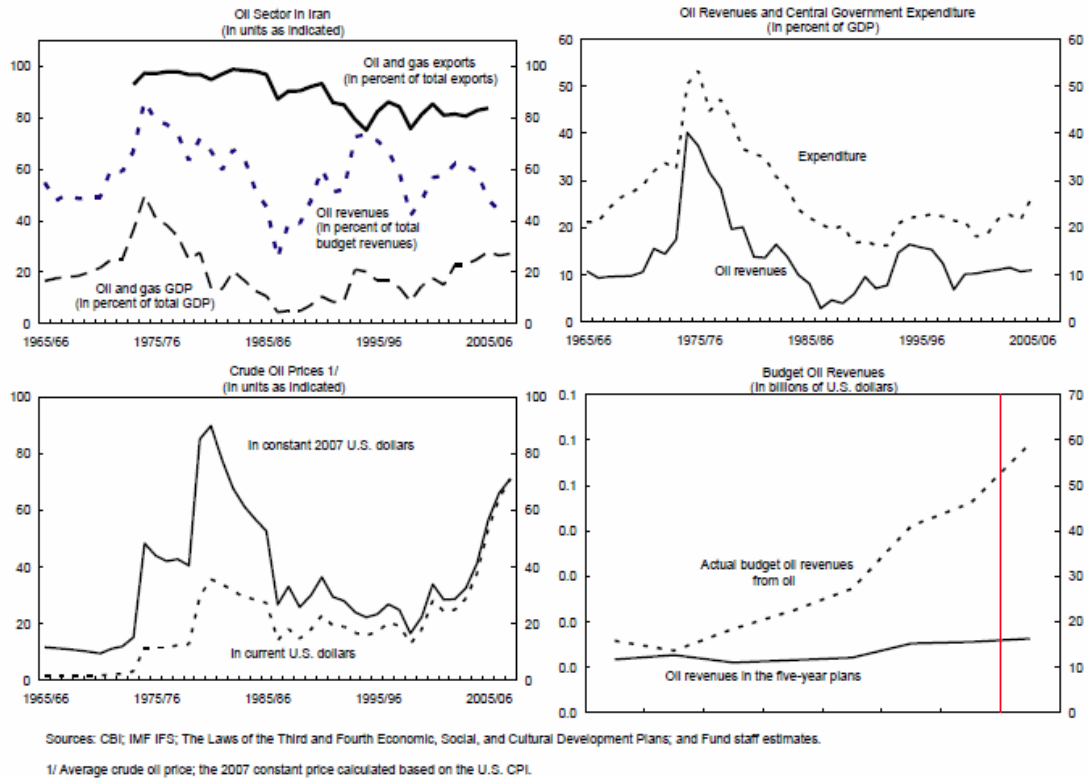
The fact is that Iran is heavily dependent upon oil revenues for their government revenues, and the fluctuation of oil prices over the past 30 years has increased the importance of the development of nuclear power plants. A study produced by the International Monetary Fund in 2008 demonstrates the effects of oil pricing on Iran's economy; it states that oil sector fluctuations caused government revenues to range between 25 and 73 percent between 1986 and 1994.⁷² Figure 3 shown below paints a strong picture of oil's role in the Iranian economy from the 1960s to 2006. To cope with the volatility of the oil sector, Iran created the Oil Stabilization Fund (OSF) in the year 2000 with the Third Five-Year Development Plan (2000-2005). Its goal was to "stabilize the government's annual budgets" by ensuring that "all excess oil revenue should be deposited in the OSF; the central government could draw from the OSF account if the government's oil export receipts fell short."⁷³ As oil prices began to rise in the last 10 years, Iran saw significant increases in their oil revenues and chose to use this revenue to

⁷¹ Sahimi, "Iran's Nuclear Energy Program. Part IV: Economic Analysis of the Program."

⁷² International Monetary Fund. *Islamic Republic of Iran: Selected Issues*. August 2008. <http://www.imf.org/external/pubs/ft/scri/2008/cr08285.pdf> (accessed August 11, 2010), p. 37.

⁷³ International Monetary Fund. *Islamic Republic of Iran: Selected Issues*. August 2008. p. 38.

Figure 3: The Role of Oil in Iran's Economy



foster economic development through loan programs and pay for gasoline imports. The IMF report commended Iran for their OSF and stated that their “savings are particularly justified...because of the lack of access to international financial markets.”⁷⁴

The Natural Gas Myth

As for Iran’s natural gas capacity, considered to be the 2nd largest reserves in the world, Iran already uses gas to cover more than 75% of their energy needs.⁷⁵ The gas that Iran is not using to power their electric plants is being used for a process known as secondary recovery where the gas is injected into oil reservoirs to increase oil production

⁷⁴ International Monetary Fund. *Islamic Republic of Iran: Selected Issues*. August 2008. p. 42.

⁷⁵ Sahimi, “Iran’s Nuclear Energy Program. Part IV: Economic Analysis of the Program.”

by several thousand barrels per day; this process takes up 35 to 40 percent of the 4.1 billion cubic feet of gas that Iran produces each year.⁷⁶ More importantly, the revenue from these several thousand barrels per day or more of oil would not only pay for a nuclear reactor but also cover part of its annual operating cost (\$140 million/yr) hence placing it on par with the operations costs of a gas power plant (\$60-70 million/yr) but without the pollution costs.⁷⁷

The argument, and what I consider to be a myth, that Iran has such unlimited natural gas reserves that it does not require nuclear power cannot withstand an objective analysis. According to the study done by the EIA in 2008, Iran was already operating with a negative Net Export/Import in natural gas by 94 billion cubic feet.⁷⁸ And while Iran does have the 2nd largest proven reserves as mentioned above, they are only the 4th largest producer of natural gas, but at the same time, they are the 3rd largest consumer.⁷⁹ The ongoing development of the South Pars gas field represents a tremendous economic windfall for the Iranians; not only will it earn approximately \$11 billion/yr for 30 years or more, it has also brought extensive foreign investment and more than 30,000 jobs to Iran.⁸⁰

With all of these figures staring the Iranian government in the face, how can Iran not be expected to pursue civilian nuclear technology? Without it, their country will face

⁷⁶ Sahimi, "Forced to Fuel: Iran's Nuclear Energy Program," p. 44.

⁷⁷ Sahimi, "Iran's Nuclear Energy Program. Part IV: Economic Analysis of the Program."

⁷⁸ U.S. Energy Information Administration. *Iran Energy Profile*. July 14, 2010. http://tonto.eia.doe.gov/country/country_energy_data.cfm?fips=IR (accessed August 10, 2010).

⁷⁹ Ibid.

⁸⁰ Sahimi, "Iran's Nuclear Energy Program. Part IV: Economic Analysis of the Program."

severe economic challenges; without nuclear power, their economic fate is undeniable. The irony is that in the 1970s when there was no genuine *need* for nuclear power in Iran states such as the U.S., Germany, and France were encouraging the Shah to go nuclear. But now that there is a legitimate need, at least one that is agreed to by objective parties, the U.S. and others aren't listening to Iran's explanation. The economic rationale is crystal clear because Iran must generate revenues through the sales of their fossil fuels.⁸¹ The choice is obvious, and the Iranians must move ahead with nuclear power now or risk the future survival of their state. Simply considering the finite nature of fossil fuels for which Iran is so dependent upon for revenue and energy, Iran must view acquisition of civilian nuclear power as vital. With the future of the Iranian economy dependent upon the outcome of the nuclear program, it should come as no surprise that the Iranian "population is 90% in favor of nuclear power."⁸²

⁸¹ Maleki, Abbas. "Iran's nuclear file: Recommendations for the future." *Daedalus* 139, no. 1 (2010): 106.

⁸² Barzegar, Kayhan, interview by Mustafa Kibaroglu. Tehran, (March 2005).

IRAN'S NUCLEAR SECURITY BLANKET

Iran's pursuit of nuclear technology and weapons in the interests of security should be regarded as an effort to deter potential adversaries from interfering in their sovereign affairs, to include regime change, as they have fallen victim to the acts of external actors for greater than two centuries. However, while the economic reasoning to support the nuclear program is very strong, the issue of national security is one that is overarching. Those that are in power in Iran believe that the Islamic Republic's survival is dependent on the preservation of the regime and their revolutionary ideology; acquisition of nuclear technology is meant to secure both. As Iran's future prospects for their economy are very troubling in the absence of nuclear power, the security of the regime and state would surely be degraded given the extreme domestic conditions likely to ensue. So the pursuit of the nuclear program that receives widespread nationalist support throughout Iran is critical to preserving the economic future and physical security of the Iranian state for future generations.

The security reasons behind the Iranian nuclear developments may be even more significant to the Iranian leadership than the economic despite the obvious importance of the economic consequences of not turning to nuclear power. Iran's foreign policy strategy, of which the nuclear program plays a key role, should be regarded as an attempt to "secure its geostrategic interests and national security concerns."⁸³ The Iranian nuclear program has become a key component in the security and survival of the Iranian regime;

⁸³ Barzegar, Kayhan. "Iran's Foreign Policy Strategy after Saddam." *The Washington Quarterly* 33, no. 1 (2010): 174.

Iran has invested far too much in its progress to turn back now. The Islamic Revolution promised independence, freedom, and an Islamic Republic, but it has failed to deliver on the latter two conditions; the only winning card the regime has remaining is its independence which remains characterized by anti-Americanism.⁸⁴ “Iran cannot give in on their nuclear policy.”⁸⁵

Iran has a long history of lessons learned in dealing with foreign armies and governments interfering in their affairs. The 19th century witnessed two defeats at the hands of the Russians who imposed humiliating treaties on the Iranians; the Treaties of Gulistan (1813) and Turkmanchay (1828) forced Iran to give up sovereign territory and make economic concessions to the Russians.⁸⁶ Russia and Britain’s 1907 agreement to divide Iran into spheres of influence has also been a factor in the Iranian culture. The overthrow of Prime Minister Mossadeq by the British and Americans in order to place the Shah back in power is perhaps the pinnacle of foreign interference in Iranian affairs. The point of these instances is to convey how all of this has molded Iran into a “profoundly conspiratorial culture” where “generations have been raised with this mindset of interference.”⁸⁷ One might argue that the 1979 hostage crisis was a result of this conspiratorial culture as the Iranians viewed the American acceptance of the Shah into the U.S. for medical treatment was a cover for the plot to put the Shah back into power in Iran.

⁸⁴ Rahnama, Ali, interview by Bryan Hamilton. Paris, (May 13, 2010).

⁸⁵ Ibid.

⁸⁶ Pollack, *The Persian Puzzle*, p. 14.

⁸⁷ Dalacoura, Katerina, interview by Bryan Hamilton. London, (May 10, 2010).

This “mindset of interference” has penetrated Iranian culture and the regime leadership, and it has a definitive impact on the regime’s decision making process. Looking at today’s landscape in the Middle East, Iran sees U.S. military forces in both Iraq and Afghanistan as a precursor to a potential attack against Iranian soil in an effort to overthrow the regime and dismantle the nuclear program. The rhetoric against Iran over the pursuit of its nuclear program has gradually intensified over the past decade, and the Axis of Evil speech issued by President Bush in 2002 did little to diminish the beliefs that Iran was a potential target of the West. This mindset was visible in the aftermath of the 2009 elections as the Iranians accused the British of meddling in their election process and fostering protests; the legacy of British interference in Iran still lives.⁸⁸ The fact is that these incidents throughout Iranian history explain why there is such a sense of national insecurity.⁸⁹

Iran has also been at odds with states in the Middle East and the West since the Islamic Revolution in 1979, and the eight year war with Iraq solidified to the Iranians that the international community could not be counted on to come to their aid in war. When the Iraqis unleashed chemical weapons on both Iranian troops and citizens, no Middle Eastern state or the west objected once to the Iraqi actions. Over the past decade, U.S. actions in the region have done little to lessen Iranian concerns about their security. The American victory over Iran’s long time nemesis, Saddam Hussein, threw off the Middle

⁸⁸ Dalacoura, Katerina, interview by Bryan Hamilton. London, (May 10, 2010).

⁸⁹ Sahimi, Muhammad. “Iran’s Fist is Clenched for a Reason.” *Payvand’s Iran News*. February 11, 2009 <http://www.payvand.com/news/09/feb/1128.html> (accessed August 13, 2010).

East's balance of power between Saudi Arabia, Iraq, and Iran; in Henner Furtig's words it, "initiated a political earthquake....that threw the power system into doubt entirely."⁹⁰

Iran's security in the region is also threatened by the fact that it has been the lone Shi'ite state in the Middle East; though Iraq is predominantly Shia also, before the disposal of Saddam the Sunni-led Baath Party controlled Iraq. Their backyard is a very unstable one which continually witnesses sectarian strife and conflict, possesses failed or potentially failing states (Afghanistan and Pakistan) and authoritarian governments throughout the Persian Gulf; all of these factors and more have influenced Iran's perception of insecurity.⁹¹ Their pursuit of nuclear technology represents a step towards added security against these external threats in the region. Iran understands that a nuclear weapon or even the perception of the capability to produce a nuclear weapon is the truly the only effective strategic deterrent.

Iran is well aware of how nuclear capabilities have bolstered other states' national security such as Russia, the U.S., and Britain; it is argued by Dr. Nasser Saghafi-Ameri of the Center for Strategic Studies in Tehran that, "the American, European, and Russian doctrines stress the value of nuclear weapons in national and collective defense strategies."⁹² He contends that U.S. unilateralism and the use of nuclear weapons as a mode of "political blackmail" have fed the nuclear arms race as the vulnerability and insecurity of non-nuclear weapons states has substantially increased.⁹³ In Iran's case the

⁹⁰ Furtig, Henner. "Conflict and Cooperation in the Persian Gulf: The Interregional Order and US Policy." *Middle East Journal* 61, no. 4 (2007): 631.

⁹¹ Barzegar, "Iran's Foreign Policy Strategy after Saddam," p. 179.

⁹² Saghafi-Ameri, Nasser. "NPT and New International Security Environment." *Conference on Nuclear Technologies and Sustainable Development*. Tehran, March 5-6, 2005.

⁹³ Ibid.

acquisition of nuclear capabilities can also be viewed as a “means of offsetting Iran’s weaknesses in conventional weapons because of financial constraints and its lack of access to good suppliers” due to persistent sanctions.⁹⁴ The possession of nuclear weapons by states who are not allies with Iran in their immediate vicinity – Israel and Pakistan – heightens Iran’s desire for nuclear weapons. Additionally, the nuclear umbrella of NATO and the U.S. extend to other regional countries such as Turkey, Egypt, and Saudi Arabia of which only Turkey could be considered neutral, or even receptive, to the Iranian pursuit of nuclear technology.

Israel perhaps represents the greatest threat to Iranian security in the region though they would likely be considered to be reliant upon the U.S. for political backing. The two states are at odds over the resolution of the Arab-Israeli conflict, and Israel places much of the blame for hostilities carried out by Hamas and Hizbollah on the shoulders of the Iranian leadership. Though undeclared and not a signator to the NPT, Israel is regarded as a nuclear power, and therefore Iran is threatened by the harsh rhetoric emanating from the Israeli leadership. Israel’s nuclear status, though undeclared, “has been the foremost incentive for the Arab world and Iran to embark upon developing their own equalizers” which includes the development of nuclear weapons.⁹⁵ Fearful of military action by the Israeli forces, Iran views the development of nuclear weapons as a deterrent to aggression from not just the Israelis but also from other Western states.

Regardless of what the true intentions are, there will be consequences in the region when Iran goes nuclear, which technically began on August 21, 2010 when Russia

⁹⁴ Chubin, Shahram and Green, Jerrold D. “Engaging Iran: A US Strategy.” *Survival* 40, no. 3 (1998): 161.

⁹⁵ Kibaroglu, “Good for the Shah, Banned for the Mullahs: The West and Iran’s Quest for Nuclear Power,” p. 232.

loaded fuel into the Bushehr reactor. It is important for the United States, and other states around the world, to understand how Iran's crossing of the nuclear threshold will impact the balance of power in such a volatile and important region of the world. The U.S. and the world must act to find a fair solution to the concerns of all, including Iran; if not, the consequences could be severe.

EVOLUTION OF U.S. POLICIES TOWARDS THE IRANIAN NUCLEAR PROGRAM

This period in this research involves the policies of U.S. administrations prior to the Iranian revolution which we will separate from the next period at the end of President Carter's time in office. The U.S. approach to Iran's ambition to attain an indigenous nuclear program over the past half-century has been like a pendulum swinging from one end to the other. While a brief review of the administrations' policies to be covered here in our will begin with Presidents Eisenhower, Kennedy, and Johnson, the Nixon Administration is widely regarded as responsible, or even to blame, for the current state of the Iranian nuclear program.⁹⁶ Because of this perception, the Nixon Administration will receive greater attention than most in the period prior to the Islamic Revolution. Presidents Ford and Carter will also garner attention in this discussion with the final years of Carter's term as President coinciding with the start of the Iranian Revolution.

The Pre-Nixon Years

The roots of nuclear cooperation between the U.S. and Iran can be traced to the Eisenhower Administration. President Eisenhower's biggest initiative was his "atoms for peace" program that loaned uranium to "have not" nations for peaceful use.⁹⁷ This program was facilitated by a presidential initiative designed to amend the 1946 Atomic

⁹⁶ Kibaroglu, "Iran's Nuclear Ambitions," p. 226.

⁹⁷ White House. *Dwight D. Eisenhower*. <http://www.whitehouse.gov/about/presidents/dwightdeisenhower> (accessed August 17, 2010).

Energy Act that forbade U.S. cooperation with other countries; his December 8, 1953 speech to the United Nations not only led to the 1957 Agreement for Cooperation Concerning Civil Uses of Atoms mentioned above but also led to the creation of today's IAEA.⁹⁸ Eisenhower stated in this historic speech that one of the missions of this agency “would be to provide abundant electrical energy in the power-starved areas of the world,” and that, “the United States would be more than willing - it would be proud to take up with others principally involved the development of plans whereby such peaceful use of atomic energy would be expedited.”⁹⁹ So while President Eisenhower's policies and statements may not speak directly of Iran's nuclear program, they are certainly indicative of a policy that is more favorable to Iran's development of nuclear technology, at least for peaceful purposes.

Presidents John F. Kennedy and Lyndon Johnson took a much different approach towards nuclear policies than the previous Eisenhower administration. In March 1963, during a conversation with the press, Kennedy remarked that he was “haunted” by a fear that within the next decade that the U.S. would be in a world where “15 or 20 or 25 nations possessed nuclear weapons.”¹⁰⁰ Kennedy was intent on slowing the spread of nuclear weapons, and in August 1963 the Nuclear Test Ban Treaty (NTBT) was signed.¹⁰¹ Though the policies of his administration concerning nuclear proliferation were not aimed directly at Iran, Kennedy's policies amounted to reduced cooperation

⁹⁸ Kibaroglu, “Iran's Nuclear Ambitions,” p. 225.

⁹⁹ Eisenhower, Dwight D. Atoms for Peace. “*International Atomic Energy Agency*.” December 8, 1953. http://www.iaea.org/About/history_speech.html (accessed August 17, 2010).

¹⁰⁰ Sagan, Scott D. “How to Keep the Bomb from Iran.” *Foreign Affairs* 85, no. 5 (2006): 49.

¹⁰¹ White House. *John F. Kennedy*. <http://www.whitehouse.gov/about/presidents/johnfkennedy> (accessed August 17, 2010).

with Iran. Just prior to Kennedy's election, the Joint Chiefs of Staff proposed that Iran be the site of U.S. nuclear bombs to counter increasing Soviet influence in Cuba.¹⁰²

However, the Kennedy Administration, when approached by the Joint Chiefs of Staff in 1961 about the suggestion, immediately opposed and rejected the suggestion.¹⁰³

Ultimately, while the previous administration favored military cooperation with Iran, Kennedy was less inclined to provide the Shah with the military support he requested and insisted on internal reforms before transferring money or vital technology to counter the perceived Soviet threat.¹⁰⁴

After the assassination of President Kennedy, Lyndon B. Johnson was sworn into office and was immediately met with the challenge of Tehran growing closer to Moscow as the Shah was growing tired of being lectured about internal affairs and reforms by America when he wanted to purchase military hardware. Like the Kennedy Presidency, Johnson's tenure provided little, if any, evidence of policies that were directly related to the Iranian nuclear program as he was overwhelmingly preoccupied with the Vietnam War. During Johnson's initial years in office, he followed the policies of President Kennedy in resisting the Shah's requests for increased military sales.

However, the period of 1965 to 1967 is regarded as an important timeframe in the history of U.S-Iranian relations as the relationship evolved from one which was more patron-client oriented to a more equal relationship after the U.S. resumed sophisticated

¹⁰² Sahimi, Mohammad. "Iran's Nuclear Program. Part V."

¹⁰³ Ibid.

¹⁰⁴ Summitt, April R. "For a White Revolution: John F. Kennedy and the Shah of Iran." *Middle East Journal* 58, no. 4 (2004): 564.

military equipment sales to the Iranians.¹⁰⁵ Two key components made up the reasoning behind this change in President Johnson's behavior. First, the U.S. was growing nervous over increased cooperation between the Soviets and the Shah as Presidents Kennedy and Johnson had not sold him with the weapons he desired. This problem had been brewing for years before Johnson finally realized the seriousness. In September of 1962, more than 18 months after President Kennedy had ruled on this subject, the Shah announced that Iran would not allow American missiles aimed at the Soviet Union to be stationed on his soil.¹⁰⁶ Later, in January 1967, the Shah would sign a military aid agreement with the Soviets for almost \$100 million.¹⁰⁷

Second, the U.S. needed to retain the pro-Western orientation of one of its major allies in the region. And with American troops were stuck in a conflict in Vietnam and the British instituting its departure from the Middle East region, the U.S. needed to ensure that its interests in the Middle East were protected; selling weapons to Iran was a means to maintain their pro-Western orientation.¹⁰⁸ These weapons sales by the U.S. to Iran made up approximately 85 percent of Iran's military imports and included a squadron of F-4 Phantom aircraft.¹⁰⁹ Most importantly during this time period was the U.S. support and assistance to set up the Tehran research reactor at the University of Tehran with U.S. corporation United Nuclear providing Iran 5.585kg of 93 percent

¹⁰⁵ Johns, Andrew L. "The Johnson Administration, the Shah of Iran, and the Changing Pattern of U.S. – Iranian Relations, 1965-1967: Tired of Being Treated like a Schoolboy." *Journal of Cold War Studies* 9, no. 2 (2007): 89.

¹⁰⁶ Ibid, p. 68.

¹⁰⁷ Ibid, p. 85.

¹⁰⁸ Ibid, p. 89.

¹⁰⁹ Ibid, p. 88-9.

enriched uranium.¹¹⁰ It became clear that President Johnson was willing to cooperate with Iran in both military sales and nuclear technology to ensure their allegiance remained with the U.S. and that Western interests in the region were more secure. So while the Kennedy administration had begun restricting the nuclear relationship with Iran during his brief time in office, Johnson reinstated the modes of cooperation with Iran that had been started under the Eisenhower administration. This increased the level of cooperation between Iran and the U.S. and opened the door for the next President, Richard Nixon, to embark on an unprecedented level of coordination with their Middle East ally in the areas of nuclear power.

The Nixon Presidency

In one way, Nixon represented a complete shift from actions of the previous two administrations; he nearly halted all criticism of internal Iranian affairs. Moreover, as mentioned by many experts, Nixon opened a new chapter of nuclear cooperation with Iran. He openly encouraged the Shah to pursue an extensive nuclear energy program.¹¹¹ Within two months of his inauguration in 1969, President Nixon approved the extension of the 1957 Iran-U.S. Agreement for Cooperation concerning Civil Uses of Atomic Energy; this extension was for another 10 years.¹¹² This improved cooperation was carried out in the name of the “Nixon Doctrine.” Initiated in 1969 in the wake of the Vietnam War, the doctrine meant that the U.S. would provide both military and economic

¹¹⁰ Nuclear Threat Initiative, “Nuclear Chronology 1957-1985,” *Iran Country Profile*, http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1957_1985.html (accessed August 18, 2010).

¹¹¹ Kibaroglu, “Iran’s Nuclear Ambitions,” p. 226.

¹¹² Nuclear Threat Initiative, “Nuclear Chronology 1957-1985,” *Iran Country Profile*.

assistance to its allies in the event they were threatened by external forces, namely the Soviet Union. This doctrine was also designed to give regional states a greater role in ensuring the security of their particular parts of the globe.

In May 1972, while returning from Moscow, President Nixon and Secretary of State Henry Kissinger visited Tehran to brief the Shah on what was termed the Twin Pillars policy whereby the Shah would not only be given the responsibility for ensuring the security and stability of the Persian Gulf region but more importantly to the Shah, the ability to “purchase any nonnuclear weapon it wanted from the United States.”¹¹³ It was the institution of this Twin Pillars Policy during Nixon’s visit in May of 1972 that led to the renewed effort of nuclear cooperation between the U.S. and Iran.¹¹⁴

The 1973 Yom Kippur War between the Arabs and Israelis presented another opportunity for the Iranians. When the Arab producing countries of OPEC enacted an oil embargo against the U.S. for their support of Israel, oil prices rose from \$3.01 per barrel to \$11.65 per barrel, a nearly 300% increase that created a major oil crisis.¹¹⁵ However, Iran not only chose to disobey the OPEC embargo, but they also ramped up production by another 600,000 BPD in order to increase their profits.¹¹⁶ And with oil prices reaching record highs in the aftermath of, the Shah was fiscally prepared to purchase at will, and with the Nixon Administration concerned about the growing U.S. trade deficit due to

¹¹³ Pollack, *The Persian Puzzle*, p. 104.

¹¹⁴ Kibaroglu, “Good for the Shah, Banned for the Mullahs: The West and Iran’s Quest for Nuclear Power,” p. 213.

¹¹⁵ Pollack, *The Persian Puzzle*, p. 107.

¹¹⁶ *Ibid.*

high oil prices, there were few complaints about the Shah sending those petrodollars back to the U.S. for American products which minimized the U.S. trade deficit.¹¹⁷

In looking more in depth at the nuclear program, the Nixon administration provided direct and concrete support to the Iranian program in a multitude of ways, and after a Stanford Research Institute study in early 1974 revealed a need for more than 20,000 MW(e) capacity no later than 1994, the level of cooperation was accelerated, and as stated earlier, the Shah then announced his plans to have 23,000 MW(e) of nuclear power as fast as was achievable.¹¹⁸ Communications from U.S. Ambassador Richard Helms to the Shah and his cabinet are a definitive indication of Nixon's policies, and his statements were reflective of the desire for nuclear cooperation. In a letter dated April 13, 1974 to Asadollah Alam, the then Iranian Imperial Court Minister, Helms stated how nuclear power "is clearly an area in which we might most usefully begin on a specific program of cooperation and collaboration" and that "the Chairman of the Atomic Energy Commission (AEC) is prepared at an early date to visit Tehran with a team of experts" to lay out a plan for this collaboration.¹¹⁹ So when Dr. Dixy Lee Ray, the U.S. Chairman of the AEC visited Iran in May 1974 at the direction of President Nixon and the State Department, he entertained the possibility of establishing both enrichment and reprocessing facilities in Iran.

It was only a month later in June of 1974 that Nixon approved an agreement for the Iranians to purchase two nuclear power plants and the enriched fuel to go with

¹¹⁷ Pollack, *The Persian Puzzle*, p. 109.

¹¹⁸ Kibaroglu, "Iran's Nuclear Ambitions," p. 229.

¹¹⁹ Alam, A.A. *Alams's Diaries: Volume 4*. Edited by A. Alikhani. Tehran: Maziar Press, 2001, p. 7.

them,¹²⁰ but the eventual formal signing of this agreement would grow the number of power plants to eight. However, the signing would not take place until after President Ford took over in the aftermath of the Nixon Watergate scandal. This provisional agreement during the Nixon administration, more than any other, demonstrates that the U.S. position at this point in the relationship with Iran was one about cooperation, collaboration, and a strategic alliance. While there was certainly a growing pattern of teamwork between the two states, certainly much of the U.S. support to the Iranian program was based upon the fact that the Shah was going to be sending large sums of petrodollars back to the U.S. to purchase the nuclear equipment for these nuclear facilities.¹²¹

It must be noted, though, that in the early 1970s there was no inherent *need* for nuclear power in Iran. There was no energy crisis or a population boom, but the U.S. and other Western states such as France and Germany were encouraging the Shah to pursue nuclear energy. In looking specifically at the U.S. economic situation discussed above, it is not difficult to arrive at the conclusion that this encouragement was made because of the economic benefits to be had by those selling equipment to Iran – not because of any rational need for nuclear power in Iran. So the U.S. in the 1970s was very willing to provide Iran the support it required for a nuclear program, but now, when the economic justifications are clear and demonstrate a legitimate need, support from the U.S. is nowhere to be had. In fact, the U.S. now adamantly opposes the program. So what changed? The Iranian regime, that's what.

¹²⁰ Poneman, Daniel. *Nuclear Power in the Developing World*. London: George Allen and Unwin Press, 1982, p. 87.

¹²¹ Erlich, Reese. *The Iran Agenda*. Sausalito, CA: PoliPoint Press, 2007, p. 21.

The Gerald Ford Presidency

President Ford picked up the torch right where President Nixon left it; he continued the cooperation with the Shah, but that should come as no surprise considering the circumstances of how Ford came to power. He was of the same party as Nixon, Republican, and it was Nixon who nominated him for the Vice Presidency after the resignation of the former VP, Spiro Agnew. However, Ford would have very little time to make his mark on the relationship with Iran considering his short tenure in office, just about 2 and a half years.

Though Ford did have such a short time in office, he wasted little of it in advancing the cooperation between the two states in the nuclear arena. Nixon had left the state of U.S. – Iran nuclear cooperation in a very good position to advance, and in November of 1974 under the auspice of President Ford, the cooperation between the two states continued. A U.S. – Iran Joint Commission was formed to strengthen ties in numerous areas, but a specific focus was placed upon nuclear energy and power generation. The commission also referenced new provisional agreements for a total of eight nuclear reactors; and the joint statement issued by this commission also reinforced commitments to the Non Proliferation Treaty (NPT).¹²² With these statements and agreements, there is a great deal of support to the argument that President Ford and his team offered the complete nuclear cycle to the Iranians during his tenure as President.¹²³

The Ford administration also supported a \$2.75 billion investment by Iran into a United States uranium enrichment facility which was proposed in early 1975. Ford's

¹²² U.S. State Department. "U.S. - Iran Joint Statement." *Digital National Security Archive*. November 3, 1974. <http://nsaarchive.chadwyck.com> (accessed August 19, 2010).

¹²³ Amuzegar, Jahangir. "Nuclear Iran: Perils and Prospects." *Middle East Policy* 13, no. 2 (2006): 91.

officials agreed that Iran should be entitled to enough fuel to meet their entire inventory of nuclear reactors purchased from the U.S.¹²⁴ President Ford and Secretary of State Kissinger also supported Iran's desire to establish a spent fuel reprocessing facility, but the Ford administration preferred a multinational facility as opposed to a purely Iranian one.¹²⁵

President Ford's policy of cooperation with Iran on the nuclear program was extensive and well documented. Muhammad Sahimi cites multiple National Security Memorandums where President Ford expressed his desire for the extensive cooperation between the two states. Ford directed in National Security Memorandum 219, dated March 14, 1975, that U.S. officials should make all efforts to find an agreement with Iran to facilitate sales of nuclear equipment as well as Iranian investment in U.S. facilities.¹²⁶ Several other memorandums over the following months from President Ford as well as Secretary of State Kissinger would continue to convey this American policy of cooperation with Iran. These memorandums also reiterated the support for the establishment of a spent fuel reprocessing facility in Iran; however, as mentioned earlier, President Ford continued to insist that the facility be either binational with the U.S. or multinational.¹²⁷ One interesting point that should be made about the Ford administration and its extensive cooperation is the fact that two of the most senior officials in this administration, then White House Chief of Staff Dick Cheney and Secretary of Defense

¹²⁴ Kibaroglu, "Iran's Nuclear Ambitions," p. 230.

¹²⁵ Ibid.

¹²⁶ Sahimi, "Iran's Nuclear Energy Program. Part V."

¹²⁷ Ibid.

Donald Rumsfeld, would later hold completely opposite views on the American policy towards the Iranian nuclear program under President George W. Bush's administration.

President Ford's cooperative policies towards Iran were evidenced in both word and deed; in a May 15, 1975 meeting with the Shah, he spoke of the importance in expanding and "deepening" ties with Iran as non-oil trade (much of it nuclear related) was to grow to "over \$20 billion by 1980."¹²⁸ Ford's support of the cooperative policies with Iran extended all the way to the end of his Presidency, and in a Presidential debate with then Governor Jimmy Carter, he reinforced his support for cooperation with Iran. There he stated that, "it's my strong feeling that we ought to sell arms to Iran for its own national security, and as an ally, a strong ally of the United States."¹²⁹ Instances such as these were littered through the Ford Presidency and lend strong support to the notion that the U.S. policy at the time was one of cooperation and collaboration in the arena of nuclear technology.

It is clear by the support given by both the Nixon and Ford administrations that there was a policy of cooperation from the Americans directed towards the Iranian nuclear program. Regardless of whether or not it was being done to decrease Soviet influence in the region, to recoup funds to minimize the growing U.S. trade deficit with the rise in oil prices, or a combination of these two reasons, it is apparent that cooperation was the name of the game. During these two administrations, all types of support was provided, and considering the sensitive nature of nuclear technology at the time, there is

¹²⁸ Ford, Gerald R. "Toasts of President Gerald R. Ford and the Shah of Iran." *Gerald R. Ford Presidential Library and Museum*. May 15, 1975. <http://www.fordlibrarymuseum.gov/library/speeches/750261.htm> (accessed August 20, 2010).

¹²⁹ Ford, Gerald R. "Presidential Campaign Debate Between Gerald R. Ford and Jimmy Carter." *Gerald R. Ford Presidential Library and Museum*. October 6, 1976. <http://www.fordlibrarymuseum.gov/library/speeches/760854.asp> (accessed August 20, 2010).

little doubting that the highest levels of these administrations had a heavy hand in all dealings from the sales of equipment, facilities, and fuel to the approval of training for Iranian nuclear scientists in the U.S. Though debatable, one nuclear expert, Muhammad Sahimi, even goes so far as to argue that neither Nixon nor Ford would have “minded if the Shah developed the bomb because the Shah was a close ally of the United States” and that “it would have been a big deterrent against the USSR.”¹³⁰ While there is no overt evidence supporting this statement, such a significant amount of U.S. assistance to the Shah and his nuclear ambitions would permit a reasonable person to at least entertain such a notion especially considering the Shah’s public references to wanting to build an atomic bomb.¹³¹

The Jimmy Carter Presidency

The election of Jimmy Carter to the Presidency continued the policy of cooperation with Iran on the nuclear program. His presidency, though, represents a transition period for the relations between Iran and the U.S. because of the coming Islamic Revolution. Though the U.S. failed to see the revolution coming, the Shah did put some of his nuclear plans on the shelf as he dealt with internal turmoil. And when the revolution began and ultimately culminated with the Islamic hardliners in power, the Khomeini slogan of “Neither East, nor West, only the Islamic Republic” would take the place of the cooperation between the two states.

While the revolution did represent the turning point in the cooperative policies between the U.S. and Iran, up until that point, Carter continued expanding nuclear

¹³⁰ Sahimi, Muhammad, interview by Reese Erlich. Los Angeles, (October 17, 2006).

¹³¹ Erlich, *The Iran Agenda*, p. 22.

cooperation at a rapid pace. Within the first few months of his inauguration, in April of 1977 President Carter's administration signed off on a new agreement with the Shah to "exchange nuclear technology and cooperate in nuclear safety."¹³² The year 1977 would witness additional routine talks between the two governments on nuclear cooperation.

The following year, after President Carter had a complete year since his inauguration in the White House, cooperation with Iran would accelerate. On January 1st, 1978, President Carter would make a historic New Year's visit to Tehran where another bilateral agreement was reached; this one announced that Iran would have "most favored nation status for reprocessing spent nuclear fuels," and that Iran was also to buy 6-8 light-water nuclear reactors."¹³³ Within another seven months on July 10, 1978, the draft of this agreement, known as the U.S.-Iran Nuclear Energy Agreement, was signed in Tehran. Designed to "facilitate cooperation...as well as to govern the export and transfer of equipment and material to Iran," it was the first bilateral agreement of its kind submitted to the U.S. Congress.¹³⁴

However, with Iran in political turmoil and on the brink of revolution in 1978, by the time the document reached President Carter's desk in October 1978, the Shah had placed his nuclear cooperation with the U.S. on hold.¹³⁵ The change in policies towards the Iranian nuclear program could not necessarily be characterized as a decision which was implemented by the Carter Administration. The Shah's decisions to postpone

¹³² Kibaroglu, "Good for the Shah, Banned for the Mullahs: The West and Iran's Quest for Nuclear Power," p. 214.

¹³³ Sahimi, "Iran's Nuclear Energy Program. Part V."

¹³⁴ Kibaroglu, "Iran's Nuclear Ambitions," p. 230.

¹³⁵ Nuclear Threat Initiative, "Nuclear Chronology 1957-1985," *Iran Country Profile*.

progression of the Iranian nuclear program were direct results of the ongoing internal strife in Iran.

This agreement wasn't the only activity ongoing between the U.S. and Iran in 1978 despite the internal problems within Iran. Department of Energy (DoE) Secretary James Schlesinger was heavily involved in the agreement mentioned above as well as the approval of the transfer of equipment for an emerging technology known as laser enrichment.¹³⁶ One of these transfers was conducted by a private citizen, Jeffery Eerkens, who ultimately received approval from the DoE to sell laser enrichment technology to Iran, and they were shipped in October of 1978; however the lasers are reported to have failed at their intended purpose of enriching uranium.¹³⁷

After the Shah's fall from power in Iran, contracts with not only the U.S. but also France and Germany for nuclear projects were cancelled; Ayatollah Khomeini and the other Islamic hardliners fought against the modernization efforts of the Shah. Khomeini's anti-modernization policies meant that the nuclear program would suffer extensively, and it translated to the spending towards modernizing the military and civilian infrastructures being turned off. Additionally, the ensuing Cultural Revolution in 1980 that led to the flight of many western educated Iranians also meant that many of the highly trained nuclear scientists were allowed to leave the country.¹³⁸ The Carter administration's, and previous ones, cooperative policies towards the Iranian nuclear program in earlier years was now irrelevant; Khomeini and his fellow clerics intended to destroy everything that had been part of the Atomic Energy Organization of Iran bringing

¹³⁶ Sahimi, "Iran's Nuclear Energy Program. Part V."

¹³⁷ Ibid.

¹³⁸ Kibaroglu, "Iran's Nuclear Ambitions," p. 234.

virtually every project to a standstill.¹³⁹ When Khomeini finally gave the approval for the resumption of the nuclear facilities, it was too late to obtain assistance from the West. Angered over the hostage crisis and nervous over the direction of the Iranian clerical leadership, the U.S. began its pattern of pressuring states not to provide assistance to Iran, and Germany and France were the first to refuse to resume work on the facilities at Bushehr, Darkhovin, and Esfahan.

The Carter administration would be the last U.S. administration to cooperate with the Iranians in the arena of nuclear technology. “The U.S. not only stopped cooperating with Iran in the nuclear field, but also pursued a policy of denial by putting pressure on other countries not to transfer nuclear technology to Iran.¹⁴⁰ Additionally, the ensuing hostage crisis that was to be resolved upon President Carter leaving office would also permanently scar present and future U.S. politicians; U.S. leaders would subsequently reject diplomatic offers from Iran over the nuclear issue as they were “still holding on to the hostage crisis.”¹⁴¹ American support for Iran’s nuclear program was dead; a new policy was needed to cope with the regime of Khomeini.

¹³⁹ Kibaroglu, “Iran’s Nuclear Ambitions,” p. 234.

¹⁴⁰ Ibid, p. 233.

¹⁴¹ Dalacoura, Katerina, interview by Bryan Hamilton. London, (May 10, 2010).

U.S. POLICIES TOWARDS REVOLUTIONARY IRAN

Our next period comes as the Islamic Revolution has swept Iran and President Reagan took office in January 1979. As for the Islamic Revolution and overthrow of the Shah, it was the turning point when the United States changed their policies towards the Iranian efforts to acquire nuclear technology. As it has been more than thirty years since this event, this will require covering each administration since. The administrations of Reagan, Bush I, Clinton, Bush II, and Obama, were confronted with a completely different regime in Iran than previous presidents; these Presidents would gradually usher in an unprecedented policy of denial of nuclear technology that would force the Iranian nuclear program to find other means to meet their nuclear ambitions.

Each of these administrations would pursue their own specific strategies to cope with the Iranian nuclear problem, but the underlying policy of denial was one that grew from administration to administration. There wasn't a consistent policy towards Iran in the first years after the revolution; the U.S. was still struggling with how to handle the new regime as well as how to craft a policy that fit with the national security of the United States. It would take over a decade, until the Clinton administration, for a clearer policy vision to be formulated towards the Iranians. The following sections will detail these policies and specific strategies employed by each administration.

The Reagan Years

When it comes to President Reagan and Iran, on the surface, one might have the impression that Reagan was cooperative with Iran due to the Iran-contra affair. This covert operation ran by now retired Colonel Oliver North sent arms, munitions, and spare parts to the Iranians to use in their war against Iraq. The funds that Iran sent to the U.S. via Israel were used to support the Contra rebels in Nicaragua in their fight against the leftist elements, the Sandinistas, but more importantly for Reagan and the U.S., they were sent to Iran in exchange for the release of seven American hostages being held by Lebanese Hezbollah.¹⁴² In addition to the harm done by the holding of hostages at the American embassy in Tehran, the hostage taking by pro-Iranian Hezbollah and the Iran-Contra scandal furthered the perception in the U.S. that Iran was a “deceptive and hostile power.”¹⁴³

While Pollack argued that the weapons were in exchange for these hostages, Gary Sick, an Iran expert on the National Security Council during the Carter Presidency, alleges something more sinister transpired between Reagan and the Iranian leaders. Sick, in his book *October Surprise* and also in a *New York Times* article from April 15, 1991, accused presidential candidate Ronald Reagan’s campaign team of meeting “secretly with Iranian officials to delay the release of the American hostages until after the U.S. election” which would be “rewarded with....arms from Israel.”¹⁴⁴ These are strong allegations of which no definitive proof was offered, but the fact that American hostages

¹⁴² Pollack, *The Persian Puzzle*, p. 212.

¹⁴³ Sick, Gary. “Rethinking Dual Containment.” *Survival* 40, no. 1 (1998): 9.

¹⁴⁴ Sick, Gary. “The Election Story of the Decade.” *New York Times*. April 15, 1991.

were released soon after the inauguration of President Reagan only fuels the conspiracy theory.

What is important, though about the Iran-Contra affair is that the initial intent of the exchange was not intended as such. President Reagan said in a national address on November 13, 1986 that, “My purpose was to convince Tehran that our negotiators were acting with my authority, to send a signal that the United States was prepared to replace the animosity between us with a new relationship.”¹⁴⁵ And in a later speech to the nation on March 4, 1987, he stated that, “I undertook the original Iran initiative in order to develop relations with those who might assume leadership in a post-Khomeini government.”¹⁴⁶ Pollack argues that during the Reagan administration the U.S. probably did not have a clear policy towards Iran or a strategy towards achieving concrete goals. But while the Reagan administration was sending mixed messages and sought to cooperate with Iran in order to secure the release of the hostages and set the stage for improved diplomatic relations in the future, there was no cooperation in sight surrounding the nuclear program. There is definitive evidence to show that.

The Reagan administration took concrete steps to deny Iran’s attempts to reassemble their nuclear program just as Khomeini and “the clerics realized that they had killed the goose which laid the golden egg” by halting the nuclear program.¹⁴⁷ The

¹⁴⁵ Reagan, Ronald W. “Address to the Nation on the Iran Arms and Contra Aid Controversy November 13, 1986.” *The Public Papers of President Ronald W. Reagan*. Ronald Reagan Presidential Library. <http://www.reagan.utexas.edu/archives/speeches/1986/111386c.htm> (accessed August 23, 2010).

¹⁴⁶ Reagan, Ronald W. “Address to the Nation on the Iran Arms and Contra Aid Controversy March 4, 1987.” *The Public Papers of President Ronald W. Reagan*. Ronald Reagan Presidential Library. <http://www.reagan.utexas.edu/archives/speeches/1987/030487h.htm> (accessed August 23, 2010).

¹⁴⁷ Etemad, Akbar. “Iran.” In *A European Non-Proliferation Policy : Prospects and Problems*, edited by Harald Muller, 214. Oxford: Clarendon Press, 1987.

Reagan administration, on September 9, 1982, began tightening the noose around the Iranian nuclear program by putting Iran on a list of countries to which the export of nuclear technology was to be banned.¹⁴⁸ This pressure is believed to have resulted in the German company Kraftwerk Union refusing to cooperate with Iran in completing the Bushehr reactor deal.¹⁴⁹ However, it is more likely that the Iraqi strikes on the Bushehr reactor were more responsible for the Germans' refusals to work on a reactor that was the target of military strikes, but the U.S. role in these strikes must be discussed.

Nothing is more indicative of Reagan's hostility towards Iran than the support given to Iraq during the Iran-Iraq War. While there is certainly not a smoking gun indicating that the Reagan administration provided support to these Iraqi strikes on the Bushehr nuclear reactor from 1984 to 1988, the indicators are undeniable. Reagan's Special Envoy to the Middle East, Donald Rumsfeld, visited Baghdad on multiple occasions before and after these strikes; additionally, the U.S. military support to Iraq in the war against Iran cannot be ignored.¹⁵⁰ Considering the extensive support to the Iraqis against Iran and Rumsfeld's visits, it is possible that the Reagan administration encouraged the Iraqi strikes on the Bushehr reactor especially since the legislation controlling export of nuclear technology to Iran was only completed the previous year, 1982.

Rumsfeld first visited Baghdad and Saddam Hussein on December 20, 1983 where he discussed "regional issues of mutual interest" and "affirmed the Reagan

¹⁴⁸ Nuclear Threat Initiative, "Nuclear Chronology 1957-1985," *Iran Country Profile*.

¹⁴⁹ Sahimi, "Iran's Nuclear Program. Part I: Its History."

¹⁵⁰ Slavin, Barbara. *Bitter Friends, Bosom Enemies: Iran, the U.S. and the Twisted Path to Confrontation*. New York: St. Martin's Press, 2007, p. 18.

administration's willingness to do more regarding the Iran-Iraq War.”¹⁵¹ Again around March 25, 1984,¹⁵² just a day after the first Iraqi strike on the Bushehr reactor on March 24th,¹⁵³ Rumsfeld would visit Baghdad again. Certainly the fact that Rumsfeld would visit almost immediately after the Iraqis had conducted such a high profile airstrike against Iran's nuclear facilities cannot be a coincidence. As we now know that the U.S. provided extensive intelligence support to the Iraqis during the war, I argue that it is likely that Rumsfeld may have provided Iraq with a battle damage assessment (BDA) of the strike. This BDA would have permitted the Iraqis to make more knowledgeable decisions about what types of munitions to utilize and which facilities to strike. By the end of the war, the Iraqis had struck the Bushehr nuclear plant a total of eight times with the last strike being on July 19, 1988.

While the Reagan administration provided various types of support to the Iraqis during the Iran-Iraq war, throughout his two terms as President he consistently reinstated the export controls mentioned above from 1982. President Reagan's message to Congress explaining Executive Order 12470 issued on March 30, 1984, again just days after the Iraqi strike of the Bushehr reactor, specifically mentioned the Middle East, though not Iran, as a target of this Executive Order.¹⁵⁴

¹⁵¹ Battle, Joyce ed. “Shaking Hands with Saddam Hussein: The U.S. Tilts toward Iraq, 1980-1984.” *The National Security Archive*. February 25, 2003. <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB82/> (accessed August 23, 2010).

¹⁵² Ibid.

¹⁵³ Nuclear Threat Initiative, “Nuclear Chronology 1957-1985,” *Iran Country Profile*.

¹⁵⁴ Reagan, Ronald W. “Message to the Congress Reporting on the Continuation of Export Control Regulations March 30, 1984.” *The Public Papers of President Ronald W. Reagan*. Ronald Reagan Presidential Library. <http://www.reagan.utexas.edu/archives/speeches/1984/33084c.htm> (accessed August 23, 2010).

President Reagan's policies were fairly consistent on Iran, and Pollack's view that the Reagan administration had no clear policy on Iran is difficult to substantiate. Reagan supported Iraq against Iran in the early years of the Iran-Iraq War, though the weapons he would provide to Iran via Israel later would mitigate this. But other U.S. government actions toward Iran during Reagan's tenure also conveyed an anti-Iran message; Operations Earnest Will and Praying Mantis were two U.S. military operations decidedly against Iran in an attempt to preserve the flow of oil through the Strait of Hormuz by anti-mine operations and reflagging of Kuwaiti oil tankers. Throughout his term, he did maintain Iran on the export controls list to prevent the transfer of sensitive and dual use technology which could further their nuclear program. While this political pressure proved effective, it is likely that many states were also leery of dealing with the new regime of Iran in the aftermath of the revolution.

But in defense of Pollack's argument, Reagan allowed other trade with Iran to boom; U.S. oil companies, by the end of Reagan's 2nd term, were the largest buyers of Iranian oil, over 500,000 BPD.¹⁵⁵ Reagan also upheld the Algiers Declaration which regulated the arbitration of lawsuits back and forth between the U.S. and Iran in the aftermath of the hostage crisis. So Reagan's overall policy to Iran may have been termed as a pragmatic one, but as this research is intended to study the nuclear program, we do find evidence of the origins of the policy of denial towards the Iranian nuclear program. President Reagan's pragmatic policies and strategies towards Iran would leave his successor, President George H.W. Bush, to further solidify U.S. policy towards Iran.¹⁵⁶

¹⁵⁵ Slavin, *Bitter Friends, Bosom Enemies: Iran, the U.S. and the Twisted Path to Confrontation*, p. 179.

¹⁵⁶ Pollack, *The Persian Puzzle*, p. 235.

Bush I and Iranian Policy

The first President Bush began his tenure as the 41st U.S. President by extending an olive branch to the Iranian regime in his January 20, 1989 inaugural address. It was in this speech that he made a reference to U.S. hostages being held by Iranian sponsored Lebanese terrorists when he said that “there are today Americans who are being held in foreign lands,” and that “assistance can be shown here and will be long remembered. Good will begets good will.”¹⁵⁷ This act of good faith by President Bush opened the door for a potential improvement in relations with Iran, and it did not go unnoticed in Iran. Two prominent Iranian leaders, Speaker and soon to be President Rafsanjani and Supreme Court Justice Ardabili, both came out with what were pro-western statements and conciliatory remarks about the Iran-Iraq War and the hostage crisis, but Ayatollah Khomeini would put a stop to the rapprochement almost one month later when he issued the infamous Salman Rushdie *fatwa* calling for the death of this anti-Islam author.¹⁵⁸

Unfortunately for Iran, the Bush administration did not put the construction of policies towards Iran at the forefront of its initiatives. Other world events took center stage during Bush’s time as President and competed to reduce his administration’s attention towards Iran and their advancing nuclear program. The fall of the Berlin Wall, Saddam’s invasion of Kuwait and the subsequent Gulf War, the crumbling of the Soviet Union, and the Madrid Peace Process all encumbered the Bush administration and left him little patience to deal with a fractured Iranian leadership. Additionally, the facts that

¹⁵⁷ Bush, George H.W. “Inaugural Address January 20, 1989.” *The Public Papers of George H.W. Bush*. George Bush Presidential Library and Museum. http://bushlibrary.tamu.edu/research/public_papers.php?id=1&year=1989&month=01 (accessed August 24, 2010).

¹⁵⁸ Pollack, *The Persian Puzzle*, p. 239.

the remaining hostages in Lebanon that Bush referenced in his inaugural address were not being freed, the January 31, 1989 execution of Lieutenant Colonel William Higgins, a hostage since 1988, and the domestic killings of regime opponents turned the Bush administration against improved relations with Iran.¹⁵⁹

A more careful look at the Iranian nuclear program during the first Bush administration reveals an extraordinary level of coordination and assistance from a multitude of states. Iran sought and received materials, instruction, and other support from Argentina, China, Spain, West Germany, Pakistan, and the Soviet Union.¹⁶⁰ The support in 1989 and 1990 consisted of work on the Bushehr plant, signings of new agreements for nuclear cooperation, repair to the nuclear reactor at Tehran University, and construction on a plutonium reactor.¹⁶¹ With all of the support flowing into the Iranian nuclear program being reported in the open press, it is unthinkable that the Bush administration could be considered unaware of the Iranian nuclear program's progress. There are entire departments in the multiple intelligence agencies (CIA, DIA, and NSA) devoted to such areas; to believe that the Iranian nuclear program was progressing in secret is to deny the tremendous amount of information available at the time.

One indication of the direction of President George H.W. Bush's formulation of an Iran policy includes the transfer of dual use technology to Iran between 1990 and 1991. President Reagan, as discussed above, had restricted the export of sensitive technology to Iran in his 1982 ban, but over the course of about 13 months, the U.S.

¹⁵⁹Pollack, *The Persian Puzzle*, p. 246.

¹⁶⁰ Nuclear Threat Initiative. "Nuclear Chronology 1989," *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1989.html (accessed August 24, 2010).

¹⁶¹ Ibid.

Department of Commerce permitted the transfer of high-tech equipment to Iran. When reviewed by the Wisconsin Project on Nuclear Arms Control, a Washington D.C. based group, it was claimed that the \$59 million in materials could be used for Iran's nuclear program as well as ballistic missile development.¹⁶² The July 1990 removal of export controls on dual use technology to Eastern Europe after the disintegration of the Soviet Union also opened the door for Iran to obtain important materials for their nuclear program; at this point, U.S. State Department officials were aware that Iran was researching uranium enrichment techniques.¹⁶³

While the U.S. opened the door for the indirect transfer of U.S. technology to Iran, they made few efforts to halt nuclear cooperation between Iran and some of the states mentioned above. The Bush administration did pressure Spain to halt work on the Bushehr reactor in Iran in 1990,¹⁶⁴ but other efforts to stymie the Iranian nuclear program were not met with such success. In March of 1992, India agreed to sell a 10MW research reactor to Iran despite U.S. pressure.¹⁶⁵ Additionally, while Mustafa Kibaroglu rightfully emphasizes Bush administration protests to the Chinese sale of both 20MW and 330MW(e) reactors to Iran in September of 1992,¹⁶⁶ his research disregards the fact that

¹⁶² Nuclear Threat Initiative. "Nuclear Chronology 1990," *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1990.html (accessed August 24, 2010).

¹⁶³ Nuclear Threat Initiative. "Nuclear Chronology 1990," *Iran Country Profile*.

¹⁶⁴ Sahimi, "Iran's Nuclear Program. Part I: Its History."

¹⁶⁵ Nuclear Threat Initiative. "Nuclear Chronology 1992," *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1992.html (accessed August 24, 2010).

¹⁶⁶ Kibaroglu, "Iran's Nuclear Ambitions," p. 235.

Chinese officials stated on November 25th of that same year that they would continue their cooperation with Iran to build nuclear power plants for peaceful purposes.¹⁶⁷

Comments by Brent Scowcroft, Bush's national security advisor, reveal that Bush was interested in improving relations with Iran; he stated that Bush's officials "had a positive view toward expanding the relationship with Iran."¹⁶⁸ So Bush charged Scowcroft and Bruce Reidel, his director of Persian affairs with finding options to resolve the diplomatic stalemate. Later, though, Reidel, would comment that he was "told to put the options paper on hold" after the Rushdie affair and numerous political assassinations carried out by Iranian intelligence officers throughout Europe.¹⁶⁹

The transfers of technology mentioned above, combined with the increasing cooperation towards the construction of the Iranian nuclear complex by many parties despite pressure from the Bush administration, demonstrated a policy that could be characterized as dismissive towards Iranian nuclear ambitions. Perhaps the Bush administration was too caught up in the other events discussed earlier to give the Iranian nuclear program much serious thought. The Bush 41 administration was simply unable to delay the progress of the Iranian nuclear program. The 1980s and 1990s were the height of the U.S. might in the world; the U.S. was standing as the lone remaining military and economic superpower in the world after the disintegration of the Soviet Union. The Bush administration could not exert enough pressure to halt the Iranian nuclear program. I argue that the Bush administration simply was uncertain in how to proceed in its relations with Iran, and the administration's ineffectiveness supports that

¹⁶⁷ Nuclear Threat Initiative. "Nuclear Chronology 1992," *Iran Country Profile*.

¹⁶⁸ Slavin, *Bitter Friends, Bosom Enemies: Iran, the U.S. and the Twisted Path to Confrontation*, p. 179.

¹⁶⁹ *Ibid*, p. 180-1.

assessment. While Bush 41 could not conceive of an effective policy or strategy towards Iran, the successive Clinton administration would leave little to doubt as to their policies.

The President William Jefferson Clinton Era

The administration of President Clinton would be the first administration to set out on developing a more clear and consistent policy towards Iran. While the policy began with both Iran and Iraq in mind, the policy was definitively more understandable than those of Reagan and George H.W. Bush. Clinton's policy was termed as "dual containment," directed at isolating both Iran and Iraq via political, economic, and military methods; two Clinton staffers, Martin Indyk, the Middle East Officer on the National Security Council, and Anthony Lake, a Special Assistant for National Security, are credited with conceiving and developing the policy.¹⁷⁰ This overarching policy towards Iran would prove to be the driving force behind the Clinton administration's strategy aimed at the Iranian nuclear program.

One particular article from 1994 in *Foreign Affairs* does an exceptional job of laying out the policy of dual containment as well as the strategies to be employed against the nuclear program. There, Anthony Lake explains that this policy's purpose was to "counter the hostility of both Baghdad and Tehran" but with "tailored approaches."¹⁷¹ This detailed description on Clinton's approach towards Iran also states that "Iran is actively engaged in clandestine efforts to acquire nuclear and other unconventional

¹⁷⁰ Sabet-Saeidi, Shahriar, "Iranian-European Relations : A Strategic Partnership?" In *Iran's Foreign Policy: From Khatami to Ahmadinejad*, edited by Anoushiravan Ehteshami and Mahjoob Zweiri, 59, Berkshire, UK: Ithaca Press.

¹⁷¹ Lake, Anthony. "Confronting Backlash States." *Foreign Affairs* 73, no. 2 (1994): 49.

weapons” and that because Iran is in such an early stage of nuclear development that the Clinton administration “has an opportunity now to prevent Iran from becoming in five years what Iraq was five years ago.”¹⁷² The strategy by which the Clinton administration coordinated with other governments to halt Iran’s acquisition of technology and materials for their nuclear program was absolutely a key piece of the Clinton strategy against Iran.¹⁷³ This Clinton staffer notes that it is the administration’s goal to convey a consistent message to the Iranians¹⁷⁴ – something that was partially lacking over the previous two administrations, and the Clinton Presidency would provide the clearest policy towards Iran and its nuclear program since the Shah, though it would be quite the opposite of that period. It should be noted, though, that their policy was not designed to rule out productive dialogue with the Iranians, the Clinton administration strongly argued that pressure was necessary to change Iranian behaviors.¹⁷⁵

The Clinton administration made extensive efforts to uphold their policy of dual containment mentioned above. Their efforts took little time to manifest in 1993 as attempts to convince friendly states to halt cooperation with the Iranian nuclear program began. In June of 1993, the U.S. pressured Japan for providing a \$360 million loan to Iran, and then applied pressure on European states to research the status of the Iranian nuclear program.¹⁷⁶ Clinton’s first Secretary of State, Warren Christopher, during

¹⁷² Lake, “Confronting Backlash States,” p. 53.

¹⁷³ Ibid.

¹⁷⁴ Ibid, p. 54.

¹⁷⁵ Ibid.

¹⁷⁶ Nuclear Threat Initiative. “Nuclear Chronology 1993, “ *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1993.html (accessed August 25, 2010).

discussions with the Europeans commented that “Iran must understand that it cannot have normal commercial relations on the one hand while trying to develop weapons of mass destruction on the other,” and it was during this visit that the European foreign ministers agreed to a joint study for economic sanctions against Iran because of their supposed clandestine nuclear program.¹⁷⁷

Later that year in September of 1993, the United States would make another major proposal to tighten Iran’s ability to acquire nuclear technology. During a G-7 summit, Clinton officials requested that export restrictions be eased and a monitoring system directed at dual-use technology be instituted. However, the U.S. officials would only agree to a loosening of restrictions provided that “former socialist states” won’t export to a number of specific states that include Iran.¹⁷⁸ This type of pressure from the Clinton administration would be constant on the Iranian nuclear program over the coming years.

In his second year in office, on November 14, 1994, President Clinton rescinded Bush’s Executive Order (EO) 12735 (Chemical and Biological Weapons Proliferation) and signed Executive Order 12938 (Proliferation of Weapons of Mass Destruction). Certainly meant to encompass nuclear technology which the previous executive order had failed to include, this order “prohibits the export of any services” that “would assist a foreign country in acquiring the capability to develop, produce, stockpile, deliver, or use

¹⁷⁷ Kempster, Norman. “U.S., EC to study sanctions aimed at Iran arms buildup.” *Los Angeles Times*, June 10, 1993: A8.

¹⁷⁸ Nuclear Threat Initiative. “Nuclear Chronology 1993,” *Iran Country Profile*.

weapons of mass destruction.”¹⁷⁹ Though the Executive Order did not cite Iran in name, considering the actions already undertaken by the administration and those to come in the near future, it is highly unlikely that the signing of this document was unrelated to his policy of dual containment against both Iraq and Iran.

Less than a year after signing EO 12938, President Clinton signed Executive Orders 12957 (Prohibiting Certain Transactions With Respect to the Development of Iranian Petroleum Resources) and 12959 (Prohibiting Certain Transactions With Respect to Iran) on March 15 and May 6, 1995 respectively; these EOs represented the first steps to the Iran-Libya Sanctions Act (ILSA) which is today simply known as the Iran Sanctions Act.¹⁸⁰ While the final legislation evolved into one including Libya, the first orders signed by President Clinton was specifically directed at Iran alone. They were the first executive orders of their kind that were drafted with Iran specifically in the crosshairs; previous administrations had not been so precise as to single out Iran for an executive order. These two orders were designed to “deprive Iran of the ability to acquire weapons of mass destruction and to fund terrorist groups by hindering its ability to modernize its key petroleum sector,” and the economic analysis above explained why the maintenance of their petroleum sector is so important.¹⁸¹

Up until the signing of ILSA, one inalienable fact crippled the Clinton administration’s efforts to enforce existing sanctions against other states: by 1995, the

¹⁷⁹ “Executive Order 12938: Proliferation of Weapons of Mass Destruction November 14, 1994.” *The Public Papers of William J. Clinton*. The American Presidency Project. <http://www.presidency.ucsb.edu/ws/index.php?pid=49489> (accessed August 25, 2010).

¹⁸⁰ Katzman, Kenneth. *The Iran-Libya Sanctions Act (ILSA)*. Washington DC: Congressional Research Service, 2006, 1.

¹⁸¹ *Ibid.*

U.S had grown to be Iran's third largest trading partner and the largest purchaser of oil.¹⁸² American efforts to pressure Japan and Europe into agreeing that "U.S. economic isolation or containment of Iran was a good idea was offset by the reality that the U.S. was Iran's premier trading partner."¹⁸³ One specific example highlights the hypocrisy of U.S. sanctions up until this point. In 1995, U.S. oil company Conoco announced that they were signing a \$1 billion contract with Iran in order to develop the Sirri gas field, and under U.S. law it was completely legal at the time.¹⁸⁴ Conoco had made no secret in its dealings while attempting to secure the contract over France's Total; State Department officials had been made aware of its efforts.¹⁸⁵ Iran and specifically President Rafsanjani must have been hopeful that the deal would help to thaw out the relations with the U.S. However the outrage over the deal was unrelenting thus forcing Conoco's parent company, Dupont, to cancel the contract, and a race began between the Republican-led Congress and President Clinton to see who could appear more bullish with Iran the fastest. The Conoco affair thus became the precursor to a more stringent policy of containment and isolation by the Clinton administration and ended the extensive trade relations between the two states.

The signing of the executive orders that followed the Conoco affair represented Clinton's first steps towards stronger sanctions aimed at Iran. Later that year, when Iran began opening their energy sector to foreign investment, Congress, "with input from the

¹⁸² Pollack, *The Persian Puzzle*, p. 271.

¹⁸³ Kemp, Geoffrey. "U.S.-Iranian Strategic Cooperations since 1979." In *Checking Iran's Nuclear Ambitions*, edited by Henry Sokolski and Patrick Clawson, 106. Carlisle Barracks, PA: U.S. Army War College, Strategic Studies Institute, 2004.

¹⁸⁴ Sick, "Rethinking Dual Containment," p. 9.

¹⁸⁵ Ibid.

Clinton administration, developed legislation to sanction such investment.”¹⁸⁶ The legislation represented even more severe sanctions towards Iran than Clinton initially intended as one bill, the Iran Foreign Oil Sanctions Act passed on December 18, 1995, actually placed sanctions on foreign companies investing in Iran’s energy sector, not just American.¹⁸⁷ Regardless of the more stringent terminology and the inclusion of Libya by an amendment to the original bill, President Clinton would sign the bill into law as the ILSA on August 5, 1996. The bill carried a five year term, but stated that Iran could eliminate sanctions if they cease efforts to develop WMD.¹⁸⁸

The ILSA certainly painted a crystal clear message to the Iranian leadership, but the implementation of ILSA by the Clinton administration would prove to be different. Unfortunately, the sanctions against foreign states were viewed as “extraterritorial applications of U.S. law” and aggravated the European Union specifically.¹⁸⁹ The provisions in the ILSA which permitted the President to waive sanctions on the basis of national security interests were used by President Clinton in both 1997 and 1998, and this waiver permitted the French firm Total SA as well as their Russian and Malaysian partners to invest \$2 billion in the Iranian energy sector without the threat of U.S. sanctions.¹⁹⁰ While on the surface this may appear to be an inconsistent application of the dual containment policy, the waivers which were granted to the EU represented a

¹⁸⁶ Katzman, Kenneth. *The Iran-Libya Sanctions Act (ILSA)*. Washington DC: Congressional Research Service, 2006, 2.

¹⁸⁷ Ibid.

¹⁸⁸ Ibid, p. 3.

¹⁸⁹ Ibid.

¹⁹⁰ Ibid.

quid pro quo as the EU agreed to cooperate with the U.S. in efforts aimed at non-proliferation.¹⁹¹ However, the contracts that Iran awarded for development which were not sanctioned by the U.S. provided sufficient enough investment to maintain their oil production at approximately 4 million BPD, and instead of tightening the sanctions as the Clinton administration could have, they relaxed them out of “national security interests.” In private, administration officials conceded that the policy of dual containment was a “defensive strategy” that was “highly unlikely” to alter Iranian behavior.¹⁹² Ultimately, the policy of dual containment lacked “strategic viability” and carried “a high financial and diplomatic cost,” and this policy drove “Iran and Russia together and the United States and its Group of Seven allies apart.”¹⁹³

The 1997 election of President Khatami in Iran represented an opening for a change in the Clinton administration’s actions towards Iran. In a CNN interview with Christiane Amanpour on January 7, 1998, Khatami made his references to a “dialogue of civilizations” and the exchange of “professors, writers, scholars, artists, journalists, and tourists” to break down the “bulky wall of mistrust” between Iran and the U.S.¹⁹⁴ The Clinton administration, as would President Khatami, would take positive steps in an attempt to improve relations, and the previous policy of dual containment would be discarded in favor of a new policy of engagement with Iran.

¹⁹¹ Katzman, *The Iran-Libya Sanctions Act (ILSA)*, p. 3.

¹⁹² Pollack, *The Persian Puzzle*, p. 263.

¹⁹³ Brzezinski, Zbigniew, Brent Scowcroft, and Richard Murphy. “Differentiated Containment.” *Foreign Affairs* 76, no. 3 (1997): 20-21.

¹⁹⁴ Khatami, Mohammad, Interview by Christiane Amanpour. *Interview with Iranian President Mohammad Khatami* (January 7, 1998). <http://www.cnn.com/WORLD/9801/07/iran/interview.html> (accessed August 26, 2010).

With the election of Khatami, Clinton's new engagement policy would slightly ease the sanctions against Iran by permitting U.S. exports of items such as food and medical supplies and the import of Iranian goods such as carpets and caviar to the U.S.¹⁹⁵ The fact that Clinton did not pressure France, Russia, or Malaysia over the \$2 billion investment in Iran's energy sector mentioned earlier is further evidence that Clinton was not eager to sanction Iran. Clinton would also direct State Department officials to attend conferences where Iranian officials were expected to encourage dialogue on a variety of issues. The gestures of goodwill from the Clinton administration went as high as Secretary of State Albright and the President himself.

In 1998, Madeleine Albright spoke at the Asia Society calling for a "road map to better relations," and prior to a World Cup game between the U.S. and Iran, President Clinton stated, "as we cheer today's game between American and Iranian athletes, I hope it can be another step towards ending the strains between our nations."¹⁹⁶ In 1999, Clinton even sent a handwritten letter to President Khatami requesting assistance in solving the Khobar Towers bombing; it was delivered by Martin Indyk to be carried to the Iranian President by Omani Foreign Minister Yousef Bin Alawi.¹⁹⁷ Unfortunately the letter was met with no response from the Iranian President, who without visible concessions from the U.S., could not afford to be seen as supporting the Great Satan. However, despite the positive overtures, the Clinton administration continued to coordinate with allies to prevent transfers of sensitive technology.

¹⁹⁵ Katzman, Kenneth. *Iran: Current Developments and U.S. Policy*. Washington DC: Congressional Research Service, 2002, 1.

¹⁹⁶ Kemp, "U.S.-Iranian Strategic Cooperations since 1979," p. 107.

¹⁹⁷ Slavin, *Bitter Friends, Bosom Enemies: Iran, the U.S. and the Twisted Path to Confrontation*, p. 189.

Other than the sanctions and the commitment to convince other states to work with the U.S. on nonproliferation to Iran, the Clinton administration's policies of dual containment and engagement employed very few effective strategies. One of these strategies was the \$18 million CIA covert action program; this program publicly announced the U.S. intentions to change Tehran's behavior.¹⁹⁸ Unfortunately for Clinton, it did not achieve the desired result of moderating Iranian behavior, and tensions with Iran grew more confrontational in nature.¹⁹⁹ Military threats against Iran for their confrontational and aggressive actions, such as the widely held belief by experts such as Ray Takeyh and Kenneth Pollack that Iran sponsored the 1996 Khobar Towers bombing in Saudi Arabia,²⁰⁰ were nonexistent.

In reality, there was no substance or teeth to the Clinton administration's efforts to stem the tide of Iranian nuclear development, and it showed. A review of the 1995-2000 period just prior to and after the implementation of ILSA on the Nuclear Threat Initiative website reveals reporting of extensive support to the Iranian nuclear program from states including Russia, China, South Africa, Austria, and the Ukraine.²⁰¹ In January of 1995, Russia signed an \$800 million contract with Iran to complete the construction of the Bushehr NPP with the first unit being completed within four years, and just a month later China would go on record defending their right to sell peaceful nuclear technology to Iran

¹⁹⁸ Pollack, *The Persian Puzzle*, p. 276.

¹⁹⁹ Ibid.

²⁰⁰ Pollack, Kenneth and Ray Takeyh. "Taking on Tehran." *Foreign Affairs*, 84, no. 2 (2005): 20.

²⁰¹ Nuclear Threat Initiative. "Nuclear Chronology 1998," *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1998.html (accessed August 26, 2010).

in accordance with IAEA regulations.²⁰² Both of these deals were subjected to intense pressures from the Clinton administration, but Russia and China continually insisted that the agreements were in accordance with the IAEA and international law so they would proceed.

However, in January of 1996, China announced their plan to sell two reactors to Iran was cancelled, but that they would continue nuclear cooperation with Iran to include assistance in mining for uranium in Yazd.²⁰³ Additionally, in 1996, Russia would continue their support as their contract on the Bushehr construction went into effect giving them 55 months to complete the job.²⁰⁴ Later in 1996, China would again assert its intentions to sell a UF₆ plant to Iran over U.S. objections, but again Clinton would pressure China to halt the deal.²⁰⁵

U.S. pressure on China appeared to be working, possibly because of its desire for acceptance into the World Trade Organization and more importantly for the signing of the 1985 bilateral agreement on peaceful nuclear cooperation that would allow peaceful nuclear technology to be shipped to China.²⁰⁶ However, pressure was having no impact on Russian support to the Iranian nuclear program. Russia would support Iran through its

²⁰² Nuclear Threat Initiative. "Nuclear Chronology 1995," *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1995.html (accessed October 1, 2010).

²⁰³ Nuclear Threat Initiative. "Nuclear Chronology 1996," *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1996.html (accessed October 1, 2010).

²⁰⁴ Ibid.

²⁰⁵ Ibid.

²⁰⁶ Ibid.

continued construction of the Bushehr plant along with signing additional agreements for safety and uranium mining in the summer of 1997.²⁰⁷

The year 1997 would see companies from more states step up to support the Iranian nuclear program possibly due to the election of a more moderate President Khatami. For example, an Austrian company provided material support in the form of a cyclotron which is used to enrich uranium at Iran's nuclear research center in Karaj in violation of EU sanctions of Iran.²⁰⁸ After an August 1997 IAEA inspection in Iran found no evidence of secret nuclear activity at two nuclear reactors in Iran,²⁰⁹ the years 1998 to 2000 under the Clinton administration would see additional advancements in the Iranian program. During this time period, Russia would make plans to build a research reactor for Iran, and Iran would produce more purified plutonium that had been removed from the Tehran Nuclear Research Center (TNRC).²¹⁰ Iran would begin conducting centrifuge tests at the Kalaye Electric Company and enrich U235 to 1.2%, and the designs for uranium conversion facility in Esfahan.²¹¹

So it was during the Clinton administration that Iran began to really progress its nuclear program. Russia was building facilities, agreements were being signed with Russia and China, and scientists were being trained in both Russia and China. While all

²⁰⁷ Nuclear Threat Initiative. "Nuclear Chronology 1996," *Iran Country Profile*.

²⁰⁸ Nuclear Threat Initiative. "Nuclear Chronology 1997," *Iran Country Profile*.
http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_1997.html (accessed October 1, 2010).

²⁰⁹ Fudan University International. *FDUIMUN 2010 Committee Update*. Shanghai, China: Fudan University Press, 2010, 20.

²¹⁰ Ibid.

²¹¹ Ibid, p. 21.

of these examples of progress and support to their nuclear program are small individually, collectively, I argue, they were enormous in giving Iran something to build upon.

Dual containment failed in its objectives because the Clinton administration did not have the support of the Europeans and Japan who disagreed with the U.S. in the case of Iran primarily because of the lack of hard evidence on nuclear weapons.²¹² And the policy of engagement pursued during the second Clinton term achieved little either in terms of the Iranian nuclear program or in overall diplomatic relations. While Clinton sought containment initially, the fact that U.S. trade with Iran was soaring sent the wrong message, and when Iran showed some positive behavior towards the U.S. by offering the lucrative Conoco deal to an American company, Iran was subjected to increased sanctions rather than rewarded. Then after passing these sanctions, Clinton attempted to reconcile with an Iran as he pressured other states to not deal with Iran economically or in the nuclear field. When Iran understandably was unresponsive to the overtures by the Clinton team, Clinton responded with the CIA program in an effort to force them to change their behavior. The inconsistency in Clinton's partially effective policies and strategies only put Iran on the fast track to seeking entry into the nuclear club.

Just months after Clinton left office Iranian Supreme Leader Khamene'i squashed talk of reconciliation with the U.S. when he threatened Majles officials who called for a normalization of relations with the United States.²¹³ Shortly after this October 31, 2001 statement by the Iranian Supreme Leader, President George W. Bush would completely alter relations between Iran and the United States for the better part of

²¹² Kibaroglu, "Iran's Nuclear Ambitions," p. 237.

²¹³ Katzman, Iran: Current Developments and U.S. Policy, p. 8.

the next decade. There would be little mistaking the younger President Bush's policy with those of his predecessor, President Clinton.

President George W. Bush and the Axis of Evil

The administration of George W. Bush would bring about another shift in policy towards Iran. However, policy in Bush's first term was much less clear than the policies of his predecessor. Early on, Bush 43 strained to devise a "coherent strategy toward Iran, and seemed to lurch between calling for regime change and demanding that Iran assist the U.S. in its military actions" in Afghanistan.²¹⁴ With this difficulty in resolving the path forward, the policy tilted towards containment, isolation, and denial of nuclear technology. There was a distinct stalemate in the Bush cabinet over the direction of Iran policy, but because the Clinton administration was rebuffed by Iran in earlier efforts to restart relations, the Bush policy was galvanized and prevented any major initiative towards building relations with Iran. Throughout Bush's terms in office, the President would utilize a variety of strategies to support his policies; these would include sanctions, political rhetoric and pressure, military threats, support to topple the Iranian regime, and very little dialogue. He often referred to it by saying that "all options are on the table."

To understand how torn the Bush administration was over Iranian policy, we must look at the ILSA, which came up for renewal in August of 2001. As mentioned above, ILSA traditionally ran for five years before requiring a renewal. With the differing opinions in the White House, a position was taken to only extend ILSA for two years as opposed to five, but in the end Congress overrode Bush and voted for another five

²¹⁴ Slavin, *Bitter Friends, Bosom Enemies: Iran, the U.S. and the Twisted Path to Confrontation*, p. 194.

years.²¹⁵ Additionally, during 2001 the Bush administration would continue the Clinton administration's efforts to simply convince other states not to cooperate with Iran economically or in the development of their nuclear program. The Bush administration also continued the six plus two talks on Afghanistan that included Iran. However, what would happen over the next year began to cement a policy of isolation and denial towards the Iranians and their nuclear program.

One incident that would begin to shift the Bush administration's policy from Clinton's engagement towards isolation and denial was the Israeli capture of the *Karine A* vessel on January 3, 2002. This ship was loaded with weapons and munitions and reportedly bound for the Palestinians; the shipment violated signed accords between the Palestinian Authority and Israel. The major problems for Iran, though, were the facts that the ship originated from Iran and that the weapons were manufactured in Iran as they were still in their factory crates and wrappings.²¹⁶ While some experts argued that it was possibly carried out as an unauthorized smuggling operation by the Revolutionary Guards without the consent of the highest levels in the Iranian government,²¹⁷ that argument was not considered by the Bush administration. Shortly after the *Karine A* incident came the Axis of Evil speech delivered by President Bush in his 2002 State of the Union address which lumped Iran into the company of Iraq and North Korea. The impact that this type of statement made by President Bush, Secretary of Defense Rumsfeld, and other key officials was unmistakable and understandable. Iran began to view itself as a target of the

²¹⁵ Pollack, *The Persian Puzzle*, p. 344.

²¹⁶ Ibid, p. 351.

²¹⁷ Bahgat, Gawdat. "Iran, the United States, and the War on Terrorism." *Studies in Conflict and Terrorism* 26, no. 1(2003): 99.

United States, and “it is precisely this perception that is driving its accelerated nuclear program.”²¹⁸

The year 2003 would usher in the era of the Bush doctrine whereby the U.S. would utilize “preemptive force as a tool of counterproliferation” which was demonstrated against the Saddam Hussein regime.²¹⁹ The ground offensive of the 2003 Iraq War which was prosecuted based upon the belief that Saddam was pursuing WMD was over within weeks, and it put the Iranians on notice of how the Bush administration would pursue its foes. And while the Iranians understood the Iraqi chemical weapons posed little deterrent to U.S. forces, they did note of how the U.S. has handled a now nuclear capable North Korea over the years.²²⁰ The Iranians responded with what has been termed the “Grand Bargain” which placed “all the issues of major importance to the two sides” on the table to include the Iranian nuclear program, but according to Bush administration officials, it received little attention.²²¹ Once Bush had completed the deposing of Saddam in Iraq, he turned his attention and rhetoric towards Iran and their nuclear program, and his policy of denying nuclear technology and isolating Iran from the international community began to take shape much more clearly.

In June of 2003, shortly after the invasion of Iraq, President Bush would state that in regards to Iran “we will not tolerate the construction of a nuclear weapon. Iran would be dangerous if they have a nuclear weapon. I brought this up at the G-8.....we must all

²¹⁸ Takeyh, Ray. “Iran’s Nuclear Calculations.” *World Policy Journal* 20, no. 2 (2003): 23.

²¹⁹ Ibid, p. 22.

²²⁰ Ibid, p. 24.

²²¹ Slavin, Bitter *Friends, Bosom Enemies: Iran, the U.S. and the Twisted Path to Confrontation*, p. 205,

work together to prevent Iran from developing a nuclear weapon.”²²² Merely a week after this statement, Bush would state that in regards to Iranian inspection compliance that “Iran must comply. The free world expects Iran to comply. Just leave it at that.”²²³ Additionally, in June and July, Bush would begin imposing more sanctions on firms dealing with Iran and their nuclear program; Chinese and North Korean businesses were singled out by the administration for their support to Iran.²²⁴

The revelations in 2002 of previously undisclosed facilities at Natanz and Arak only gave the U.S. officials more ammunition to tell their European counterparts who resisted sanctioning under the Clinton administration “we told you so.” It was this discovery that truly prompted the Bush administration’s efforts to halt progress on the Iranian nuclear program. This discovery by the U.S., which was originally reported by the Iranian dissident group National Council of Resistance, a group aligned with the Iranian labeled terrorist group Mujahidin-e Khaliq (MeK), would lead to the IAEA to begin rigorous inspections of all the facilities reported. The resulting inspections by the IAEA would culminate in an ultimatum issued to Iran on September 12, 2003 calling for

²²² Bush, George W. “Remarks Prior to a Meeting with Congressional Leaders and an Exchange with Reporters June 18, 2003.” *Government Printing Office*. George W. Bush Presidential Library. http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?position=all&page=653&dbname=2003_public_papers_vol1_misc (accessed August 28, 2010).

²²³ “The President’s New Conference with European Union Leaders June 25, 2003.” *Government Printing Office*. George W. Bush Presidential Library. http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?position=all&page=692&dbname=2003_public_papers_vol1_misc (accessed August 28, 2010).

²²⁴ Nuclear Threat Initiative. “Nuclear Chronology 2003,” *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_2003.html (accessed August 28, 2010).

Iran to “provide all the details of her nuclear program” which was widely believed to have stemmed from pressure from the Bush administration.²²⁵

While the Bush administration was leaving the task of negotiating with the Iranians to the EU-3, President Bush and his administration would continue to put pressure on allies not to support the Iranian nuclear program. One State Department official who would later become the U.S. Ambassador to the United Nations, John Bolton, would claim that the IAEA’s “Additional Protocol should be a new minimal standard for countries to demonstrate their nonproliferation bona fides” and that Iran had no need for nuclear energy.²²⁶ The Sa’d Abaad agreement which was discussed earlier that the EU-3 achieved in gaining Iran’s signature to the Additional Protocol and suspending uranium enrichment activities did play “into the hands of the U.S. as it kept Iran under pressure....that at least caused delays in its nuclear projects.”²²⁷ Additionally, after the Iranian agreement to the Additional Protocol, U.S. Deputy Secretary of State Richard Armitage stated that, “We are prepared to engage in limited discussions with the government of Iran about areas of mutual interest as appropriate.”²²⁸ So while the Bush administration and the EU-3 seemed to be using somewhat of a carrot and stick approach, there seemed to be very little to the carrot as nothing was offered up front to the Iranians such as an easing of sanctions or unfreezing of Iranian assets. While the Sa’d Abaad agreement demonstrated to the international community that Iran was prepared to

²²⁵ Sahimi, “Iran’s Nuclear Program. Part III: The Emerging Crisis.”

²²⁶ Peterson, Scott. “A push for candor on Iran nukes.” *The Christian Science Monitor*. September 19, 2003. [http://www.csmonitor.com/2003/0919/p01s02-wome.html/\(page\)/2](http://www.csmonitor.com/2003/0919/p01s02-wome.html/(page)/2) (accessed August 28, 2010).

²²⁷ Kibaroglu, “Iran’s Nuclear Ambitions,” p. 238.

²²⁸ Kessler, Glenn. “U.S. Ready to Resume Talks With Iran, Armitage Says.” *Washington Post*, October 29, 2003: A21.

cooperate in regards to its nuclear program by voluntarily suspending their right to peaceful uranium and enrichment activity, Iran's primary gain was a delay of a serious confrontation with the West.²²⁹

Despite the offer of dialogue with the Iranians, the Bush administration would continue their policy of isolation and denial towards Iran. In November of 2003, Secretary of State Colin Powell would meet with EU members to persuade them to declare Iran in violation of the NPT at the upcoming IAEA meeting despite a November 12, 2003 IAEA report that showed no evidence of a secret nuclear program.²³⁰ In April of 2004, President Bush would again signal the pressure being exerted on allies to condemn Iran when he stated that, "One of my jobs is to make sure they (the Europeans) speak as plainly as possible to the Iranians and make it absolutely clear that the development of a nuclear weapon in Iran is intolerable, and a program is intolerable."²³¹ This last statement represented a bolder step towards denial of nuclear technology as one sees that Bush separates the terms "nuclear weapons" and "program" with both being intolerable. Later in 2004, President Bush would again convey his policy and strategy by stating about Iran that, "they've got a nuclear weapons program that they need to dismantle. We're working with other countries to encourage them to do so."²³² President

²²⁹ Sahimi, "Iran's Nuclear Energy Program, Part VI."

²³⁰ Nuclear Threat Initiative. "Nuclear Chronology 2003," *Iran Country Profile*.

²³¹ "Remarks and a Question-and-Answer Session at the Newspaper Association of America Convention April 21, 2004." *Government Printing Office*. George W. Bush Presidential Library. http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?position=all&page=645&dbname=2004_public_papers_vol1_misc (accessed August 28, 2010).

²³² "Remarks Following Discussions with President Ricardo Lagos of Chile and an Exchange with Reporters July 19, 2004." *Government Printing Office*. George W. Bush Presidential Library. <http://frwebgate.access.gpo.gov/cgi->

Bush and his administration often demonstrated their disregard for IAEA reports and Iran's rights under the NPT and continued to pressure the Iranians to essentially rollback their nuclear program.

The election of Iranian President Ahmadinejad would chart an even tougher course against the Iranian nuclear program for the remaining three plus years of the Bush presidency; President Ahmadinejad would call an end to the suspension of the uranium enrichment agreed to in the Sa'd Abaad Agreement and resume the nuclear program's activities as a result of the lack of progress of meetings with the EU-3 discussed earlier. Soon after the election of President Ahmadinejad, Bush would echo his previous statements above by saying in June 2005 that "the development of a nuclear weapon is unacceptable, and a process which would enable Iran to develop a nuclear weapon is unacceptable."²³³ This policy of denial of nuclear technology just as he stated in 2004 is in contravention with the nature of the Non-Proliferation Treaty which states in Article IV that "All the Parties to the Treaty undertake to facilitate, and have the right to participate in the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy."²³⁴ Just one day after President Bush's statement above, he would sign Executive Order 13382 (Blocking Property of Weapons of Mass Destruction Proliferators and Their Supporters) which

[bin/getpage.cgi?position=all&page=1365&dbname=2004_public_papers_vol2_misc](http://www.gpo.gov/cgi-bin/getpage.cgi?position=all&page=1365&dbname=2004_public_papers_vol2_misc) (accessed August 28, 2010).

²³³ "Remarks Following Discussions With Chancellor Gerhard Schroeder of Germany and an Exchange With Reporters June 27, 2005." *Government Printing Office*. George W. Bush Presidential Library. http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?position=all&page=1070&dbname=2005_public_papers_vol1_misc (accessed August 28, 2010).

²³⁴ International Atomic Energy Agency. "Treaty on the Non-Proliferation of Nuclear Weapons." *IAEA*. April 22, 1970. <http://www.iaea.org/Publications/Documents/Infcirc/Others/infirc140.pdf> (accessed August 28, 2010).

froze the U.S. assets of organizations supporting the Iranian nuclear program, to include the AEOI.²³⁵

While the President was pursuing his policies of isolation and denial via sanctions and political pressure up until now, there was no overt evidence of support to regime change. However, in 2005, the Iran Freedom Support Act (H.R. 6198) was to be drafted by Congress. It would take until September of 2006, but President Bush would sign it into law authorizing himself the ability to “provide financial and political assistance (including the award of grants) to foreign and domestic individuals, organizations, and entities working for the purpose of supporting and promoting democracy for Iran.”²³⁶ The law would give President Bush another tool in his foreign policy bag to wield against the Iranians. And after Ahmadinejad and the Iranians refused “a number of economic and diplomatic carrots on the table in order to induce Iran to negotiate” the Bush administration “was able to win limited economic and weapons related sanctions against Iran from the UN Security Council in December 2006.”²³⁷

As Iran refused to comply with the UNSC’s December 2006 ultimatum to halt their nuclear activities to include uranium enrichment activities, the Bush administration capitalized on this opportunity to ratchet up the pressure to isolate the Iranian regime to deny nuclear related and dual use technology in 2007. Prior to this, on April 28, 2006, President Bush had made a statement that caught the eye of many; he said that, “The

²³⁵ Nuclear Threat Initiative. “Nuclear Chronology 2005,” *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_2005.html (accessed August 28, 2010).

²³⁶ Source Watch. *Iran Freedom Support Act*. September 30, 2006. http://www.sourcewatch.org/index.php?title=Iran_Freedom_Support_Act (accessed August 28, 2010).

²³⁷ Takeyh, Ray and Colin Dueck. “Iran’s Nuclear Challenge.” *Political Science Quarterly* 122, no. 2 (2007): 201.

Iranians should not have a nuclear weapons, the capacity to make a nuclear weapon, or the knowledge as to how to make a nuclear weapon.”²³⁸ President Bush would repeat this statement throughout 2007 amplifying the efforts to deny any and all parts of a nuclear program, but the statement in and of itself is absurd. How can we prevent Iran from having “the knowledge” of how to make nuclear weapons?

As a result of Iran’s continued refusal to cooperate with the UNSC resolution, Bush succeeded in passing more sanctions in October of 2007; these sanctions targeted Iranian financial and military institutions.²³⁹ A couple of months later in December of 2007, a National Intelligence Assessment (NIE) was released that assessed “that Iran stopped its weapons program in 2003 and that its declared enrichment program cannot be converted as easily or quickly as assumed for use in a military program.”²⁴⁰ Regardless of this report, Bush administration officials, continued their demonizing rhetoric to isolate Ahmadinejad who continued defying a UN mandate to suspend uranium enrichment. A statement by Defense Secretary Robert Gates continued the calls for Iranian isolation and denial by saying that, “The international community must continue – and intensify – our economic, financial, and diplomatic pressures on Iran to suspend enrichment.”²⁴¹

²³⁸ Sanger, David E. and Elaine Sciolino. “Iran Strategy: Cold War echo.” *New York Times*, April 30, 2006.

²³⁹ Nuclear Threat Initiative. “Nuclear Chronology 2007, “ *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_2007.html (accessed August 28, 2010).

²⁴⁰ Farhi, Farideh. “The U.S. and Iran After the NIE.” *MIT Center for International Studies*, December 2007: 1.

²⁴¹ Gates, Robert M. “Manama Dialogue.” December 8, 2007. <http://www.defense.gov/speeches/speech.aspx?speechid=1201> (accessed August 28, 2010).

Bush's final year in office would see the continuance of the previous year's strategies. Beginning with his first radio address of the new year he would state that during an upcoming trip to the Middle East he would "discuss the importance of countering the aggressive ambitions of Iran."²⁴² Slightly more than a month later Bush would tout the acquisition of a mysterious laptop that proved Iranian intentions for a nuclear weapons program. The Bush administration would again petition the UNSC to approve another round of sanctions against Iran, and on March 3, 2008, the UNSC would approve this third round of sanctions directed at more dual use goods bound for Iran.²⁴³ Despite opportunities between the U.S., EU, and Iran to open up talks on the nuclear program, President Bush and his officials insist on their "poison pill offer of talks only on the condition that Iran stop its nuclear enrichment activities first."²⁴⁴ Obviously this supposed carrot and stick approach did not present the Iranians with a large enough carrot; had the offer of talks been granted without the precondition of suspension, there would've likely been an impasse.

Bush officials were just not interested in granting concessions during their tenure, and during the remainder of 2008 his administration would work in concert with the EU to target more Iranian organizations and businesses for sanctions. These additional sanctions would include the Iranian maritime, agricultural, and medical industries accused of serving as fronts for the Iranian nuclear program, and inspections of ships and airplanes enroute to Iran would also be increased. Even major Russian arms exporter

²⁴² "The President's Radio Address January 5, 2008." *The Public Papers of George W. Bush*. The American Presidency Project. <http://www.presidency.ucsb.edu/ws/index.php?pid=76256> (accessed August 28, 2010).

²⁴³ Nuclear Threat Initiative. "Nuclear Chronology 2008," *Iran Country Profile*. http://www.nti.org/e_research/profiles/Iran/Nuclear/chronology_2008.html (accessed August 28, 2010).

²⁴⁴ Farhi, "The U.S. and Iran After the NIE," p. 3.

Rosoboronesport would fall victim to sanctions by the United States for dealings with the Iranian nuclear program.²⁴⁵ And in October of 2008, another Bush ally, Australia, would be convinced by the U.S. to enact its own sanctions against Iran.²⁴⁶

After eight years of the Bush administration's targeting of Iran, the attempts at isolation were growing stronger, but their nuclear program was not slowing. Bush's policies of denial and isolation against the Iranians appear to have had no impact on the progress of the Iranian nuclear program as the previous history section shows. Another look back at Figure 1 shows that from 2007 to the Obama inauguration in 2009, Iran went from no operating centrifuges to nearly 4,000; this is certainly indicative of Bush's ineffective policies towards Iran and its nuclear program. His "tendency to utter ineffectual threats, or draw redlines, which it could not enforce, or threaten to implement sanctions in the Security Council," which were watered down, was further crippled by the dramatic rise in oil prices between 2005 and 2008 that provided much more revenues to Iran.²⁴⁷

Bush's policies from 2005 forward were countered at every turn by Iran's President Ahmadinejad. Iran was no longer in the weak position in 2005 as opposed to the year 2003 when the Sa'd Abaad Agreement was signed and the Grand Bargain was offered to the U.S. Ahmadinejad's strategy capitalized on U.S. weakness in the region and Iran's strengths. As discussed earlier, Ahmadinejad took advantage of not just the growing insurgency in Iraq that was seeing increased U.S. casualties, but he also took

²⁴⁵ Nuclear Threat Initiative. "Nuclear Chronology 2008," *Iran Country Profile*.

²⁴⁶ Ibid.

²⁴⁷ Chubin, Shahram. "The Iranian Nuclear Riddle after June 12." *The Washington Quarterly* 33, no. 1 (2010): 167.

advantage of the United States' decreased moral position in the world and in the Middle East. The U.S. had backed away from the Arab-Israeli conflict so much that Hamas was elected into the Palestinian parliament in January of 2006 which damaged their position in the region, and with no weapons of mass destruction discovered in Iraq and the Abu Ghareb abuses making headlines, world opinion of the U.S was on the decline. More importantly the nuclear program and his conflict with the West served as a "means to a domestic political end" for Ahmadinejad.²⁴⁸ His strategy was to boost his political position in Iran by "championing himself as a latter-day – more devout – Mossadeq, a champion of Iran's national interests in the face of extraordinary odds."²⁴⁹

Ahmadinejad halted the cooperation agreed upon in the Sa'd Abaad Agreement of 2003, and Iran has continued its nuclear activity ever since citing their rights under the NPT to a peaceful nuclear program. However when Iran was referred to the UNSC, Ahmadinejad demonstrated that he "did not care"; he strongly believed that the EU-3 and the IAEA were unjust processes because they were being strong armed by the U.S.²⁵⁰ As a result of this belief, Iran and Ahmadinejad looked to China and Russia to protect Iran from serious sanctions by the UN.

One other key belief underlying Ahmadinejad's policy is that U.S. power has been in a decline, and U.S. involvement in Iraq was the perfect example. Ahmadinejad capitalized on the Abu Ghareb scandal to show how the U.S. was morally bankrupt, and unfortunately for Bush, the Iraqi invasion had the opposite effect on Iran that he desired

²⁴⁸ Ansari, Ali M. "Chapter Three: The Ahmadinejad Presidency: Image and Foreign Policy." *Adelphi Papers* 47, no. 393 (2007): 50.

²⁴⁹ Ibid.

²⁵⁰ Ibid, p. 56.

as the moral corruptness of a U.S. occupied Iraq discouraged the Iranians from a democratic revolution.²⁵¹ Ahmadinejad's election also gave Iranian sponsored militias in Iraq such as the Badr Corps a freer hand to create mischief and cause problems for U.S. forces; keeping the U.S. troops bogged down in a conflict in Iran meant that Bush would be less likely to look for a military conflict with Iran. Additionally, keeping U.S. troops embroiled in a conflict in which casualties rose sharply in 2006 and generated a 2007 troop surge made the U.S. public war weary. This meant that Ahmadinejad would be more likely to have a greater percentage of the U.S. public opposed to any conflict in Iran.

President Bush certainly had a difficult time with the radical Ahmadinejad. His harsh rhetoric since the Bush administration has not stopped, and the Obama administration would have the difficult task of finding a way to coax the Iranian leader to the negotiating table. The election of President Barack Obama would represent another shift in U.S. policy toward Iran, but how would it impact the Iranian nuclear program?

Obama's Twenty Months

The election of President Obama in 2008 brought about more talk of change in the approach to Iran from both sides of the argument. After Obama's election victory and in the two months leading up to his inauguration, there appeared to be an opening for renewed diplomacy between the two sides. A close look at President Obama and his administration's actions yields some significant differences from his predecessor's often inconsistent and ill-fated attempts to undermine the Iranian nuclear program.

²⁵¹ Ansari, "Chapter Three: The Ahmadinejad Presidency: Image and Foreign Policy," p. 61.

On January 26, 2009, just days after his inauguration, President Obama stated in an interview with the Al-Arabiya TV network that “if countries like Iran are willing to unclench their fist, they will find an extended hand from us.”²⁵² Yet on that same day his UN Ambassador Susan Rice trumpeted the requirement of suspended enrichment activity before talks could resume between the U.S. and Iran; it is doubtful that this indicated an “extended hand” to Iran. On March 20, 2009, the Persian New Year, President Obama sent his regards to the Iranians by offering the “promise of a new beginning...grounded in mutual respect.”²⁵³ The two statements issued by President Obama himself are certainly indicative of what some referred to as his “Iranian charm offensive,” and they were two of many that came directly from President Obama and were intended for Iranian consumption.

One of the starkest differences between the Obama administration and Bush 43 was President Obama’s concerted efforts to restore the U.S. position as the moral authority in the world. The debacle of Abu Ghareb, lack of WMD being found in Iraq, Guantanamo Bay’s detention facility, and other factors had eroded America’s moral position in the world. Obama immediately sought to correct this, and though his speeches in Cairo and around the world may have accomplished this to some extent, his position at home was criticized by some who felt it displayed America as weak rather than strong. However Obama believed engagement was the best policy for Iran.

Within the first year of Obama’s Presidency he succeeded in getting Iran to the negotiating table over the nuclear program after an Iranian request to the IAEA to provide

²⁵² Obama, Barack H, interview by Hisham Melhem. Washington D.C. (January 26, 2009).

²⁵³ Cable News Network. *Obama offers Iran “the promise of a new beginning.”* March 20, 2009. <http://www.cnn.com/2009/WORLD/meast/03/20/obama.iran.video/> (accessed August 30, 2010).

more fuel for the Tehran Research Reactor (TRR), now primarily used for medical purposes. In early October 2009, senior officials from the U.S., Iran, and the other states from the P5+1 (UK, France, Russia, China, and Germany) met in Geneva for discussions where Iran tentatively agreed to a U.S. proposal to swap Iranian LEU for replacement fuel for the TRR.²⁵⁴ The deal involved multiple countries with Russia enriching the uranium to the necessary level, 19.75%, and France fashioning the Russian enriched LEU into fuel rods to be used for medical radioisotopes.²⁵⁵ The deal presented Iran with a golden opportunity to demonstrate that their program was legitimate, and Obama went to the UN Security Council to request amendments to resolutions that forbade this export of Iranian LEU.²⁵⁶ However, three weeks later, Iran reneged on the conditions of the deal and refused to transfer the requested amount of LEU to Russia; Iran countered with a request to receive the fuel rods before giving up their uranium and also refused to part with the whole 1,200kg that was requested to be transferred to Russia.²⁵⁷ On January 2, 2010, Ahmadinejad would give the U.S. and the West one month to reply to Iran's counter-offer; in the event of no response, he stated that Iran would enrich the uranium to the necessary levels themselves which they began on February 9, 2010 at the Natanz pilot fuel-enrichment plant.²⁵⁸

As a result of Iran's new enrichment activity which violated the IAEA safeguards agreement, the new IAEA Director-General Yukiya Amano would issue a report claiming

²⁵⁴ Fitzpatrick, Mark. "Iran: The Fragile Promise of the Fuel-Swap Plan." *Survival* 52, no. 3 (2010): 67.

²⁵⁵ Ibid, p. 69.

²⁵⁶ Ibid, p. 70.

²⁵⁷ Ibid, p. 73.

²⁵⁸ Ibid, p. 76-7.

that Iran was not sufficiently cooperating and that Iranian activities raised “concern about the possible existence in Iran of past or current undisclosed activities related to the development of a nuclear payload for a missile.”²⁵⁹ Obama’s initial foray into engaging Iran while appearing to be a failure to some demonstrated to the world that the U.S. was in fact prepared to negotiate with Iran. But this time it was Iran who backed away from the table; this incident would give the U.S. a degree of justification to seek sanctions later.

Obama’s friendly overtures to Iran and President Ahmadinejad over the nuclear program ultimately achieved nothing in its effort to slow the program; the end result of the Obama administration’s efforts to engage has been no more promising than his predecessors. The argument could be made that Ahmadinejad viewed Obama’s overtures as a victory, and therefore there has been no need for him to turn away from his strategy of defiance and confronting the West. But some experts, Shahram Chubin included, contend that Obama’s offer to engage Iran without preconditions regarding the nuclear program have limited the Ahmadinejad regime’s ability to “portray the United States as a bogeyman bent on destabilizing the regime.”²⁶⁰ The first President of the Islamic Republic of Iran, Abolhassan Bani-Sadr, states that, “Obama’s non-confrontational policy withdrew this gift (referring to the Bush administration’s confrontational stance toward Iran) and created the political space for Iranians to oppose the regime.”²⁶¹ Despite

²⁵⁹ International Atomic Energy Agency. “GOV/2010/10.” 2010, 9.

²⁶⁰Chubin, Shahram, Alireza Nader, Jerrold D Green, David E Thaler, Charlotte Lynch, and Frederic Wehrey. *Mullahs, Guards, and Bonyads: An Exploration of Iranian Leadership Dynamics*. Washington, D.C.: National Defense Research Institute, 2010: 11.

²⁶¹ Bani-Sadr, Abolhassan. “Iran on the Edge: Sanctions Will Only Bolster Iranian Regime.” *New Perspectives Quarterly* 27, no. 2 (2010): 35.

Obama's efforts, Iran has refused to cooperate at the negotiating table; President Obama, in a statement in March 2010 marking Nowruz, the Persian New Year, stated that Iran's leaders greeted his "extended hand" with a "clenched fist."²⁶²

With Iran again rebuffing Obama's continued attempts at dialogue and disregarding UN Security Council Resolutions (UNSCR), unfortunately, Obama began to turn back to George W. Bush's strategies of increasing sanctions which have been historically ineffective. In May 2010, Obama's democratic led Congress was in the final stages of reconciling both the Iran Refined Petroleum Sanctions Act and the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2009 targeting Iran's importation of gasoline, and the bills were quickly touted as effective when several companies withdrew their business deals with Iran.²⁶³ In addition to the U.S. sanctions, the Obama administration also tabled more sanctions at the UN aimed at Iran, and in June of 2010, UNSCR 1929 was passed. This resolution prohibits Iran from acquiring interests in "uranium mining, production or use of nuclear materials and technology...in particular uranium enrichment and reprocessing activities, all heavy water activities or technology related to ballistic missiles," and it also directs that states shall prevent supplying Iran with a multitude of conventional weapons systems.²⁶⁴

However, it is because of past sanctions that Iran has been planning for the onset of more severe sanctions; over the past few years Iran has reduced its foreign imports of

²⁶² Nicoll, A. and J. Delaney. "U.S. presses ahead with Iran Sanctions." *Strategic Comments* 16, no. 4 (2010): 3.

²⁶³ Ibid, p. 1-2.

²⁶⁴ United Nations Security Council. "Resolution 1929 (2010)." *United Nations*. June 9, 2010. <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N10/396/79/PDF/N1039679.pdf?OpenElement> (accessed October 2, 2010).

refined oil from 40% to 30% of its domestic fuel consumption requirements.²⁶⁵ Iran began a rationing program for gasoline that, according to Farid Ameri, head of the Iranian state petroleum distribution company, has reduced gasoline imports from 5.8 to 4.7 million gallons per day since January.²⁶⁶ Also important is the fact that Ahmadinejad has used the threat of sanctions to pass reforms to the state's massive domestic subsidy programs; fortunately for him the sanctions will make it easier for him to remove the subsidies and blame the U.S. and the West for higher prices on goods to include gasoline which will rally Iranians around the regime with America again being the bogeyman.²⁶⁷ It is this notion of Iran against the world that maintains the Ahmadinejad regime in power; it solidifies Persian nationalism against opponents of Iran's independence, the one element of the Iranian constitution that the leadership can cling to. Increased sanctions from the U.S. and the United Nations will not only be ineffective but they will be counterproductive because, in the words of Bani-Sadr, "the threat of international crisis is the Iranian regime's only remaining resource for legitimizing its despotic power."²⁶⁸

Considering the statements made by Chubin and Bani-Sadr above, one begins to understand the method to President Ahmadinejad's madness. The outrageous statements made by Ahmadinejad about the Holocaust and regarding a 9/11 conspiracy during a U.N. address in New York City are calculated to continue the conflict with the West. Ahmadinejad knows that a non-confrontational stance by Obama will jeopardize his

²⁶⁵ Erdbrink and Lynch, "Iran is ready for planned U.S. sanctions targeting fuel imports, analysts say."

²⁶⁶ Ibid.

²⁶⁷ Mattair, Thomas R. "The United States and Iran: Diplomacy, Sanctions and War." *Middle East Policy* 17, no. 2 (2010): 58.

²⁶⁸ Bani-Sadr, "Iran on the Edge: Sanctions Will Only Bolster Iranian Regime," p. 35.

regime and embolden his adversaries so he makes outlandish statements like he did in New York City on September 23, 2010 in order to increase the likelihood of conflict. For President Obama, compromising with an Iranian President who implies that 9/11 was an American conspiracy becomes next to impossible if not outright political suicide. Obama has come under pressure from many officials in the U.S. who have the “see, I told you so” attitude and do not believe that Ahmadinejad is a rational actor. On the contrary, though, Ahmadinejad’s words and actions are calculated. Confrontation thus has become almost inevitable, and it is this confrontation with the U.S. that is the “fondest hope” of Ayatollah Ali Khamene’i, Ahmadinejad and his Revolutionary Guards.²⁶⁹

Despite the sanctions, the Iranians have continued to make extensive progress in their nuclear program during Obama’s time in office. In May 2010, as mentioned previously, an agreement was reached for acquiring fuel for the Tehran reactor; the deal negotiated by Turkey and Brazil to give Iran assurances for nuclear fuel added legitimacy to Iran’s position in negotiations. And at the end of August 2010, the Russians loaded fuel into the Bushehr reactor marking a step towards bringing the plant online for the first time. Each of these incidents represented huge steps forward for Iran’s nuclear program.

President Obama’s short time on this problem has also been plagued by accusations from within his own cabinet, namely Secretary of Defense Robert Gates, that the administration has no effective policy towards the Iranian’s nuclear progress or an effective strategy to counter an Iran with nuclear weapons. Obama was referred to by Ali Rahnema, Iran expert at the American University of Paris, as an “unguided missile”

²⁶⁹ Bani-Sadr, “Iran on the Edge: Sanctions Will Only Bolster Iranian Regime,” p. 37.

looking to justify any and all actions which he takes.²⁷⁰ Accusations from within his cabinet in conjunction with the eventual reliance upon previously ineffective strategies of sanctions and political pressure do not bode well for a diplomatic solution on the Iranian nuclear program in the near term. The administration has even recently been going back to one of the favorite Bush phrases of “all options are on the table;” a truly astounding development considering the stark political differences between Obama and Bush 43.

One of these “options” has frequently been viewed as a strike on Iran’s nuclear facilities, but does this translate to a military strike? In late September of 2010, a computer worm referred to as “Stuxnet” was found to have begun infecting computers located in Iran’s Bushehr Nuclear Power Plant.²⁷¹ Interestingly enough, the computer worm appears to be targeting Iranian computers much more frequently than those of other states; roughly 60% of Stuxnet infections have surfaced in Iran while there have been no reported infections in the United States.²⁷² While there is speculation as to the origin of the attack, James Lewis, a cyber security expert from the Center for Strategic and International Studies, argues that the U.S., Israel, and U.K. are the leading suspects in the attack.²⁷³ Though unconfirmed, some researchers have released information that a

²⁷⁰ Rahnema, Ali, interview by Bryan Hamilton. Paris, (May 13, 2010).

²⁷¹ Gorman, Siobhan. “Computer Worm Hits Plant in Iran.” *The Wall Street Journal*. September 27, 2010: A12.

²⁷² Ibid.

²⁷³ Ibid.

file within the worm contains a word, Myrtus, which leads them to believe Israel is the most likely perpetrator of the attack because of its biblical origins.²⁷⁴

Regardless of which state perpetrated the attack, it is probable that the Obama administration was well aware of the plan. Robert Langner, a German computer security expert, has called Stuxnet “a precision, military-grade cyber missile deployed early last year (2009) to seek out and destroy one real-world target of high importance.”²⁷⁵ So could the Obama administration have turned to sabotage as engagement was not yielding positive results? Whether or not this is the case, considering that the worm was released in 2009, another issue must be discussed – Iran’s centrifuge problems over the past year.

As the computer worm has only been discovered recently, there was little speculation that a computer worm caused Iran’s technical difficulties last year at the Natanz facility. Iran’s number of centrifuges in operation reportedly dropped by 23% between May 2009 and January 2010.²⁷⁶ It is likely that the export controls on technology shipments to Iran have forced Iran to purchase illicit materials which were “tampered with through Western covert operations in order to induce problems down the line.”²⁷⁷ Though there is no concrete proof that the Stuxnet worm caused the centrifuge difficulties at Natanz, the evidence certainly points in that direction. Considering that the U.S. is one of the few states known to have an offensively geared cyber capability, it is

²⁷⁴ Markoff, John, and David E. Sanger. “In a Computer Worm, a Possible Biblical Clue.” *The New York Times*. September 29, 2010. http://www.nytimes.com/2010/09/30/world/middleeast/30worm.html?_r=1 (accessed October 2, 2010).

²⁷⁵ Clayton, Mark. “Stuxnet malware is weapon out to destroy...Iran’s Bushehr nuclear plant?” *Christian Science Monitor*. September 21, 2010. <http://www.csmonitor.com/USA/2010/0921/Stuxnet-malware-is-weapon-out-to-destroy-Iran-s-Bushehr-nuclear-plant> (accessed October 2, 2010).

²⁷⁶ Fitzpatrick, “Iran: The Fragile Promise of the Fuel-Swap Plan,” p. 82.

²⁷⁷ *Ibid*, p. 83.

also conceivable that the Obama administration sanctioned this “attack” over a military strike which would have proven much more problematic.

Obama’s policy of engagement took a drastic detour away from that of his predecessor George W. Bush. Despite what could eventually become a victory by Obama’s policies in Iran, it is still too early to fully gauge what will transpire. The bottom line is that Iran has yet to suspend or halt enrichment activity. Their nuclear program continues to advance, though the introduction of a cyber attack to the equation has created some difficulties for the regime and has potentially stalled the Bushehr plant from becoming fully operational. If Obama can avoid legitimizing the Ahmadinejad regime amongst his citizens through confrontation, his efforts to contain Iran’s nuclear program will be successful.

CONCLUSION AND IMPLICATIONS

So how effective, in the past thirty plus years, has the U.S. been at checking Iran's nuclear ambitions? This program has certainly not come about overnight. U.S. administrations have used policies of containment, engagement, isolation, and denial when it comes to the Iranian program. The effectiveness of these attempts over past and the current administration is certainly in question. I contend that evidence revealed above has demonstrated that the U.S. policies towards the Iranian nuclear program and regime have been ineffective, counterproductive, and even potentially harmful to efforts at halting Iran's acquisition of a civil nuclear program (to which they are entitled under the NPT anyways) and to the more worrisome potential goal of nuclear weapons. With this in mind, I contend that my original hypothesis that U.S. policies have been ineffective in halting the advancement of the Iranian nuclear program is valid. A new U.S. policy towards engaging Iran must be undertaken to ensure the order of a volatile region whose access is vital to so many.

Since the Islamic Revolution, the U.S. and Iran have operated on opposite ends of the political spectrum, and U.S. policies have done little to counter what is potentially an extraordinary threat to Middle East security, the Iranian nuclear program. While Reagan and the first President Bush paid little attention to the program, progress was moving along quickly and publicly one might argue. Little was made of the program then, but today there is little acknowledgement of Iran's need for nuclear energy. Our policies have focused on one thing and one thing alone, the nuclear weapon. The focus on Iran's

potential for developing a nuclear weapon has proven ineffective in halting the advancement of their nuclear program as the IAEA has continually failed to find such evidence.

Before Obama, U.S. policies of engagement offered far too little to make talks with the Iranians worthwhile; and U.S. administrations since the Iranian Revolution, with the exception of the Obama administration, have demanded full acquiescence to our desires without considering Iranian sovereignty, let alone needs. Engagement failed to take into account the domestic political situation in Iran that has been so unstable; we have failed to strike a balance between constructive engagement and containment which has harmed our moderate Iranian allies domestically. Prior to Obama it has been since the late years of the Clinton administration that a U.S. administration made a concerted effort at engaging the Iranians, but it may be too late.

Containment and denial of nuclear technology also failed as enforcing all of the sanctions we had enacted were next to impossible; there was no agency designed to monitor all of the international trade flowing in and out of Iran. U.S. administrations also didn't effectively calculate the financial benefits to be had by states bypassing sanctions; the risk was worth the reward for many states and their companies. Just see table 3 below for a list of all the states that chose to risk U.S. sanctions for the profits to be had; these investments were after President Clinton's enactment of the ILSA. What was likely the most damaging prior to the ILSA was that we undercut our position by continuing high levels of trade with Iran while berating other states for doing the same; such a hypocritical stance was easily recognizable and not respected in the international community. These policies and strategies were terribly ineffective, and Iran began to

receive its initial support for the nuclear program during Clinton’s push for “Dual Containment.”

Table 3: Post-1999 Major Investment/Developments in Iran's Energy Sector

Date	Field/Project	Company(ies)/Status (If Known)	Value	Output/Goal
Feb. 1999	Doroud (oil) (Energy Information Agency, Department of Energy, August 2006.)	Totalfina Elf (France)/ENI (Italy)	\$1 billion	205,000 bpd
Apr. 1999	Balal (oil) ("Balal Field Development in Iran Completed," <i>World Market Research Centre</i> , May 17, 2004.)	Totalfina Elf/ Bow Valley (Canada)/ENI	\$300 million	40,000 bpd
Nov. 1999	Soroush and Nowruz (oil) ("News in Brief: Iran." <i>Middle East Economic Digest</i> , (MEED) January 24, 2003.)	Royal Dutch Shell (Netherlands)/Japex (Japan)	\$800 million	190,000 bpd
Apr. 2000	Anaran (oil) (MEED Special Report, December 16, 2005, pp. 48-50.)	Norsk Hydro (Norway)/Lukoil (Russia)	\$100 million	100,000 (by 2010)
July 2000	Phase 4 and 5, South Pars (gas) (<i>Petroleum Economist</i> , December 1, 2004.)	ENI Gas onstream as of Dec. 2004	\$1.9 billion	2 billion cu.ft./day (cfd)
Mar. 2001	Caspian Sea oil exploration – construction of submersible drilling rig for Iranian partner (IPR Strategic Business Information Database, March 11, 2001.)	GVA Consultants (Sweden)	\$225 million	NA
June 2001	Darkhovin (oil) ("Darkhovin Production Doubles." <i>Gulf Daily News</i> , May 1, 2008.)	ENI Field in production	\$1 billion	100,000 bpd
May 2002	Masjid-e-Soleyman (oil) ("CNPC Gains Upstream Foothold." MEED, September 3, 2004.)	Sheer Energy (Canada)/China National Petroleum Company (CNPC). Local partner is Naftgaran Engineering	\$80 million	25,000 bpd
Sep. 2002	Phase 9 + 10, South Pars (gas) ("OIEC Surpasses South Korean Company in South Pars." IPR Strategic Business Information Database, November 15, 2004.)	LG (South Korea) On stream as of early 2009	\$1.6 billion	2 billion cfd
Oct. 2002	Phase 6, 7, 8, South Pars (gas) (<i>Petroleum Economist</i> , March 1, 2006.)	Statoil (Norway) began producing late 2008	\$2.65 billion	3 billion cfd

Table 3: Post-1999 Major Investment/Developments in Iran's Energy Sector(Cont)

Date	Field/Project	Company(ies)/Status (If Known)	Value	Output/Goal
Jan. 2004	Azadegan (oil) ("Japan Mulls Azadegan Options." APS Review Oil Market Trends, November 27, 2006.)	Inpex (Japan) 10% stake. CNPC. agreed to develop "north Azadegan" in Jan. 2009	\$200 million (Inpex stake); China \$1.76 billion	260,000 bpd
Aug. 2004	Tusan Block ("Iran-Petrobras Operations." APS Review Gas Market Trends, April 6, 2009; "Brazil's Petrobras Sees Few Prospects for Iran Oil.") http://www.reuters.com/article/idUSN0317110720090703	Petrobras (Brazil) Oil found in block in Feb. 2009, but not in commercial quantity, according to the firm	\$34 million	?
Oct. 2004	Yadavaran (oil) ("Iran, China's Sinopec Ink Yadavaran Oilfield Development Contract." Payvand's Iran News, December 9, 2009.)	Sinopec (China), deal finalized December 9, 2007	\$2 billion	300,000 bpd
June 2006	Garmsar block (oil) Deal finalized in June 2009 ("China's Sinopec signs a deal to develop oil block in Iran - report", Forbes, 20 June 2009, http://www.forbes.com/feeds/afx/2006/06/20/afx2829188.html .)	Sinopec (China)	\$20 million	?
July 2006	Arak Refinery expansion (Fimco FZE Machinery Website; http://www.fimco.org/index.php?option=com_content&task=view&id=70&Itemid=78.)	Sinopec (China)	\$959 million	
Sept. 2006	Khorrabad block (oil) (PR Strategic Business Information Database, September 18, 2006)	Norsk Hydro (Norway)	\$49 million	?
Mar. 07	Esfahan refinery upgrade ("Daelim, Others to Upgrade Iran's Esfahan Refinery." <i>Chemical News and Intelligence</i> , March 19, 2007.)	Daelim (S. Korea)		NA
Dec. 2007	Golshan and Ferdows onshore and offshore gas fields and LNG plant contract modified but reaffirmed December 2008 (Oil Daily, January 14, 2008.)	SKS Ventures (Malaysia)	\$16 billion	3.4 billion cfd
Jan. 2009	"North Azadegan" (Chinadaily.com. "CNPC to Develop Azadegan Oilfield" http://www.chinadaily.com.cn/bizchina/2009-01/16/content_7403699.htm)	CNPC (China)	\$1.75 billion	75,000 bpd
Nov. 2009	South Pars: Phase 12 – Part 2 and Part 3 ("Italy, South Korea To Develop South Pars Phase 12." Press TV (Iran), November 3, 2009. http://www.presstv.com/pop/Print?id=110308.)	Daelim (S. Korea) – Part 2; Tecnimont (Italy) – Part 3	\$4 billion (\$2 bn each part)	
Feb. 2010	South Pars: Phase 11 Drilling to Begin in March 2010 ("CNPC in Gas Deal, Beefs Up Tehran Team – Source." Reuters India, February 10, 2010. http://in.reuters.com/articlePrint?articleId=INTOE61909U20100210.)	CNPC (China)	\$4.7 billion	
Totals:				

Table 3: Post-1999 Major Investment/Developments in Iran's Energy Sector (Cont)

Date	Field/Project	Company(ies)/Status (If Known)	Value	Output/Goal
\$41 billion investment				
Other Pending/Preliminary Deals				
	North Pars Gas Field (offshore gas). Includes gas purchases (Dec. 2006) (http://english.peopledaily.com.cn/200705/19/print20070519_376139.html)	China National Offshore Oil Co.	\$16 billion	3.6 billion cfd
	Phase 13, 14 South Pars (gas); (Feb. 2007). Deadline to finalize as May 20, 2009 apparently not met; firms submitted revised proposals to Iran in June 2009. (http://www.rigzone.com/news/article.asp?a_id=77040&hmpn=1)	Royal Dutch Shell, Repsol (Spain)	\$4.3 billion	?
	Phase 22, 23, 24 - South Pars (gas), incl. transport Iranian gas to Europe and building three power plants in Iran. Initialed July 2007; not finalized to date.	Turkish Petroleum Company (TPAO)	\$12. billion	2 billion cfd
	Iran's Kish gas field (April 2008) (http://www.presstv.ir/detail.aspx?id=112062&sectionid=351020103)	Oman (co-financing of project)	\$7 billion	1 billion cfd
	Phase 12 South Pars (gas) – part I. Incl. LNG terminal construction (March 2009)	China-led consortium; project originally subscribed in May 2007 by OMV (Austria)	\$3.2 billion	20 million tonnes of LNG annually by 2012
	South Pars gas field (September 2009)	Petroleos de Venezuela S.A.; 10% stake in venture	\$760 million	
	Abadan refinery upgrade and expansion; building a new refinery at Hormuz on the Persian Gulf coast (August 2009)	Sinopec	\$up to 6 billion if new refinery is built	

Sources: As noted in table, a wide variety of other press announcements and sources, CRS conversations with officials of the State Department Bureau of Economics (November 2009), CRS conversations with officials of embassies of the parent government of some of the listed companies (2005-2009).

Even more important has been that the sanctions that the U.S. has consistently imposed over the years have been criticized as “an extraterritorial application of national law....in other words they are blatantly illegal.”²⁷⁸ They have created additional problems for foreign policy with some of our most important allies. Britain and other EU states have threatened to complain to the World Trade Organization if the U.S. ever applies these sanctions to one of their companies.²⁷⁹ To put it bluntly, these sanctions are terrible foreign policy and have not succeeded in slowing the Iranian nuclear program;

²⁷⁸ Leverett, Flynn, and Hillary Mann Leverett. *China, Energy, and the Cost to U.S. Interests from Bad Iran Policy*. September 15, 2010. <http://www.raceforiran.com/china-energy-and-the-cost-to-u-s-interests-from-bad-iran-policy> (accessed September 20, 2010).

²⁷⁹ Ibid.

they have merely created another antagonizing hurdle preventing constructive engagement with Iran over many issues to include the nuclear program. Though the continued sanctions have harmed Iran and their energy infrastructure, “Iran will not collapse because of decreased revenues” due to sanctions; they will merely blame “sanctions and foreign enemies for any difficulties.”²⁸⁰ Any new application of sanctions against Iran will be of limited or no utility in altering Iran’s behavior just as past sanctions have failed.²⁸¹

The importance of this particular body of research is twofold. First, this research gives an exhaustive examination of the economic justifications for Iran’s program. It lays the groundwork for why U.S. policies should be more open to the idea of a nuclear program in addition to the simple fact that the pursuit of a peaceful nuclear program is a right of Iran as a signatory to the NPT under Article IV (see Appendix 1). The Iranian economy is dependent upon its natural resources; the evidence above displays just that. The fact that American administrations have conveniently discarded that argument is one of the primary reasons for Iran’s belligerence over the progress of their nuclear program.

Perhaps the most important information garnered comes from a thorough examination of the most current exchanges between the Obama administration and Iran. These exchanges have built upon previous exchanges between the two states, but I contend that it is evident how Obama has attempted to chart a different path – a non-confrontational path – with the Iranian state. Obama extended his hand to Iran even before he was President. However, it is critical that Obama remain on this path; resorting to the ineffective strategies of sanctions, political pressure, and military threats will not

²⁸⁰ Chubin, “The Iranian Riddle after June 12,” p. 179.

²⁸¹ Mattair, “The United States and Iran: Diplomacy, Sanctions and War,” p. 53.

yield the desired result – a transparent and peaceful Iranian nuclear program. Despite the caustic rhetoric coming from Iran’s President Ahmadinejad who is attempting to incite more confrontation, President Obama must find a way to stay the course; this will be the only way to prevent a more severe confrontation which could justify Iran’s withdrawal from the NPT or acquisition of a nuclear weapon. The implication to be had from this is that Obama’s policies must evolve from past administration’s examples; if not, we can expect more of the same from Iran.

While this particular research has focused on U.S. policies primarily in the past, it is not difficult to make the conclusion that the Iranian regime is a major part of the nuclear problem. The regime relies upon this notion of Iranian independence to remain in power, and as stated earlier, conflict with the U.S. only assists their efforts. So I believe that research following in this direction could focus on how to bridge a gap between advocating for democracy in Iran without appearing to interfere in Iran’s affairs. How can the U.S. effectively achieve a sense of neutrality in Iran’s affairs while at the same time promoting the same freedom that the Iranian constitution advocates? Regime reform to a more transparent and open government represents the best path to an Iranian nuclear program that poses no threat to the region or international community. While much of the focus in this body of research has focused on the words and deeds of Iranian Presidents in the regime, most significantly those of the current President Ahmadinejad, it is important to briefly discuss how different regime elements are involved in the decision making process when it comes to the Iranian nuclear program. First of all, I must concede that Ahmadinejad does not have the final say when it comes to the nuclear program. He is, however, the mouthpiece by which all of the decision makers to speak to

the international community as evidenced by his speeches referring to the nuclear program as a “train without brakes” and calling the nuclear issue a matter to be taken up with the IAEA and not a political one.

Multiple elements of the Iranian political apparatus have a say in the state of Iran’s nuclear program. These include the Guardian Council, the President, and most importantly, the Supreme Leader Ayatollah Sayyid Ali Khamenei. The Supreme Leader also controls Iran’s Revolutionary Guards who play a large role in carrying out nuclear planning and operations in Iran. Ultimately, though, it is the Supreme Leader who controls the foreign policy of the Iranian state. It is he who “makes all the key policy decisions, usually after Iran’s major centers of power, including the presidency, have reached a consensus.”²⁸² So while President Ahmadinejad certainly speaks with the approval of the Supreme Leader and his policies in mind, it is important for U.S. policymakers not to put too much stock into the President’s power and his often controversial comments. Our policy experts must understand that much of what is said by Ahmadinejad is aimed for domestic consumption rather than international consumption as the Iranian leadership is focused on preserving its regime and shoring up nationalistic support via the nuclear program.

U.S. policy makers must heed the words and deeds of the Supreme Leader. Too much attention is garnered to the actions of Ahmadinejad (myself included) because he is the “frontman” and most visible proponent for the nuclear program. While he is the most visible and outspoken, but he cannot change Iran’s foreign policy. “Only Khamenei, the ultimate decider, can do that,” and he will only do so with widespread support from the “major centers of power” in Iran which does include President

²⁸² Milani, Mohsen. “Tehran’s Take.” *Foreign Affairs* 88, no. 4 (2009) p. 47.

Ahmadinejad.²⁸³ So with these key points in mind, it is important for U.S. policymakers to understand who will make the final decision on any changes to Iran's nuclear program, and that one individual is the Supreme Leader.

U.S. policies and strategies which have included sanctions, political pressure, threats of military actions, and now possibly a cyber attack towards the Iranian nuclear program have not effectively attained the goal of halting Iran's pursuit of nuclear technology. The Iranian nuclear program has surpassed goal after goal and stands on the precipice of a fully functioning Bushehr reactor and the ability to enrich uranium to weapons grade levels. And while Iran touts the civilian nature of the program due to the legitimate economic and energy needs of their state, considering their almost certain desire for a strategic deterrent there is little doubting that one of their next milestones will be to attain the capability to assemble a nuclear weapon. So what policies and strategies can be developed that can effectively cope Iran's desire for nuclear technology? This will be the subject of the final chapter: A Way Ahead.

Before proceeding to the final chapter and my recommendations, I feel this is the most opportune time to clear the air on my personal thoughts regarding the direction and purpose of the Iranian nuclear program. The evidence that I have presented in this research is certainly strongly favorable to the economic rationale of Iran's nuclear program. And while the security rationale for the nuclear program is also comprehensible, there can be no denying the economic rationality of pursuing nuclear power in Iran. Despite these facts, I do in fact believe that Iran's ultimate goal is a

²⁸³ Milani, "Tehran's Take," p. 47.

nuclear weapon. The economic rationale may be overwhelming, but it also makes for a convenient disguise and excuse for the Iranian leadership to pursue its nuclear program.

As stated earlier, Iran's economic rationale is sound, but the security rationale is much more overarching and has more profound and immediate ramifications for the survival of the state and the regime. Iran understands the role that nuclear weapons play in national security strategies, and they know that states with nuclear weapons have never gone to war with one another. Iran wants to cement their independence in stone and prevent the interference in their sovereign affairs that they are so paranoid of.

Now I am not saying that Iran is going to develop a nuclear weapon as soon as possible, or that they have a multitude of secret facilities enriching uranium in secret to weapons grade levels. However, what I do believe is that Iran wants to possess the breakout capability to assemble a nuclear weapon in a very short timeframe, say in thirty to ninety days. Iran has already done the hard work in enriching uranium to LEU; progressing to weapons grade uranium takes much less time. If Iran were to be threatened by another state, perhaps the United States, Iran could cite its right to withdraw from the NPT in accordance with Article X (see Appendix 1) in order to preserve their state's survival. At that time they would then assemble the nuclear weapon which would send a clear message to present a significant deterrent to adversaries.

The Iranian leadership is determined to assert its independence. Joining the nuclear club is a huge step, but preventing future acts of interference in Iran's affairs is paramount. Possession of a nuclear deterrent is imperative in the leaders' minds especially with a nuclear Israel on their doorstep who has threatened action against Iran for their support of Hamas and Hezbollah. The fact is that Iran's "lack of transparency

and cooperation with the IAEA and resistance”²⁸⁴ to negotiations with the United States and its allies leads me to my inescapable conclusion that Iran seeks a nuclear weapons capability. In the words of former President Rafsanjani, “We possess nuclear technology that is not operationalized yet. Any time we decide to weaponize it, we can do so rather quickly.”²⁸⁵ Despite my belief that Iran does in fact have its sights set on nuclear weapons, I argue there is a course of action that can be undertaken to satisfy all parties.

²⁸⁴ Albright and Shire, “Nuclear Iran: Not Inevitable,” p. 25.

²⁸⁵ Milani, “Tehran’s Take,” p. 51.

RECOMMENDATIONS: A WAY AHEAD

As stated earlier, the U.S. and the West should concede that Iran has the right to peacefully develop nuclear technology as stated in Article IV of the NPT, and their economic justifications are valid. Without nuclear power, Iran is staring at an economic meltdown of epic proportions over the coming decade. But Iran must realize that their continued ambivalence toward the West will win them no allies, and reestablishing ties with the West will open their energy sector to unhindered investment.

The policies and strategies that have been undertaken by U.S. administrations over the past three decades display what could likely be considered the most ineffective attempts at foreign policy in U.S. history. Why these policies were chosen certainly was never my intention to discuss, but it is likely that somewhere along the way some policy analysts convinced senior leaders that particular policies and strategies would achieve the desired effect. Unfortunately, unless they intended for the U.S. to be faced with a nuclear Iran today, their recommendations were faulty to say the least. What I propose below is a comprehensive roadmap which I contend comprises of the most pressing issues surrounding the current impasse between the United States and Iran. I argue that without seriously addressing these issues there will be little chance for progress between the U.S. and Iran on the nuclear issue.

America's Responsibilities

First and foremost, the U.S. must begin an effort to resume normal diplomatic relations with Iran. This may simply begin with a U.S. interests section in Iran, but it must evolve into a full functioning U.S. Embassy in Tehran. It has been more than thirty years since the U.S. Embassy hostage crisis; we no longer need to harbor animosity over this. Iranian leaders, specifically President Khatami, have conceded that the hostage taking was probably a mistake. Restarting diplomatic relations is certainly not so simple, and it will not immediately tear down the walls of mistrust that exist between the two states. However, it will immediately open direct channels of communication between the administrations on the nuclear issue among others, and it would also open the door to increased security cooperation on a number of other regional concerns such as Iraq, Afghanistan, and drug trafficking, all of which the U.S. and Iran generally agree upon. This would likely be such a significant step that it would reduce Iran's hostility to candidly discussing their nuclear program.²⁸⁶ The U.S. must make a concerted effort so shake off this perception of being the "bogeyman."

Along with efforts to reestablish diplomatic relations and serious negotiations regarding the Iranian nuclear program, there must be a halt to the conditional nature of talks with Iran. Iran has made numerous gestures of goodwill over the years by halting uranium enrichment while awaiting the West to craft genuine incentive laden proposals to ensure Iran does not have an indigenous full nuclear cycle. We must not forget that it is within Iran's right in accordance with Article IV of the NPT to research and develop a peaceful nuclear program as detailed in Appendix 1; their uranium enrichment programs and other nuclear facilities have not been found in violation by IAEA inspectors to this

²⁸⁶ Albright and Shire, "Nuclear Iran: Not Inevitable," p. 20.

date. Certainly there have been some irregularities with the Iranian program as discussed earlier, but the IAEA has found no “smoking gun” that would indicate a current violation of the NPT let alone pursuit of nuclear weapons. For U.S. leaders to continue asserting that Iran must relinquish their rights granted to them as one of the original signatories to the NPT could be considered arrogant at best and possibly even foolish. Throwing out the conditions that have prevented serious discussions would be a step in the right direction, but this is where difficulties will arise.

In addition to the first two measures, the U.S. must begin to scale back, if not completely eliminate the sanctions that have targeted Iran and other countries doing business with the Iranian nuclear establishment. The bottom line up front on the sanctions which are meant to force Iran to the negotiating table is that they will have the opposite effect; sanctions will impact ordinary Iranians whose distrust of the U.S. and West will be intensified thus strengthening the Iranian regime’s ability to refuse to submit to the sanctions.²⁸⁷ These measures have not significantly impacted the Iranian regime’s ability to further their nuclear program. The majority of the pain caused by these sanctions has been exacted on the very citizens the United States seeks to court in an effort to overthrow the hard-line regime. Additionally, the record high prices for oil over the past three to five years have filled the Iranian coffers with funds to further their nuclear efforts and blunt the impact of sanctions. Unfortunately, the sanctions have also become a convenient excuse for the regime for why progress is not being made; they consider it a cost of maintaining their Iranian independence. The sanctions have simply played into the hands of the leadership and reduced the moderates’ positions to bystanders scratching

²⁸⁷ Barzegar, Kayhan. “Sanctions to Spur Negotiations: Mostly a Bad Strategy.” July 22, 2010. http://belfercenter.ksg.harvard.edu/publication/20270/sanctions_to_spur_negotiations.html (accessed October 2, 2010).

their heads at U.S. efforts. Sanctions only permit the Iranian regime to place the blame for their internal problems squarely upon the shoulders of the United States thereby making us, as I have stated before, the bogeyman.

Additionally, sanctions have been circumvented by those states that we should consider critical in this negotiation process, Russia and China. While a number of sanctions resolutions have passed through the United Nations, each time the measures become watered down and reduced to nearly meaningless attempts to constrain the Iranians while permitting Russia and China to carry out business as usual there. As already mentioned earlier, Russia has supported the Bushehr reactor, and China has most recently come under scrutiny for several of its energy companies such as Chinaoil and Sinopec, violating U.S. sanctions while doing business in Iran. In addition to Russia and China striking multi-billion dollar deals with Iran, India also reached a \$40 billion deal to develop Iranian oil fields.²⁸⁸

Multiple other states and their companies have also gotten into the business of investing in Iran. Most recently, Turkish Prime Minister Erdogan stated on September 16, 2010 that Turkey would attempt to triple trade volume over the next five years; Turkish-Iran trade has surged from \$1 billion in 2000 to \$10 billion over the past year.²⁸⁹ Nearly 80% of that trade is Iranian natural gas flowing to Turkey.²⁹⁰ Swiss firm EGL also reportedly signed an 18 billion Euro gas contract with the National Iranian Gas

²⁸⁸ Wood, David. "Iran's strong case for nuclear power is obscured by UN sanctions and geopolitics." *Atoms for Peace: An International Journal* 1, no. 4 (2007): 295.

²⁸⁹ Parkinson, Joe. "Turkey Aims to Triple Iran Trade, Despite International Sanctions." *The Wall Street Journal*. September 17, 2010, A13.

²⁹⁰ Ibid.

Export Company even though U.S. sanctions are in place.²⁹¹ See table 3 above for a list of all the companies who have invested in the Iranian energy sector regardless of the potential of U.S. sanctions. Sanctions, while exerting some pain on the Iranian economy, have not succeeded as a whole and are not achieving the goal of halting the Iranian nuclear program; they only stand to harm the U.S. position in the international community. And while there is a desire by some in both the State Department and the Obama administration to specifically pressure Russia, China, and other partners to halt their sanctions busting behavior, I contend that such a step on the part of the U.S. would likely push these key powers further away from the U.S. and squarely into the Iran camp.

Iran's Responsibilities

Iran is not in line for a “get out of jail free” card here despite what may be interpreted as pro-Iran viewpoint in this research. Iran owes the international community some guarantees of its own if it wishes to join the nuclear club. Pushing forward against the will of the West has not been a strategy that has won Iran or Ahmadinejad many allies in the West. His radical comments about the Holocaust, Israel, and 9/11 have made many skeptical of Iranian intentions.

The first gesture of goodwill on Iran's part must demonstrate a commitment to transparency in their nuclear program's activities. For the U.S., its allies, and the rest of the world to continue to receive evidence of secret Iranian nuclear facilities from dissidents such as the MeK would be unacceptable. Complete disclosure of any and all nuclear related facilities will immediately stall those who call for military strikes and

²⁹¹ Weinthal, Benjamin. “Swiss Energy Giant EGL Pursues Gas Deal with Iran.” *The Jerusalem Post*. August 11, 2010. <http://www.jpost.com/Cooperations/Archives/> (accessed September 21, 2010).

increased sanctioning against Iran. There will definitely be those that insist Iran is still hiding something, but we cannot expect to win over the most ardent of the anti-Iran camp. This transparency would comprise of several important components.

Iran must adopt and ratify the Additional Protocol of the IAEA; these measures will provide a degree of comfort to the international community that Iran is serious about not pursuing nuclear weapons, which I am skeptical about myself. Iran must also honestly address the numerous reported documents concerning past Iranian nuclear weapons research to include the document on uranium hemispheres for nuclear warheads that has been found to be credible by the IAEA.²⁹² The continued assertion that these documents are fraudulent without addressing the reasons behind their claim is not sufficient. The last measure that would improve Iranian transparency will not be so easy to overcome; remote camera based monitoring should be a necessity for Iranian nuclear facilities to verify peaceful intentions and provide early warning in the event that the Iranian regime deviates from their stated desire. This measure will represent a criterion above and beyond IAEA inspection techniques in other parts of the world and may be seen as unjust, but due to the difficult nature of travel into and within Iran, unannounced inspections cannot be reasonably expected to be truly unannounced.²⁹³

As the West is fearful of Iran maintaining an indigenous nuclear capability within its own borders with minimal monitoring and Iran refusing to relinquish its right to a peaceful nuclear program, there appears to be only one solution: the multinational facility. This type of facility was offered by Iran in the 2005 negotiations, and it would

²⁹² Albright and Shire, "Nuclear Iran: Not Inevitable," p. 19.

²⁹³ Ibid.

provide the best transparency possible as other states would participate in the daily operations of these facilities.²⁹⁴ And as late as the year 2008, even EU leader Javier Solana lauded this proposal.²⁹⁵ These facilities would provide Iran with a reliable fuel supply to operate its reactors while assuaging their energy concerns plus it could serve as a production facility for LEU to power nuclear reactors to participating states and possibly the entire Middle East. As Iran touts itself as a regional power that is bent on peace and justice, it can begin to display this by ushering in and recommitting itself to the proverbial Middle East Zone Free of Nuclear Weapons.

One of the more complicated areas of this problem concerns something that is a potential side effect of a nuclear Iran – a regional arms race. States such as Saudi Arabia, Egypt, and Jordan could feel threatened by a nuclear Iran, peaceful or not, and they may choose to seek out nuclear weapons. It is important for the U.S. and other world powers to engage these states to discourage this behavior. The U.S. has already made a deal to provide Saudi Arabia with upwards of \$60 billion in arms with potential sales to other Gulf states estimated at nearly \$100 billion.²⁹⁶ While these actions are capitalizing on fears of a nuclear Iran and potential war, they provide these states with a measure of conventional security that will hopefully stall if not prevent the acquisition of nuclear weapons.

There are other pieces to this puzzle that will also facilitate an acceptable resolution to all in regards to the Iranian nuclear program. Issues of spent fuel

²⁹⁴ Maleki, “Iran’s nuclear file: Recommendations for the future,” p. 108.

²⁹⁵ Ibid.

²⁹⁶ Entous, Adam. “Saudi Arms Deal Advances.” *The Wall Street Journal*. September 12, 2010. <http://online.wsj.com/article/SB10001424052748704621204575488361149625050.html?KEYWORDS=saudi+weapons+deal> (accessed September 22, 2010).

reprocessing and take back, nuclear fuel guarantees, and even progress on the Arab-Israeli conflict for which Iran's behavior must be addressed. Additionally, Israel must be convinced to restrain from taking action against Iran and potentially declare their nuclear arsenal. The time will come for Israel to voice its concerns over Iranian threats against Israel, but they must permit the U.S. and world powers to barter with Iran without the threat of military action. The roadmap laid out above presents what I contend are the most critical steps to finding a consensus that: A) ensures the order the international community, including Israel, seeks with an Iran free of nuclear weapons and B) provides Iran the justice they seek to pursue their right to a peaceful nuclear program without threats from other states.

What's in it for Iran?

So why should Iran cooperate with the United States and its allies in their quest to halt Iran's pursuit of a nuclear program and potentially nuclear weapons? There are several important reasons that can answer this question and provide ample justification for cooperation. To put it bluntly, Iran stands to profit considerably by cooperating, both economically and in security. The potential gains are very substantial and would provide Iran with the ability to secure the state's future position in the international community.

As discussed earlier, natural resources make up an enormous portion of Iran's economy. Export revenues and the budget itself are heavily dependent on oil. While sanctions have had little impact on Iran's nuclear program, they did wreak havoc on Iran's oil infrastructure as discussed earlier. Cooperating with the U.S. and its allies would promote a removal of these sanctions thereby permitting U.S. companies, who

have the most advanced technology in the energy sector, to help Iran extract the oil and natural gas that their economy is so dependent upon. This support would not only provide direct monetary support to the state, but it would also provide jobs to everyday Iranians. Obviously the benefit of the thousands of jobs these contracts would provide would have positive secondary and tertiary effects for the state of Iran.

Iran has several energy projects, to include the exploration in the Pars gas fields, that would benefit from advanced U.S. technology. It would help Iran meet their rising energy demands, and allow Iran to use those funds previously used for importing oil on other state projects. At a minimum, cooperation would mean that Iran could begin receiving the financial assistance to rebuild its degraded oil infrastructure and eventually increasing their exports thereby increasing their revenues. So this is an obvious benefit that should be flaunted by U.S. policy makers, and it should be regarded as a game changer for the Iranians. This cooperation with the U.S. in the areas of energy technology would free Iran to “expand export of its natural gas and petroleum.”²⁹⁷

Second, cooperation with the U.S. could bring benefits in other areas of common interests. As liberals in International Relations would argue, cooperation breeds more cooperation, and there are several areas of regional security that both the U.S. and Iran agree upon. Iran supported the U.S. in 2001 in the removal of the Taliban from Afghanistan, and they do not want to witness their return. Iran has also had to deal with the problems of the drug trafficking out of Afghanistan and its impacts on Iranian citizens; this is another area where the U.S. and its agencies could provide valuable assistance. The U.S. and Iran also want to see a stable Iraq; neither want to see the state

²⁹⁷ Albright and Shire, “Nuclear Iran: Not Inevitable,” p. 19.

fall back into chaos and disarray as it did in 2006 and 2007. The U.S. and Iran can work together to ensure a democratic Iraq that is not in jeopardy of foregoing its Arab identity to follow the Iranian theocratic model. The U.S. and Iran can work together on the issue of stabilizing the Afghan and Iraqi states, but the nuclear issue must progress before future efforts . Both these security and the previous economic reasons should provide Iranian leaders with sufficient reason to cooperate with the United States in the arena of their nuclear weapons program.

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APPENDIX 1

NUCLEAR NON-PROLIFERATION TREATY (NPT)

The States concluding this Treaty, hereinafter referred to as the "Parties to the Treaty",

Considering the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples,

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war,

In conformity with resolutions of the United Nations General Assembly calling for the conclusion of an agreement on the prevention of wider dissemination of nuclear weapons,

Undertaking to cooperate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities,

Expressing their support for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points,

Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from the development of nuclear explosive devices, should be available for peaceful purposes to all Parties of the Treaty, whether nuclear-weapon or non-nuclear weapon States,

Convinced that, in furtherance of this principle, all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientific information for, and to contribute alone or in cooperation with other States to, the further development of the applications of atomic energy for peaceful purposes,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to undertake effective measures in the direction of nuclear disarmament,

Urging the cooperation of all States in the attainment of this objective,

Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water in its Preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,

Desiring to further the easing of international tension and the strengthening of trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from national arsenals

of nuclear weapons and the means of their delivery pursuant to a Treaty on general and complete disarmament under strict and effective international control,

Recalling that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the worlds human and economic resources,

Have agreed as follows:

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

1. 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 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. Procedures for the safeguards required by this article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this article shall be applied to all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this article.

3. The safeguards required by this article shall be implemented in a manner designed to comply with article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international cooperation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this article and the principle of safeguarding set forth in the Preamble of the Treaty.

4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

Article IV

1. 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.

2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also cooperate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.

Article V

Each party to the Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty on a nondiscriminatory basis and that the charge to such Parties for the explosive

devices used will be as low as possible and exclude any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.

Article VI

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.

Article VII

Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.

Article VIII

1. Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to the Treaty. Thereupon, if requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.
2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.
3. Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realized. At intervals of five years thereafter, a majority of the Parties to the Treaty

may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty.

Article IX

1. This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.
2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland and the Union of Soviet Socialist Republics, which are hereby designated the Depositary Governments.
3. This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositories of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to January 1, 1967.
4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.
5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the date of receipt of any requests for convening a conference or other notices.
6. This Treaty shall be registered by the Depositary Governments pursuant to article 102 of the Charter of the United Nations.

Article X

1. Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.
2. Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be

extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty.

Article XI

This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

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