
Report

Cuba and the Nonproliferation Regime: A Small State Response to Global Instability

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On September 14, 2002, before the General Assembly of the United Nations, Felipe Perez Roque, the Cuban Minister of Foreign Affairs in New York announced,

“as a signal of the clear political will of the Cuban government and its commitment to an effective disarmament process that ensures world peace, our country has decided to adhere to the Treaty on the Non-proliferation of Nuclear Weapons (NPT). In doing so, we reaffirm our hope that all nuclear weapons will be totally eliminated under strict international verification.”²

With that statement, Cuba ended three decades of intransigence toward the international nuclear nonproliferation regime. Worldwide, only three countries with significant nuclear activities—Israel, India, and Pakistan—now remain outside the NPT. Even after North Korea's apparent withdrawal from the treaty, the NPT—with 188 states parties—is the most adhered to international agreement after the United Nations Charter and the most widely adhered to multilateral arms control treaty. Cuba also announced on September 17, 2002, in Vienna before the IAEA General Conference its ratification of the Treaty of Tlatelolco, which completes the process of having all states in the region of Latin America and the

Caribbean as members of the nuclear-weapon-free zone in that region. The Cuban ratification makes Latin America and the Caribbean, de facto, the world's first nuclear-free zone.

These announcements by Cuba have been very warmly received by the international nonproliferation community. IAEA Director-General Mohammed El-Baradei welcomed the decisions, commenting, “With Cuba's intention to become a party to the NPT, we have come a step closer to a universal nuclear non-proliferation regime.” He added that “the Tlatelolco Treaty provides a good model for other regional nuclear-free weapons zones to follow...universal adherence of all countries in regions having nuclear-free zone arrangements is important to further strengthen the non-proliferation regime.”³ The Russian Foreign Ministry commented, “we hope that this decision will influence the position of other countries that still remain outside the obligations of this cornerstone disarmament document.”⁴

But the decision to place its nuclear activities under the purview of the NPT and the Treaty of Tlatelolco came as a relative surprise to international nonproliferation observers. For many years, Cuba had consistently rejected

the NPT as discriminatory against non-nuclear states and refused to ratify the Tlatelolco accord because of its acrimonious relationship with the United States. Why has Cuba chosen to make these significant decisions now? Cuba's nuclear ambitions appear to have narrowed significantly since the decision to terminate its nuclear energy development program at the end of 2000.⁵ In weighing the perceived benefits from accession to the nonproliferation accords, what can Cuba tangibly hope to gain?

This article seeks to address the reasons Cuba has made these decisions and why it has done so at this time. It does so by explaining nonproliferation policy change in Cuba by reference to changing foreign policy perceptions in the face of the growing use of unilateralist actions by its chief rival, the United States. With the ending of the Cold War, Cuba has been forced—as St. Teresa de Avila said—to “make a virtue out of necessity.” Latin American essayist Maria Lopez Vigil comments,

Today, Cuba's foreign security has ‘fallen.’ Cuba has gone from the warm protection of a bipolar world during the Cold War to the inclemency of a unipolar world in which it can no longer play its old game, while the United States plays its game even more forcefully. This is the most critical element of Cuba's new situation, the one conditioning all other changes.⁶

Cuba's accession to international nonproliferation agreements also serves as an indirect acquiescence to the adoption and inculcation of long-held nonproliferation norms and values. Moreover, it is a nonproliferation and security policy model that openly acknowledges the United States as a “hyperpower.” This approach perceives an inherent instability generated by the hegemonic power, the United States, that necessarily compels Cuba to seek the security and stability of multilateral organizations, in direct opposition to the United States at a time when it openly eschews and only mechanically consults these instruments as it confronts “terrorist threats.”⁷ The growing utility of multilateral instruments for small states like Cuba is supported by other informed analyses that suggest that,

Cuba's accession to the NPT will also enhance non-nuclear weapons states' continued efforts to hold the nuclear weapon states to their unequivocal undertaking, given at the 2000 NPT Review Conference, to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament.⁸

The Cuban position that the elimination of nuclear weapons should be “under strict international verification” is in line with the principled position of the majority of NPT states parties, including members of the Movement of Non-Aligned countries.”⁹

To place the Cuban decision into its proper context, the article begins with an historical review of nuclear activity in Cuba. It then examines the current decision-making context and perceptions that have prompted the recent nonproliferation policy responses by Cuba to the post 9/11 surge of unilateral action on the part of the United States. The article assesses the implications of these decisions for U.S. policy toward Cuba and concludes with a brief exposition of nuclear nonproliferation opportunities and challenges in Cuba's near future.

HISTORICAL CONTEXT

Cuba occupies a unique place in nuclear nonproliferation history by virtue of its role in bringing the world to the brink of nuclear Armageddon during the October missile crisis of 1962.¹⁰ That near-catastrophic event served as the catalyst for the major universal and regional nuclear disarmament agreements, the NPT and the Treaty of Tlatelolco. The irony of those two agreements is that Cuba was, for the most part, a non-party to them. This is not to argue that the Republic of Cuba was or ever has been a *de facto* nuclear proliferator, as it was a member in good standing of the International Atomic Energy Agency (IAEA), but it chose not to accede to either accord. Cuba was one of only a few states to decide not to participate actively in the efforts of the international community to curb the spread of weapons of mass destruction. For example, the Havana government was one of four countries in the United Nations General Assembly to vote against the resolution endorsing the NPT in June 1968.

The reasons for its opposition to the accord lie in its contentious relationship with, and opprobrium by, its closest neighbor, the United States. For a small state like Cuba, this position was made possible by its relationship during the Cold War with the former Soviet Union and the relative luxury of nonaggression guarantees by the United States *vis-à-vis* Cuba. Cuba used its relationship with the United States to justify its failure to sign the Treaty of Tlatelolco as well. Cuba “repeatedly put forward conditions for its accession to the treaty, including the cessation of persistent hostility from the United States in the form of the economic embargo, a U.S. pledge to renounce the use of military force against Cuba, and the end of port visits of U.S. ships equipped with nuclear weapons to the U.S. Naval Base at Guantanamo Bay.”¹¹

Unlike many small states—because of the economic sanctions placed upon it by the United States—Cuba could not count on external assistance in the form of

investment and loans from international financial institutions, the international banking community, or the international nuclear industry without a complete normalization of relations with Washington. Cuba's peaceful nuclear ambitions could be satisfied through one and only one channel, the Soviet Union. Cuba annually imported 13 million tons of oil from the Soviet Union under preferential trade arrangements, but in light of the oil shocks of the 1970s, it sought to insure itself against a potential cutoff of supply by diversifying its energy production capability. It signed a nuclear cooperation agreement with the Soviet Union in 1979, and began in earnest to develop a nuclear energy development program anchored by the construction of a nuclear power reactor at Juragua in Cienfuegos Province.

From the inception of its nuclear energy development program in the 1970s, Cuba cooperated with the IAEA at the behest of its Soviet sponsors. Before the collapse of the Soviet Union, Cuba's generally negative attitude toward nonproliferation had the effect of undermining the credibility of the Soviet position on these issues.¹² In fact, after Cuba's opposition to the 1968 NPT resolution in the United Nations, its unyielding stance on nonproliferation was viewed as "the apple of discord in the generally amicable Cuban-Soviet relationship."¹³ At the insistence of the Soviet Union, Cuba signed three safeguards agreements with the IAEA, which applied to all nuclear facilities on the island, including the Juragua nuclear power facility, a nuclear research reactor at the Cuban Center for Applied Nuclear Energy Research, and a zero-power reactor at Pedro Pi outside of Havana.¹⁴

By the late 1980s, the generally intransigent Cuban position on nonproliferation aroused suspicion in the international press because of the "questionable" economic value of placing a nuclear power reactor on the island and the persistent murmuring in the Cuban exile community in the United States about a more nefarious rationale for such a dedicated nuclear program, that of creating a nuclear weapons capability.¹⁵ Defectors from the nuclear program issued statements regarding the existence of secret laboratories and suspect safety practices at the nuclear reactor site.¹⁶ These denunciations raised the interest of U.S. government officials and culminated in a series of U.S. congressional hearings on the Cuban nuclear program.¹⁷ U.S. concerns were also aroused by Cuba's growing cooperation with states of nonproliferation concern. Between 1986 and 1992, the Cuban government signed nuclear cooperation agreements with Argentina, Brazil, India, and Iran.¹⁸ Under the nuclear

cooperation agreements, Cuba could ostensibly receive technical information, training, and equipment for plant operation, quality assurance, regulatory standards, radiological safety, emergency preparedness, and accident procedures. The Argentine agreement was especially important, as Argentina viewed Cuba as a potential export market for nuclear engineering services and components, especially in the area of nuclear fuel fabrication.¹⁹

Interestingly, during the same period various U.S. government agencies and nuclear firms were openly cooperating with Cuban nuclear officials on safety and engineering aspects of the Juragua project. This cooperation culminated in information exchange visits on nuclear safety in 1988 between Cuban officials from the Secretaria Ejecutiva de Asuntos Nucleares (SEAN) and representatives of the U.S. Nuclear Regulatory Commission and Duke Power Company of North Carolina, with Cuban officials visiting the MacGuire Nuclear Reactor outside of Charlotte, and the Americans visiting the Cienfuegos construction site.

Shortly after taking office in 1989, however, the George H.W. Bush administration began an effort to tighten the existing embargo against Cuba and terminated all official contact between Cuban and American officials at any level, formal and informal, as it pertained to the Cuban nuclear energy development program. This step was taken despite an ongoing dialogue between officials from the United States Nuclear Regulatory Commission, the Department of State, and the Cuban government. All interested parties concurred that the initiatives were "clearly an opening that we should take advantage of."²⁰ But by 1991 the tenor of the U.S. policy, opposition from anti-Castro groups, and negative press coverage had created a public image for the Cienfuegos project that warned of the potential of a "Cuban Chernobyl" looming a mere 90 miles off the coast of Florida with a potential of plumes of radiation streaming as far north as Washington, D.C. There was also an open debate about the intent of the Cuban nuclear energy development, with critics worrying about the possible objective of a nuclear weapons capability.²¹ Subsequently, further attempts to continue the information exchanges were terminated as the State Department refused to issue visas to nuclear officials from Cuba to attend the annual meetings of the American Nuclear Society and the World Association of Nuclear Operators (WANO) in Chicago and Atlanta, respectively.²²

There is evidence of a pattern of misinformation advanced by Cuban American supporters of the Bush ad-

ministration that focused on negative reporting of Cuba and denunciations of most efforts to ameliorate relations between the neighboring states, especially in this highly sensitive area.²³ It was under this cloud of a suspect rationale for the nuclear project, of the loss of Soviet oil supplies (following the collapse of the Soviet Union), and in the midst of a catastrophic economic crisis that in the September 1992 “State of the Revolution” address, Fidel Castro proclaimed that Cuba was temporarily suspending construction of the nuclear power reactor at Juragua.²⁴ In announcing the bitter and painful decision at that time, Castro blamed the Russians for demanding \$200 million dollars to continue work on the project.²⁵

Throughout the remainder of the 1990s, Cuba continued to pursue financing to complete the construction of the nuclear energy reactor at Juragua. A feasibility study conducted by the Italian engineering firm Ansaldo SpA estimated the cost for completing the project at \$800 million dollars, but nuclear power experts contended that this “unreleased” study most likely neglected to include operational safety and systems testing of the facility prior to startup or, for that matter, eventual decommissioning costs.²⁶ During this period, Cuba and the Russian Federation concluded four nuclear cooperation agreements for the completion of the project, with pledges of a transfer of capital for the project. But in reality, Russia possessed neither the economic wherewithal nor the physical ability to deliver on its promises. It appears that the agreements were little more than shallow commitments on the part of both parties to see the project through to its fruition while fully cognizant that hope for the project was slipping away with the passage of time. Three issues compounded this dismal projection: the uncertainty of financing and technical assistance from Russia, pressure from the United States regarding the looming “inherent” disaster should the plant be completed, and the toll of the tropical environment on the “mothballed” facility.²⁷

First, during the initial stages of the construction, Cuba relied almost exclusively on the Soviet Union for all aspects of the project, including training and education of personnel, technical advisors, technology and materials, and financing. As construction proceeded, there was discussion regarding the delivery and storage of nuclear fuel and other radiological materials because the Soviet Union did not possess the capability to transport such material to Cuba. Moreover, after the Chernobyl accident in 1986, there were design modifications to the plant that pushed back the construction schedule and raised the cost of the project. It was at this time that Cuba

began its discussions with third parties because of the already collapsing Soviet economy and the uncertainty and irregular delivery of construction materials and financing. By 1992, the Soviets had invested an estimated \$1 billion dollars into the project, but it remained only 60 to 70 percent complete.²⁸

Second, during the 1990s, U.S. policy toward Cuba openly called for the termination of the nuclear energy development program and sought through legislation to predicate the normalization of relations between Cuba and the United States upon this termination. The United States discouraged other countries from providing any assistance to Cuba, except for nuclear safety purposes. The United States preferred that construction never be completed, and insisted that Cuba sign either the NPT or the Tlatelolco Treaty before it would consider reversing its policy. Even after Cuba signed the Treaty of Tlatelolco in 1995, the United States insisted that Cuba ratify the treaty before any policy change would be entertained. The Cuban Democracy Act of 1992 (the Torricelli Act) and the Cuban Liberty and Democratic Solidarity (LIBERTAD) Act of 1996 (the Helms-Burton Act) sought to specifically ban any assistance for the Cuban nuclear program.

The language of this legislation stated that the United States could apply economic sanctions against any Cuban trading partner for violations of American law. Moreover, this legislation included provisions requiring dollar-for-dollar reduction of aid to any country providing nuclear cooperation and assistance to the Cuban program.²⁹ Furthermore, the law states that, “any resumption of efforts by any independent state of the former Soviet Union to make operational any nuclear facilities in Cuba...in view of the threat to national security posed by the operation of any nuclear facility...will be considered an act of aggression which will be met with appropriate response in order to maintain the security of the national borders of the United States and the health and safety of the American people.”³⁰ Ironically, this “threat” was used as the basis for a U.S. funding of the construction of a nuclear radiation detection network along the Florida Gulf Coast in the late 1990s, even though there was no nuclear reactor construction at that time in Cuba, nor was there any indication of plans to resume activities to that end.³¹

Complicating these requirements are the exemptions of aid to the Russian Federation covered under the National Defense Authorization Act of 1993 under the provisions of Title XII—Cooperative Threat Reduction with States of the former Soviet Union—which covered virtually all

aspects of Russia's nuclear activities. In essence, it left a rather large loophole that allowed Russia to provide any manner of nuclear assistance to Cuba or any other state for that matter, for which the United States had no capability of stopping or even influencing. This was unacceptable to the opponents of the Castro regime, but they could do little to change the situation, given the manner in which a key part of the Helms-Burton Act was negated by another key piece of U.S. legislation, in essence tying the hands of U.S. administrations in the matter.³²

In this situation, Cuba entertained any number of prospective suitors in its efforts to complete the nuclear program, and for a time after its signature of the Treaty of Tlatelolco, it appeared that perhaps a Russian firm or some other similarly interested company might be willing to assist the Cuban nuclear power effort.³³ Disappointingly, however, Cuba found little real concrete interest in the project but continued to seek investment. After much deliberation, Cuban officials announced in December 2000 that "it makes no sense" for the country to continue efforts to complete the plant, and officially ended the 18-year effort at Juragua to develop a nuclear energy capability for the island.³⁴

THE DECISION TO SIGN THE NPT

What were the changes in the Cuban foreign policy apparatus that brought about the September 2002 decisions? The evidence suggests that a significant shift in the overall trajectory of Cuba's foreign policy was caused by the changed global environment on two fronts. First, and obviously, with the passing of Cold War subsidies and support from the Soviet bloc, Cuba had little choice but to reach out to its regional neighbors and the rest of the world for political and economic assistance. While the results have been sufficient to keep the Cuban economy from collapsing, it still suffers from economic privations. Some are vestiges of historical development patterns (such as its reliance on exporting primary agricultural products), some are self-imposed limitations (reliance on inefficient socialist production modalities), and others are externally imposed restrictions (the enduring U.S. embargo).

These factors in part account for the second shift and the need to breakout of Cold War posturing. The other major change is that, with the end of the Cold War, Cuba is truly independent for the first time in its modern history.³⁵ Its economic policy choices, diplomatic relationships, and foreign policy instruments are now tacit admissions that Cuba—like other small states—must

account for the changing nature of the international system and respond in a manner that will ensure its prosperity, stability, and security. To accomplish these objectives, Cuba has sought cover in the international community, in its organizations, and through multilateral agreements such as the NPT.

Cuban officials historically have offered two criticisms against the nuclear nonproliferation regime and have used them to justify its refusal to join prior to 2002. First, Cuba continued to contend that the treaty was discriminatory against non-nuclear weapon states, since nuclear weapons states possessed a monopoly on the development of weapons of mass destruction. Cuba said the treaty thus effectively endorsed the position that nuclear weapons were the "currency of power" on the globe.³⁶ Second, Cuba contended that the "good faith" promise in the NPT to disarm had not been fulfilled by the nuclear weapon states and had only been addressed reluctantly. Along these lines, Cuba complained that the NPT and the nonproliferation regime had almost exclusively addressed the question of horizontal proliferation while paying scant attention to the vertical proliferation of nuclear weapons states, especially the United States and the former Soviet Union.³⁷

In the period since 1991, however, everything in Cuba has changed. Maria Lopez Vigil comments:

On the new stage, the state continues to recite its monologue, but a host of new actors (internal and external) has joined it, each with its own role, with interests that are partially in contradiction with those of others...The system can no longer assume that the script won't have to be rewritten somewhat.³⁸

This means that Cuba necessarily must elicit support and assistance from a wider base than it had previously been accustomed to, and would necessarily be compelled to make changes in its foreign policy in order to reach those objectives.

Two additional factors prompted the decision to sign the NPT and ratify the Treaty of Tlatelolco: energy security and the continued opprobrium of the United States under the present George W. Bush administration. First, energy security is crucial for Cuba. Cuba presently relies on oil imports for nearly 60 percent of its energy supply. While the island has increased its domestic oil production dramatically since 1991, to where it now accounts for more than 90 percent of the oil used for domestic energy production, Cuba still devotes almost 40 percent of all of its export earnings to importing oil.³⁹ This exposure and reliance on oil imports are compounded by the fact that Cuba's primary oil supplier, Venezuela, is in the

throes of political upheaval and that the preferential trade relationship that it currently enjoys could change with little or no notice. While efforts to improve energy-generating capacity and efficiency have been relatively successful, Cuba remains quite vulnerable to the vagaries of world oil market prices.

In the wake of the world oil shocks of the 1970s, the initial decision to pursue a nuclear energy capability in Cuba was taken precisely to address oil import dependence. Efforts to develop a well-trained cadre of nuclear officials (bureaucrats, scientists, and technicians) were relatively successful. Even though the Juragua project has been terminated, there remains a possibility that within 5 to 10 years the nuclear energy option may be revisited. Cuban officials concerned about the future viability of nuclear energy stated that the decisions to join the Tlatelolco Treaty and the NPT were taken to “ensure technical advancement and to facilitate exchanges with the wider nuclear community.”⁴⁰ This view is entirely consistent with overall Cuban thinking on nuclear energy development. Fidel Castro Diaz-Balart, the former president of Cuba’s nuclear agency comments, “Today, there is a lot of public misunderstanding and misperceptions about nuclear technology. People are hypersensitive to nuclear technology and we all must help them with a credible and comprehensive educational initiative, to understand that this technology, like all other technologies, carries benefits and risks, and that mature ways have been developed for weighing one against the other...How to use nuclear technology will differ from one country to another, depending on a nation’s need and priorities but there is a need to ensure that the public receives appropriate information to make intelligent decisions about the available options.”⁴¹

Cuba remains ever vigilant of the U.S. efforts to impose, as it were, conditions on a normalization of relations between the two countries. From the Cuban view, this has taken on an even more ominous tone in the period since 9/11. Cuba’s Vice Minister for Foreign Affairs Abelardo Moreno has said that the decision to ratify the two nonproliferation agreements went beyond national interest: “The decision safeguards the United Nations and strengthens multilateral ideas, in contrast with the U.S. hegemonic and war policy, which in effect impedes efforts to prevent the development of nuclear weapons”; he viewed the organization as a “pillar of multilateralism.”⁴² Minister of Foreign Affairs Felipe Perez Roque added,

If the US government unleashes a new war against Iraq, either by imposing it on the Security Council or decid-

ing upon it unilaterally in opposition to international public opinion, we will bear witness upon the emergence of a century of unilateralism and the forced retirement of the United Nations Organization.⁴³

Jean DuPreez comments that

an interesting aspect of the Cuban Foreign Minister’s statement is that the decision to ratify the Treaty of Tlatelolco was taken despite the fact that the only nuclear power in the Americas [referring to the United States] pursues a policy of hostility towards Cuba that does not rule out the use of force.⁴⁴

This statement refers to the undertakings by nuclear weapons states parties to the NPT not to use or threaten to use nuclear weapons against member states of nuclear-weapon-free zones, in this case the parties to the Treaty of Tlatelolco.

In early 2003, Cuban civil defense officials initiated readiness procedures in response to the military preparations of the United States prior to the invasion of Iraq, while simultaneously further integrating its nonproliferation activities into the dense complex of international organizations. As DuPreez noted, “This seems to imply that Cuba does not wish to be included as part of those states that are considered to be a threat to international peace and security as in the case with Iraq.”⁴⁵ Moreover, DuPreez’s statement appears to capture the prevailing rationale of foreign policymakers in the current Bush administration, especially in light of comments by senior administration officials that members of the “Axis of Evil” and rogue states may all be subject to U.S. preemptive strikes against terrorist networks and those who would support them. Clearly, because of its inclusion on the list of “terrorist states,” Cuba could quickly become a target of the Bush Doctrine. DuPreez concludes that “the timing of this decision, in light of [possible] military intervention in Iraq and considered against the background of allegations that Cuba has violated its obligations under the BTWC [Biological and Toxin Weapons Convention], could be an attempt by the Cuban government to be seen as a responsible member of the international community rather than another state posing a threat to international peace and security.”⁴⁶

In response to Bush administration charges in May 2002 of a “Cuban biological warfare research and development effort,” a group of Americans (retired military officials, nonproliferation specialists, and scientists) visited nine Cuban biotechnology facilities in October 2002.⁴⁷ The trip report provided a detailed description of key biotechnology, pharmaceutical, and genetics research facilities on the island. Little evidence was found to sup-

port the allegations of the U.S. government. Terrence Taylor, a member of the delegation who served as a U.N. Special Commission on Iraq (UNSCOM) commissioner and inspector commented that "given the nature of the range of international contacts and joint ventures, the relatively open system, and the attitude and approach of the staff and their work, it would be highly unlikely that there is any work on biological weapons at any of the facilities visited."⁴⁸ Critics of the Bush allegations argued that the lack of credible facts supporting Bolton's comments "point up again the mendaciousness of the State Department's efforts to describe Cuba as a terrorist state with hostile intentions toward the United States."⁴⁹ Logically and unambiguously, Cuban policymakers have sought to incorporate the entirety of Cuba's nuclear aspirations and nonproliferation activities under the direction of the international regimes.

CUBA'S NONPROLIFERATION FUTURE: OPPORTUNITIES AND CHALLENGES

The challenge for Cuban energy development policy in the 21st century is how to integrate efficiently and safely the benefits of advanced technologies such as nuclear energy into the public realm. This challenge is important on two fronts. First, Cuba has invested vast resources into the development of human capital in the area of nuclear scientific and technological applications. This investment was made with the intention of providing a platform of core competencies in nuclear science and technology that would increase Cuba's domestic energy and scientific capabilities. Second, Cuba already faces what may become the norm for many countries in the coming decades: uncertain and insecure sources of petroleum. Cuba has openly sought to diversify its energy portfolio to become less oil-dependent through the development of alternative energy sources such as solar, wind, biomass, and other hybrid forms of energy generation. At the same time, considering the high initial cost of development for any of these sources, Cuba has assiduously pursued the expansion of its domestic oil production. But the long-term viability of this policy option is debatable due to the poor quality of oil, the lack of significant oil reserves, and the high costs of exploration coupled with the significant capital requirements of importing oil to fuel the economy. In addition, the costs of environmental remediation may prove vexing to energy policy designs, especially if such cleanup efforts are a requirement of international lending agencies in the future.

For all of the previous furor and debate over its viability, nuclear energy remains a likely future alternative for Cuba. Cuba has continued to maintain close ties to the IAEA and the international nuclear science community. It continues to educate and train engineers, scientists, and technicians in both the theoretical and applied aspects of nuclear science. The government has continuously adjusted and modified its nuclear-related bureaucracies to address changes in the policy environment with an eye to the future. One can easily imagine that an international nuclear firm would see the potential for investment in Cuba where there is an able and ready high-tech workforce with a government prepared to address the challenge of the safe and efficient management of nuclear power. Since 1991, Cuban officials and the Cuban public have been keenly aware of the perceived and actual shortcomings of its nuclear ambition and have worked diligently to address the legal and regulatory concerns. The result is a highly regarded nuclear infrastructure (bureaucratic and scientific) prepared to meet the challenge of Cuba's nuclear future.⁵⁰

IMPLICATIONS FOR U.S. POLICY TOWARD CUBA

Cuba, by signing the NPT and the Tlatelolco accord, immediately raises its status in the nonproliferation community from that of a state outside of the regime, to one of its most ardent developing-world supporters. Necessarily, this shift will have an impact on U.S. views of Cuba's cooperation and support of nonproliferation norms. The irony of this shift is represented in the ongoing North Korean situation, in which Cuba supported the IAEA rebuke of North Korea's nuclear programs, "delighting" the United States: "This is an important message to North Korea from the international community and we hope that North Korea will listen to this message...It takes a lot to get condemned by Iran and Cuba, and North Korea has done it."⁵¹ Aside from receiving the support of the Cuban regime on this critical nonproliferation matter, however, the United States has policy instruments in place that limit the extent to which it can cooperate with the Havana government on nonproliferation and related matters.

Cuba has fulfilled the twin demands placed upon it by the Helms-Burton Act of 1996 by its signing and ratification of the two key nonproliferation accords. This change clears the way for a reconsideration of policy by the United States, but it is far from certain that in the present environment the Bush administration will be open

or amenable to a change of policy. Interestingly, the U.S. government has yet to acknowledge formally Cuba's accession to the NPT and the Treaty of Tlatelolco. Cuba remains on the U.S. State Department list of terrorist states despite the pledge of cooperation on the behalf of the Castro regime to assist the United States in its efforts to combat terrorism. Cuba is one of seven nations on a U.S. list of state sponsors of international terrorism because it *harbors* those who have committed past acts of terrorism and because it continues to have links with foreign terrorist organizations, according to State Department documentation.⁵²

These points reveal a contradiction within the U.S. policy toward Cuba. The United States has seen fit to present Cuba as a supporter of its nonproliferation efforts, while simultaneously labeling it a "terrorist" state. Perhaps this stance will change with the decision by the Bush administration to not renominate Cuba hard-liner Otto Reich to head the State Department's Bureau of Western Hemisphere Affairs. Reich, a controversial recess appointment in 2001, has been reassigned to the National Security Council as a Latin American envoy. Bush has instead nominated Roger Noriega, formerly the U.S. ambassador to the Organization of American States (OAS) and a seasoned Capitol Hill staffer. Ambassador Noriega has more than a passing familiarity with Cuba policy, and some believe that his appointment may mitigate an outwardly hostile posture toward Cuba.⁵³ It appears that the focus of Cuba-related legislation in the current 108th Congress will focus on a bipartisan attempt to dismantle the nearly 42-year embargo and that the details of nonproliferation policy may be pushed to the margins in the short term.⁵⁴

Since the mid-1990s, there has been little to suggest that U.S. policymakers understood the full extent of Cuba's nuclear ambitions, its reluctance to fully engage the nonproliferation regime, and what potential role the United States might play in the future. Legislators and their respective staffers were woefully underinformed about the scope and objectives of Cuban nuclear development schemes.⁵⁵ The result of this shortcoming was the introduction of legislation that correctly identified the Cuban nuclear program as an issue of concern (for safety and regulatory reasons) but unwisely placed specific provisions in the legislation that neither addressed the basis of those concerns nor equipped the United States with policy options or instruments to correct those shortcomings.⁵⁶

One can ask if the United States should still be concerned with the Cuban nuclear program in the wake of

the country's joining the nonproliferation regime. The answer is threefold. First, the United States should take this opportunity to establish linkages to the energy future of Cuba. One could argue persuasively that the officials presently sitting in positions of influence in Cuba's energy development agencies will retain their positions even after the normalization of U.S.-Cuban relations. A cadre of young, well-educated, and articulate scientists, engineers, and technicians, dedicated to advancing Cuba's energy sector, will be active for many years into the future.

Second, cooperation with these officials also engenders confidence building between neighbors and the further development of a nuclear safety culture in Cuba. Cuba has demonstrated that it intends to implement the requisite institutional standards and safeguards for the safe and peaceful exploitation of nuclear science. But intentions are not nearly enough. Cuba has benefited greatly from the training and development programs offered by the IAEA, other states, and regional energy organizations in the areas of quality assurance, nuclear safety, licensing, and regulation. Ongoing U.S.-Cuban information and technical exchanges of this type would benefit the U.S. as well as the people of Cuba. Cuban-American cooperation in the late 1980s took this direction before contact was terminated by the first Bush administration.

Finally, to turn our back on a country party to these important nonproliferation accords and in need of technical assistance and management of its nuclear resources is to court disaster. Critics who would argue that this type of cooperation strengthens Castro's hand should consider this: No matter what happens in Cuba under the Castro regime, eventually the United States will necessarily, because of proximity and resource availability, provide financing and assistance for the development and revitalization of the Cuban energy sector. Given the current financial standing of the Cuban government, this responsibility will fall primarily to three American parties: U.S. private corporations through their investment in infrastructure, U.S. government agencies through development assistance programs, and international financial institutions like the World Bank and International Monetary Fund through loan packages. Moreover, the manner in which this issue is resolved, like that of immigration and the sale of food and medicine, sets the stage for future political and economic relations with Cuba.⁵⁷ Two mitigating factors will condition the U.S. response to these developments. Cuba policy remains a fundamental question of domestic politics in the United States, and the

Cuban-American voters wield power in Florida, one of the likely "battleground" states in the 2004 presidential election. The extent to which domestic politics permits an opening in U.S.-Cuban relations will determine the scope and nature of cooperation in ostensibly apolitical matters, such as the development of the peaceful uses of energy.

One can view these initiatives as depoliticized linkages toward the construction of a respectful and accommodating relationship with a neighboring sovereign state committed to upholding the norms and values of the international nonproliferation community. No one Cuban in Cuba, today or in the future, benefits from the arrested development of energy cooperation. This is a concern that has plagued Cuba during the entire modern period dating back to before is initial struggle for independence in the 19th century. And it will remain long after Castro has departed.

¹ I would like to express my gratitude to the Cuban Ministry of Science, Technology and the Environment (CITMA), Center for Energy Information Management and Development (CubaEnergia), and the Cuban Nuclear Energy Agency (AEN) for their generous assistance with this report. The funding and support for this research was provided by the Ford Foundation grant no. 1000-1230, the Center for International Trade and Security at the University of Georgia, and the Department of Political Science at the University of Nebraska at Omaha.

² United Nations General Assembly, 57th Session, statement delivered by H.E. Mr. Felipe Perez Roque, Minister of Foreign Affairs of the Republic of Cuba, New York, September 14, 2002. See official website of the Ministry of Foreign Relations, Republic of Cuba, <<http://www.cubaminrex.cu>>.

³ "IAEA Director General Welcomes Cuba's Intention to Join the Nuclear Non-Proliferation Treaty," *WorldAtom* PR2002/14, September 14, 2002, <<http://www.iaea.org>>.

⁴ Oksana Polishchuk, "Russia welcomes Cuba's decision to join the NPT," *ITAR-Tass*, September 16, 2002.

⁵ "No sense in completing Russian-tech nuke plant: Cuban lawmaker," *Agence France Presse*, December 19, 2000. A comprehensive analysis of the Cuban nuclear energy development program can be found in, Jonathan Benjamin-Alvarado, *Power to the People: Energy and the Cuban Nuclear Program* (New York: Routledge, 2000).

⁶ Maria Lopez Vigil, *Cuba: Neither Heaven Nor Hell* (Washington: EPICA, 1999), p. 69.

⁷ In early 2003, U.S. foreign policymakers continuously reevaluated the conditions that would require the use of force against the Iraqi regime, taking into account the processes under way by the "failed" UNMOVIC inspections, the waxing and waning of support for the invasion of Iraq, and the potential of a protracted nuclear crisis on the Korean Peninsula.

⁸ Jean DuPreez, "Cuba's Accession to the NPT: A Step Toward Strengthening the Nuclear Nonproliferation Regime." *Research Story of the Week* (September 16, 2002). Via the internet: cna.miiis.edu/pubs/week/020916.htm.

⁹ *Ibid.*

¹⁰ An excellent account of the events surrounding the Cuban missile crisis can be found in, Alexander Fursenko and Timothy Naftali, *"One Hell of a Gamble: Khrushchev, Castro and Kennedy, 1958-1964"* (New York: W.W. Norton, 2000).

¹¹ Jonathan Benjamin-Alvarado and Alexander Belkin, "Cuba's Nuclear Power Program and Post-Cold War Pressures," *Nonproliferation Review* 2 (Winter 1994), p. 19.

¹² Even after Cuba-Soviet relations improved, Cuba valued its nonparticipation in the nonproliferation regime as a sign of its independence, not just from the

United States, but also from the Soviet Union. It was among the examples of persistent differences cited when Cuban diplomats sought to explain why Cuba could be a member, and eventually head the Non-Aligned Movement.

¹³ Benjamin-Alvarado, et al., "Cuba's Nuclear Power Program," p.19.

¹⁴ These INFCIRC 66 model agreements are: INFCIRC 281 (signed May 5, 1980), INFCIRC 298 (signed September 25, 1980), and INFCIRC 311 (signed October 7, 1983).

¹⁵ Criticism of the Cuban nuclear program as reported in the U.S. press during the early 1990s consistently cited a questionable economic rationale for the development of a nuclear energy capability in Cuba, but there was no serious scientific analysis to support these assertions. Moreover, this critique, coupled with the claims of poor reactor design and proliferation activity, served to characterize the program as a threat to the United States. This much was codified with the passage of the Helms-Burton Act of 1996.

¹⁶ Examples of such evidence were first found in John Barron, "Castro, Cocaine and the A-bomb Connection," *Reader's Digest* (March 1990), and in the account by Cuban defector Jose R. Oro Alfonso, "Some Aspects About Environmental Pollution and Protection of the Ecological System in Cuban and its Surroundings." This monograph was subsequently published by a leading U.S. anti-Castro interest group. See Jose R. Oro, *The Poisoning of Paradise* (Miami: Endowment for Cuban American Studies of the Cuban American National Foundation, 1992).

¹⁷ U.S. Senate, Subcommittee on Nuclear Regulation of the Committee on the Environment and Public Works, *International Commercial Reactor Safety*, 102nd Cong., July 25, 1991.

¹⁸ See Richard Kessler, "Argentina and Cuba signed a Nuclear Cooperation Agreement," *Nucleonics Week*, November 13, 1986, pp. 12-13; "Agreements for India," *Nuclear Engineering International*, July 1990, p. 7; "Iran Wants to Restart Bushehr Construction," *Nuclear Engineering International*, December 1991, p. 4; Ann MacLachlan and Charles Hoots, "Cubans Looking Past USSR to Iran, Other for Nuclear Exchanges," *Nucleonics Week*, October 10, 1991, pp. 2-3. (All citations drawn from abstracts in the Center for Nonproliferation Studies database).

¹⁹ Richard Kessler, "Menem Gives No Promises To Castro's Son On Nuclear Aid," *Nucleonics Week*, January 24, 1991, pp. 13-14. While it is true that Argentina under Menem was rapidly deactivating the Condor missile program and dismantling any whiff of proliferation policy, in 1986 Cuba and Argentina had concluded a nuclear cooperation agreement for technical information exchanges in nuclear plant safety and operations, nuclear security, radiological protection, and food irradiation. Menem's decision not to provide the Cuban program with assistance was purely political in light of its embrace of a more upstanding nonproliferation posture, but it does not negate the fact that during that period Argentina clearly and unambiguously sought to expand its nuclear commerce with a number of states, including Cuba.

²⁰ In redacted official U.S. government documents obtained through the Freedom of Information Act, it is clear that both sides were committed to a full and transparent exchange of information regarding Cuba's nuclear energy development program. It was abundantly clear that the Nuclear Regulatory Commission sought to expand the cooperation with the Cubans, with the full support of the Cuba desk at the State Department. Cuba, for its part, was openly disappointed with the lack of U.S. press coverage of the U.S. nuclear officials' visits to the Cienfuegos construction site.

²¹ See Eric Ehrmann and C. Barton, "Cuba Goes Nuclear," *The Christian Science Monitor*, June 3, 1991, p. 18, and John J. Fialka and Jose De Cordoba, "Cuban Nuclear Power Stirs Debate Among U.S. Aides," *Wall Street Journal*, June 4, 1991, p. A14.

²² "Cubans Unable to Attend Talks," *Washington Post*, April 24, 1991, p. A19, and "US Denies Visas to Nuclear Scientists," *Havana Tele Rebelde* and *Cuba Vision Networks*, August 27, 1992.

²³ This pattern is well documented as a part of a concerted effort by leaders in the Cuban-American exile community to discredit all information related to the Castro regime by relying on misinformation, half-truths, and fabrications to ensure negative reporting. See Ann Louise Bardach, *Cuba Confidential: Love and Vengeance in Miami and Havana* (New York: Random House, 2002).

²⁴ Post-Cold War analyses suggest that the Cuban economy fell by over 35 percent in the period between 1991 and 1993 and suffered a loss of almost 50 percent of its oil imports from the Soviet Union. See Gerardo Gonzalez, "Transición y Recuperación Económica en Cuba," *Cuba in Transition* 7 (1997), pp. 162-177, and Susan Eva Eckstein, *Back from the Future: Cuba Under Castro* (Princeton, NJ: Princeton University Press, 1994).

²⁵ Later in 1993, the Russian Federation would advance Cuba \$30 million to effectively mothball the Juragua project. See Wilson Dizard III, "Christopher Says Moscow To Pay Juragua's \$30-million Mothball Tab," *Nucleonics Week*, September 30, 1993, p. 7.

²⁶ See Osvaldo Juvier, "Comments on 'The Quest for Power: Analyzing the Costs and Benefits of Cuba's Nuclear Energy Policy' by Jonathan Benjamin-Alvarado," *Cuba in Transition* 6, (1996), p. 450.

²⁷ For interviews regarding the matter see the film documentary, *A "Chernobyl" in Cuba?* broadcast on *America's Defense Monitor* via the Public Broadcasting System, February 15, 1998.

²⁸ This pertains to the civil construction at the plant and did not include the installation of instrumentation and control (I&C) systems that were estimated to be only 20 percent completed at the time construction was suspended in 1992.

²⁹ *Cuban Liberty and Democratic Solidarity Act of 1996* (Helms-Burton Act), 104th Cong., P.L. 104-114, Title 1, Section 111.

³⁰ Helms-Burton Act, Title 1, Section 101 [3, 4a, 4b].

³¹ ABC News, "Sniffing For Radiation," *World News Tonight*, March 22, 1999.

³² Jonathan Benjamin-Alvarado, "Cuban Nuclear Developments," *The Monitor: Nonproliferation, Demilitarization and Arms Control* 2 (Winter-Spring, 1996), p. 7.

³³ "Cuba Firme El Tratado Contra La Proliferacion de Armas Nucleares En America Latina y El Caribe," *El Pais* (Madrid), March 27, 1995; "Moscow Hails Cuba Signing Amendments to Tlatelolco Treaty" *Interfax* (Moscow), December 28, 1995, in FBIS-SOV-95-250 (December 28, 2002); Mark Hibbs, "Siemens-Russia Talk On Supply of I&C To Finish Cuba's Juragua," *Nucleonics Week*, June 1, 1995, pp. 2-3; and "Cuba: Nuclear Security Agreement Signed With Mexico," *Prensa Latina* (Havana), May 25, 1996, in FBIS-LAT-96-104 (May 27, 1996).

³⁴ "No Sense in Completing Russian Tech Nuke Plant, Cuban Official," *Agence France Presse*, December 19, 2000.

³⁵ Cuba is "truly independent" in as much as it no longer can be identified as a colony, or an occupied or client state, as it had been from the time of its initial settling by the Spanish in the 15th century. While still facing significant limitations because of its relative isolation, Cuba's foreign policy is a mostly Cuban endeavor as it is not beholden or directly accountable to any external power.

³⁶ See Janne Nolan, ed., *Global Engagement: Cooperation and Security in the 21st Century* (Washington: Brookings Institution, 1994) for discussion of the international principles of equity and their relationship to problems of security.

³⁷ Taken from statements by Cuba's Vice Minister for Foreign Affairs Abelardo Moreno appearing on the Cuban television program, *Mesa Redonda Informativa, Tele-Rebelde* (Havana), October 10, 2002.

³⁸ Maria Lopez Vigil, *Cuba: Neither Heaven Nor Hell*, p. 90.

³⁹ Cuba has significantly increased its domestic oil production to where it now accounts for over 90 percent of the oil used to fuel the production of energy at its conventional generation facilities. The quality of that oil is such that it is not suitable for refining because of its high sulfur content. This requires that Cuba must import refined oil products (gasoline, diesel, and other processed fuels) for its transportation and industrial sectors, both of which are hardly energy efficient. This presents a considerable drain of economic resources as the imports must be paid at world market prices in cash, accounting for over 40 percent of Cuba's export earnings.

⁴⁰ Manuel Fernandez Rondon, director, Centro de Gestion de la Informacion y Desarrollo de la Energia, interview with author, Havana, Cuba, November 14, 2002. Cuba's future nuclear activities will be coordinated in four areas: human health, agriculture, industrial applications, and the environment. See Manuel Fernandez Rondon, "Técnicas Nucleares en Cuba: Estado Actual y Futuras Aplicaciones," unpublished report (2002).

⁴¹ Fidel Castro Diaz-Balart, "Some Remarks on the Role of Nuclear Energy Today," Transcript, Moscow International Nonproliferation Conference, Moscow, Russia, October 6-7, 2000, <<http://www.carnegie.ru>>.

⁴² "Cuba Ratifies Agreement on Nuclear Non-Proliferation," *Caribbean Media Corporation News Agency*, October 11, 2002. See also, Cuban Ministry of Foreign Relations, Havana, Press Release, November 5, 2002, "Cuba se adhiere al Tratado de No Proliferacion de las Armas Nucleares (TNP)." There is some debate as to whether this represents the development of Cuba as a "multilaterist" state. Some would suggest that aspects of Cuba's international behavior since the 1990s represents a tactic more than its does a conviction. Be that as it may, there is a growing body of evidence that Cuba in other areas, especially in the areas of health and education, continues to provide support for regional and multilateral efforts to address issues in these areas.

⁴³ U.N. General Assembly, Statement by H.E. Mr. Felipe Perez Roque.

⁴⁴ Jean DuPreez, "Cuba's Accession to the NPT: A Step Toward Strengthening the Nuclear Nonproliferation Regime," *Research Story of the Week*, September 16, 2002, <<http://cns.miis.edu/pubs/week/020916.htm>>.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ On May 6, 2002, a statement by U.S. Undersecretary of State for Nonproliferation Affairs John Bolton suggested that Cuba was somehow involved in the development of technology for the manufacture of biological weapons. See *CIP Special Report On Cuba And Bioweapons: Groundless Allegations Squander U.S. Credibility on Terrorism*, Center for International Policy, Washington D.C., July 12, 2002.

⁴⁸ Glenn Baker, ed., *Cuban Biotechnology: A First-Hand Report* (Washington, DC: Center for Defense Information, May 2003), p. 26.

⁴⁹ *CIP Special Report On Cuba And Bioweapons*, p. 1.

⁵⁰ This assessment is based on interviews by the author with officials representing the U.S. Nuclear Regulatory Agency, the American nuclear industry, and international nonproliferation agencies.

⁵¹ "US welcomes IAEA resolution deploring NKorean nuclear moves," *Agence France Presse*, January 6, 2003.

⁵² U.S. Department of State, "Cuba on U.S. List of State Sponsors of Terrorism," May 1, 2000, <<http://usinfo.state.gov>>.

⁵³ Associated Press, "Bush Won't Renominate Otto Reich to Post," January 8, 2003.

⁵⁴ In the wake of recent U.S. Senate and House efforts to dismantle the embargo and to open up travel for Americans to Cuba, the Bush administration faces a direct challenge that will require President Bush to veto appropriation bills for Treasury and Transportation to keep the current policy in place.

⁵⁵ This assertion is based on a series of interviews conducted by the author with elected representatives and staffers during the summer of 1998 and in the fall of 2002.

⁵⁶ There may have been sufficient knowledge regarding the elements of the Cuban nuclear program that legislators and staffers had access to but for matters of political expediency chose to disregard, especially in the wake of the "Brothers to the Rescue" incident in February 1996. This cleared the way for the passage of the Helms-Burton law, even with the gross oversimplifications and legal insufficiencies contained therein.

⁵⁷ With the opening of the 108th Congress there is growing bipartisan and perhaps "veto-proof" support for the dismantling of the U.S. embargo against Cuba. See Adam Cohen, "Two Things Linger in Cuba: Fidel and a Pointless Embargo," *New York Times*, January 12, 2003, <<http://www.nytimes.com>>.