



*Toward Universal Compliance:
A 2007 Report Card*

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In March 2005, we argued that a strategy based on the principle of *universal compliance* offers the only way to secure the world against the spread and use of nuclear weapons. Central to this strategy is the argument that “the nuclear weapon states must show that tougher nonproliferation rules not only benefit the powerful but constrain them as well. Nonproliferation is a set of bargains whose fairness must be self-evident if the majority of countries is to support their enforcement.... The only way to achieve this is to enforce compliance universally, not selectively, including the obligations the nuclear states have taken on themselves.”

Events of the past two years have deepened this conviction. Terrorists and hostile regimes attempting to acquire or use nuclear weapons can be stopped only by coordinated international efforts to strengthen and enforce rules. To obtain this cooperation, the states that hold nuclear weapons for status and security must provide much greater equity to those that do not.

This strategic imperative is difficult for the United States, Russia, France, the United Kingdom, China, India, Pakistan, and Israel to accept, but they will face a much more dangerous world if they do not. If their intentions are not clearly to seek a world without nuclear weapons, a number of other states will seek equity through proliferation, while a greater number will look the other way, thinking that the original nuclear weapon states deserve the competition.

This “Report Card” analyzes how the priority policy recommendations we made in 2005 have fared. What have governments

done since then? What issues have been neglected, and to what effect? What, if any, recommendations would we change today?

Our recommendations for action were grouped under the headings of six broad obligations with which all actors should comply to create an effective nonproliferation regime. We have assigned a letter grade to each obligation, marking global progress and effort from 2005 through mid-2007. The United States has strongly affected the outcomes on which these grades are based because it is the most powerful actor in the international system and the historic leader of the nonproliferation regime. Yet the United States alone cannot adopt and implement most of the policies we recommend, and certainly cannot determine real-world outcomes without the active cooperation of many other states and institutions. Responsibility for the rather dismal performance reported here is therefore widely shared.

OBLIGATION ONE: Make Nonproliferation Irreversible. Revise the rules managing the production of fissile materials; clarify and tighten the terms by which states can withdraw from the NPT.

GRADE: D

“The acquisition of uranium enrichment and reprocessing plants by additional states should be precluded. In return, the United States and other states that currently possess such facilities must provide internationally guaranteed, economically attractive supplies of the fuel and services necessary to meet nuclear energy demands.”

Leading nuclear technology providers, the International

Atomic Energy Agency (IAEA), and other actors have discussed these objectives extensively since the end of 2004. However, little progress has been made. The discussion itself may have prompted Argentina, Australia, Brazil, Canada, and South Africa to seek to enter the enrichment business before an international consensus could be created to bar new entries.

A major tension bedevils efforts to alter nuclear fuel production norms and rules. For the sake of global security, it would be best to have binding rules prohibiting the spread of national fissile material production facilities. In February 2004, President George W. Bush proposed a moratorium on building enrichment and reprocessing facilities in states that did not already have them. That proposal met widespread resistance. France proposed an alternative within the Nuclear Suppliers Group (NSG) to condition the potential provision of enrichment, reprocessing, and heavy water technology on criteria including membership in and full compliance with the NPT, implementation of the Additional Protocol, and assessments that such activities were economically justified and would not cause regional insecurity. The United States rejects this criteria-based approach, as others probably would if the proposal were more energetically advanced today.

Non-nuclear weapon states such as Australia, Argentina, Brazil, Canada, and South Africa do not want to get shut out of an enrichment market that will grow if nuclear energy enjoys a renaissance. Other states resent being denied access to additional nuclear technologies when they feel that they have not benefited from nuclear cooperation as it is, and the nuclear weapon states have not delivered on the original disarmament bargain.

The United States and other countries have fallen back to a voluntary approach, premised on the argument that the market

for nuclear fuel supplies has always worked well for states that fulfill their NPT obligations. To bolster confidence in the market, new proposals are being offered to back up existing arrangements with terms so reassuring that countries will choose not to undertake the expense of indigenous enrichment and reprocessing. The gentle, modest spirit of this voluntary approach is widely welcomed. But it would likely attract the states that do not pose a security threat in any case, while those interested in enriching uranium for export or in hedging or breaking their nonproliferation commitments would choose to ignore them.

Perhaps in principle everyone has their price, and if the United States and other potential fuel-service providers offered fuel and spent-fuel services at low enough prices and high enough reliability levels, all potential hedgers would recommit themselves to eschew enrichment and reprocessing. And if prices were low enough and spent-fuel services attractive enough, perhaps the international community would agree that any state that launched development of indigenous fissile material production capabilities instead of relying on international fuel services would be casting a shadow of doubt over the peacefulness of its nuclear program. But realistically, as long as there was no rule being violated, the international community would merely watch and wait until the state broke an established rule, probably at a stage much closer to the acquisition of nuclear weapons.

In any case, fuel suppliers have not yet offered anything remotely attractive enough to overcome resistance to a perceived new layer of discrimination in the nonproliferation regime. Suppliers now emphasize market mechanisms and multi-tiered “assurances” so that potential purchasers would have backups and reserves in the event one source was cut off. However, some developing countries

fear that current nuclear suppliers, led by the Permanent Five (P-5), could interrupt supplies in order to punish alleged transgressions not only in the nuclear proliferation domain but in human rights or other areas. “Guarantees” will never be ironclad, but the refusal of the United States and others to offer more than improved market mechanisms will not persuade many states to limit their “rights” to fuel cycle activities.

One offer that could make a real difference would be to guarantee the taking back of spent nuclear fuel. States seeking to build new reactors would be spared the enormous costs, environmental concerns, and political hassles of dealing with nuclear waste. The prospect of escaping from the waste problem could be attractive enough to motivate many states to agree to new international rules limiting the spread of enrichment and reprocessing facilities. At the moment, Russia is the only state that has expressed interest in providing this take-back service. More recently, it has wavered on the matter. A major priority therefore must be to clarify Russia’s plans and to persuade others, including the United States, to take the overall problem seriously enough to overcome domestic political resistance to taking back spent fuel.

The U.S. Global Nuclear Energy Partnership (GNEP) program announced in 2006 sends mixed signals regarding the acceptance of spent fuel. GNEP envisions providing “cradle to grave” fuel services for states that agree not to acquire their own enrichment and reprocessing capabilities, but does not detail how it would accomplish that. GNEP would revive reprocessing in the United States for domestic and, possibly, foreign spent fuel. It would assign responsibility to fuel suppliers to dispose of spent fuel so that “the material is secured, safeguarded, and disposed of in a manner that meets shared nonproliferation policies.” What that vague phrase means, and whether its terms would condition

nuclear activities in any binding way, are hugely important questions that are unanswered so far.

There is a paradox here. Citizens can be frightened or angered by images of importing other people's nuclear waste. This fear might be obviated by offering as-yet-unproven technologies for reprocessing spent fuel in ways that will result in the hazards from the remaining waste lasting hundreds rather than thousands of years. Yet without a global rule prohibiting the spread of enrichment and reprocessing activities, how will citizens assess the obvious costs against the uncertain nonproliferation benefits? If the system is voluntary, then the benefits of importing spent fuel, most likely from "good guy" states, will not be very great if the "bad guys" are free to enrich and reprocess. Relying merely on a voluntary enticement package increases the risk that the United States would stimulate a renaissance of reprocessing without getting the advertised nonproliferation benefits.

A less controversial innovation than GNEP is the nuclear fuel bank being created by a private organization, the Nuclear Threat Initiative, and the IAEA. Starting with funds from a generous grant from Warren Buffett, the Nuclear Threat Initiative would donate US\$50 million to the IAEA to procure low-enriched uranium (LEU), provided that member states committed at least an additional US\$100 million in cash or in kind for this purpose. This US\$150 million should provide sufficient means to accumulate enough LEU suitable for fabrication into fuel to make one full reactor core load. The IAEA would control the material, which would be located outside the six states that currently supply fuel. The banked material would be sold to any state whose fuel supply was interrupted for a reason other than noncompliance with its safeguard obligations. Freeing a fuel reserve from strings that the United States and other current suppliers might attach is meant

to address the concerns of states that have become skeptical of the reliability of international nuclear cooperation.

The IAEA is also exploring a more far-reaching approach. In 2005, an IAEA expert group issued a report, *Multilateral Approaches to the Nuclear Fuel Cycle* (available at www.iaea.org/Publications/Documents/Infcircs/2005/infcirc640.pdf). Longer-term options discussed in this document included converting existing facilities to multilateral enterprises and establishing new regional or multinational facilities. While these ideas are not new, the current context of greater enthusiasm for nuclear energy may now prompt greater political will to undertake the required financial and legal actions.

Yet regional or other multilateral fuel cycle centers in a world where some states retain nuclear weapons raise questions about competition that states do not like to acknowledge publicly. Iran would probably volunteer to let enrichment-related facilities on its territory serve as a regional facility. But Egypt and Saudi Arabia already are alarmed by Iran's nuclear program and would not accept the idea of a regional facility on Iranian soil. Egypt might volunteer to host a center, but Saudi Arabia would counter that it should host the site. The same competitive considerations would arise in East Asia, South Asia, and North and South America. In reality, enrichment and reprocessing capabilities are not primarily commercial assets today. They are politically, strategically, and psychologically important as signifiers of power and technological prowess. This will remain true so long as serious efforts are not under way to devalue nuclear weapons.

“States should agree to end the production of HEU [highly enriched uranium] and to adopt a temporary ‘pause’ in the separation of plutonium.”

No positive action has been taken to pursue this objective. In fact, with respect to plutonium the trend is negative. The United States, Russia, France, Japan, and India display interest in continuing or expanding plutonium separation as part of their visions of the nuclear energy future. Although GNEP, as championed by the Bush administration, ultimately seeks to recycle spent fuel without separating plutonium, it would add great material and political impetus to reprocessing, breaking a decades-old U.S. policy of eschewing commercial reprocessing and preventing its spread internationally. France, Russia, and the United Kingdom applaud this shift and the contracts it may open to them.

“The UN Security Council should pass a new resolution making a state that withdraws from the NPT responsible for violations committed while it was still a party to the treaty. States that withdraw from the treaty should be barred from legally using nuclear assets acquired internationally before their withdrawal.”

No progress has been made on this objective.

Security Council members have found it so difficult to reach consensus on how to induce or compel Iran and North Korea to comply with Security Council resolutions that they have no drive and goodwill left for more proactive initiatives.

There is a risk today that states could edge up to acquiring nuclear weapon capabilities and then seek to withdraw from the NPT and quickly proceed to manufacture nuclear weapons. In *Universal Compliance*, we recommended that the Security Council take anticipatory action to dissuade states from taking this path. But in international politics, it is far easier to respond to crises than to prevent them.

Many states resist the notion of requiring *all* states that withdraw from the NPT to forfeit use of nuclear assets acquired internationally. Thus, France and Germany (on behalf of the European Union) tried to persuade NPT parties at the 2005 Review Conference to declare that the forfeiture penalty should apply to states found in *noncompliance* with safeguard obligations if they sought to withdraw from the treaty. (Enforcing such forfeiture would be problematic, but the legal basis would exist for holding a noncompliant state at risk of sanction or other measures if it did not comply.) Egypt, supported by Iran, vehemently objected. These and other non-nuclear weapon states oppose any tightening of rules that would affect non-nuclear weapon states without corresponding concessions by the nuclear weapon states in the area of disarmament or nuclear cooperation. Some went so far as to suggest that states with impeccable nonproliferation credentials might want to threaten to withdraw from the NPT to regain some of the leverage they lost over the nuclear weapon states when the treaty was indefinitely extended in 1995.

The goal of deterring withdrawal from the NPT by clarifying consequences should not be abandoned. There is no sound basis for objecting to a rule that *noncompliant* states must forfeit the use of nuclear assets acquired through international cooperation.

The deeper problem here is that the permanent members of the Security Council are not united in trying to enforce nonproliferation norms. Russia and China clearly do not want terrorists or additional states to acquire nuclear weapons. However, their trust in the judgment of the U.S. government in assessing threats and devising strategies has plummeted since the onset of the Iraq War.

Russia and China, as states trying to catch up to Western levels of wealth and power, prefer to avoid enforcement measures that entail lost economic and political opportunities. This is particularly true with respect to states that supply energy to China or that buy arms and other products from powerful Russian industries.

Therefore, Russia and China are more reluctant than the United States, France, and the United Kingdom to endorse either binding sanctions or military measures to enforce nonproliferation rules. Beijing and Moscow notice that when the United Nations and other multilateral bodies mobilize for sanctions or military intervention, it is often on behalf of norms established mostly by rich Western states.

“All states should agree to suspend nuclear cooperation with countries that the IAEA cannot certify are in full compliance with their nonproliferation obligations.”

A little progress has been made here. The NSG adopted new language in its guidelines in 2006, saying that, in principle, transfers of “trigger list” items—those with clear proliferation sensitivity—should be suspended in case a country is found in noncompliance with its safeguards obligations. However, the NSG does not include all potential suppliers of nuclear technology assistance, including Pakistan and India. Moreover, it operates by consensus and its decisions are not legally binding. In short, it experiences the basic tensions among the multiple, often competing interests of the P-5 states noted above, and it remains to be seen how and whether the new language in the NSG Guidelines will be enforced.

OBLIGATION TWO: Devalue the Political and Military Currency of Nuclear Weapons. All states must diminish the role of nuclear weapons in security policies and international politics. The nuclear weapon states must do more to make their nonproliferation commitments irreversible, especially through the steady verified dismantlement of nuclear arsenals.

GRADE: F

The five recognized nuclear weapon states have sent unhelpful signals about the role of nuclear weapons in their security policies and in international politics.

A recent study sponsored by the U.S. Department of Defense found that policymakers and experts around the world believe that the United States is increasing its emphasis on nuclear weapons. Many think the United States has made a doctrinal shift from deterrence to nuclear warfighting and first use, and is blurring the line between nuclear and conventional weapons. This widespread perception is erroneous and unfair, but it impedes cooperation with the United States in strengthening nonproliferation rules.

In fact, the United States has reduced the role of nuclear weapons in its policies. With its tremendous advantage in conventional military capabilities, the United States would be best off in a world where no one had nuclear weapons. The commanders of U.S. strategic forces understand that nuclear warfare with other major nuclear powers (that is, Russia or China) is unlikely. The wars the United States is most likely to fight will be on a different scale and of a political nature that makes it extremely doubtful that nuclear weapons will be useful. Therefore, the U.S. Strategic Command steadily looks for conventional means to accomplish the objectives that civilian leaders require of it.

If a U.S. administration wanted to show the world that it is devaluing nuclear weapons, the basis for doing so exists. Former high-level U.S. officials George Shultz, Henry Kissinger, William Perry, and Sam Nunn pointed the way in a *Wall Street Journal* op-ed piece in which they called for the United States to work intensively with “leaders of the countries in possession of nuclear weapons to turn the goal of a world without nuclear weapons into a joint enterprise.” Nunn elaborated in congressional testimony: “We cannot defend America without taking [steps toward nuclear disarmament]; we cannot take these actions without the cooperation of other nations; we cannot get the cooperation of other nations without embracing the vision of a world free of nuclear weapons.” This strategy and attendant policies recommended by Nunn and his Republican and Democratic coauthors echo *Universal Compliance*.

The *Wall Street Journal* article by Nunn and colleagues elicited enthusiastic reactions in Europe, Egypt, India, and Japan, among other places. Tellingly, in the United States, individuals and groups that in decades past would have charged “softness” or worse were largely silent. The fact is, nuclear weapons have never been less useful to the United States. While American politicians have yet to realize this, the defense establishment already has.

Perhaps to balance the psychological effects of U.S. military predominance, Russia has raised the profile of nuclear weapons in its security policies and international politics. In its last full articulation of nuclear strategy, in 2000, Russia declared that it could conduct a limited nuclear war involving the use of strategic nuclear weapons. Russia plans to replace single warheads on Topol-M intercontinental ballistic missiles with multiple warheads. Officials have hinted at an intention to withdraw from the 1987 Intermediate-Range Nuclear Forces Treaty. The INF

Treaty, completed by Ronald Reagan and Mikhail Gorbachev, was the first to eliminate a whole class of nuclear weapons. Russian officials, including President Vladimir Putin, publicly hail new strategic nuclear missile systems as a measure of Russian power.

In a major speech in January 2006, French president Jacques Chirac called nuclear deterrence “fundamental” to France’s “independence and security ... Nuclear deterrence became the very image of what our country is capable of producing when it has set itself a task and holds to it.” France is “currently under no direct threat from a major power,” Chirac said, but the rise of terrorism, the prospect of future hostility “between the different poles of power,” and the “emerging assertions of power based on the possession of nuclear, biological, and chemical weapons” all warrant maintenance of the French nuclear deterrent. France also has interests away from its shores, and therefore, Chirac said, must “have a substantial capability to intervene outside our borders.” To reduce the risks and raise the credibility of such intervention, nuclear deterrence of counterattacks is vital, he implied. In sum, “nuclear deterrence remains the fundamental guarantee of our security.” If a country with France’s status and comparatively safe external security environment feels that it needs nuclear weapons to preserve its independence and security, could not many other states make an even stronger case for the necessity of a nuclear deterrent?

China’s 2006 annual defense white paper reaffirmed that its nuclear forces have “two missions: deterrence of a nuclear attack and nuclear retaliation.” Beijing continued to declare a no-first-use doctrine: “Additional missions for China’s nuclear forces include deterrence of conventional attacks against the Chinese

mainland, reinforcing China's great power status, and increasing its freedom of action by limiting the extent to which others can coerce China.”

The United Kingdom has done more than the other recognized nuclear weapon states to reduce the role of nuclear weapons in its security policy and international politics. Still, in December 2006, Prime Minister Tony Blair announced that his government would renew its Trident submarine-based nuclear deterrent. Blair said it was “improbable” that the United Kingdom would face nuclear threats in the future, “but no one can say it’s impossible.” He announced that it would be possible to cut Britain’s nuclear stockpile by a further 20 percent, leaving fewer than 160 operationally available warheads.

Thus, the five original nuclear weapon states seem to begin with the assumption that nuclear weapons are the answer, then struggle to say what the question is: “We have these weapons; it is unthinkable to give them up; therefore, how should we rationalize the ongoing value we attach to them?”

“The United States, Russia, China, France, and the United Kingdom must disavow the development of any new types of nuclear weapons, reaffirm the current moratorium on nuclear weapon testing, and ratify the Comprehensive Test Ban Treaty.”

The five nuclear weapon states recognized under the NPT have not disavowed development of new types of nuclear weapons. Nor have India and Pakistan. (Israel is silent on the matter, while North Korea has recommitted to eliminating its nuclear weapon capabilities.)

The Bush administration has flirted with researching and developing a new earth-penetrating warhead, but in the face of congressional resistance has switched to proposals to develop a new “reliable replacement warhead.” The idea is to reduce uncertainties over the future dependability of multiple types of warheads by developing a new design whose integrity could be maintained indefinitely without explosive testing.

If the United States proceeds with this replacement program in the current international environment, the effort will be misunderstood by U.S. allies, exploited by adversaries, and detrimental to efforts to prevent the spread and use of nuclear weapons. Congress should insist that a thorough reassessment of the role and purposes of nuclear weapons in the twenty-first century be undertaken *before* a decision is made on whether a new warhead is needed.

All states that possess nuclear weapons have committed to maintaining a de facto international moratorium on nuclear weapon testing. However, in regard to the Comprehensive Test Ban Treaty (CTBT), ratification has gone unsupported by the United States (or, more accurately, by the Republican Party, as Senate Democrats generally are nearly unanimous in favoring ratification). China has followed suit, along with India and Pakistan, which, unlike the United States, have not even signed the treaty. China does not object to ratifying the CTBT but is waiting for the United States to go first. Israel has signed the treaty and by some accounts has wanted to ratify it but has been discouraged from doing so by the Bush administration. Because the CTBT has always been the top indicator of the nuclear weapon states’ compliance with their disarmament obligations under Article VI

of the NPT, the ongoing refusal to allow the CTBT to take force is a clear breach of compliance with the basic bargain on which the nonproliferation regime is based.

“Lengthen the time decision makers would have before deciding to launch nuclear weapons.”

This policy recommendation principally pertains to the United States and Russia, the two states with enormous arsenals maintained on hair-trigger alert. Since 2005 they have done nothing to reduce the launch readiness of their deployed forces.

“Make nuclear weapon reductions, such as those required under the Strategic Arms Reduction Treaty of 2002 (Treaty of Moscow), irreversible and verifiable.”

The United States and Russia are also sliding backward on verifiable and irreversible reductions in strategic nuclear arms. In 2005, the Strategic Arms Reduction Treaty of 1992 (START I) remained in place, along with its extensive verification regime. This was the basis for our recommendation that the Treaty of Moscow be made more irreversible and verifiable. In 2006, Washington notified Moscow that it did not plan to extend START I beyond its expiration date at the end of 2009. Russian minister of foreign affairs Sergej Lavrov captured the problem succinctly when he said in February 2007 that the U.S. approach, in not seeking mutual restraints, “is dangerous because it carries the risk of generating the same old arms race, since neither of us is likely to want to lag behind too much.”

“Produce a detailed road map of the technical and institutional steps [that states with nuclear weapons] would have to take to verifiably eliminate their nuclear arsenals.”

Since March 2005, none of the five original nuclear weapon states have taken any initiative in the area of nuclear disarmament. At the 2005 conference to review the NPT, the United States, backed by France—without objection from China, Russia, and the United Kingdom—sought to rupture the connection between nonproliferation and disarmament and focus instead on measures to constrain activities of non-nuclear weapon states. In effect, the United States and France dismissed the political commitments the nuclear weapon states had made to the “Thirteen Steps,” which the 2000 Review Conference had established as benchmarks for compliance with Article VI.

Officials of the United States, France, Russia, and other countries with nuclear weapons argue privately that no causal connection exists between their disarmament policies and others’ proliferation decisions. They note that, in the 1990s, as the United States, Russia, France, and the United Kingdom reduced their nuclear forces significantly, North Korea, Iran, Libya, India, and Pakistan moved in the opposite direction. While this is true, it does not negate important connections between the postures of the nuclear weapon states and the actions of non-nuclear-weapon states.

Non-nuclear weapon states have at least latent interest in acquiring capabilities to deter the nuclear weapon states from threatening them. Moreover, if a country like France, facing no threat to its sovereignty and territorial integrity, insists that it must have nuclear weapons to deter any number of vague threats

against which France is unlikely to make nuclear responses, why could not the same “need” motivate others? And if the strongest state in the world—the United States—insists it needs nuclear weapons, then key actors in weaker states can readily cite this example to urge acquisition of these weapons, too.

Though the disarmament in the 1990s was laudable, to some non-nuclear weapon states in the developing world it was as if a slave owner decided to free 6,000 of his slaves but insisted on keeping 4,000 for another decade, and then some smaller number for the indefinite future. The slaveholder would want to be lauded for reducing his inventory, but those who believed that slavery was wrong, or that it gave the slaveholder a competitive advantage, would insist that getting to zero was what mattered. The metaphor is exaggerated, but it reflects how the current nuclear order is viewed by many non-nuclear weapon states.

This issue of equity plays out in practical ways, too. Many people in non-nuclear weapon states such as Iran, Egypt, South Africa, Brazil, and Germany care about equity in the nuclear order. They ask why they should support new nonproliferation rules involving limitations on technology acquisition, and enforce these rules through potentially costly sanctions or the potential use of force, if the states that claim status, power, and security from nuclear weapons show little real interest in trying to create an equitable world where no one has these weapons.

The February 2007 agreement between North Korea and its five interlocutors (in the six-party talks) could clarify the disarmament challenge more broadly. Many doubts remain that North Korea will ever be induced to verifiably eliminate all of its nuclear weapon capabilities. But if this objective were pursued in practice, important questions about standards and

procedures for verification, toleration of ambiguity in records and accounting of fissile materials, and other thorny issues would have to be resolved. This experience could inform consideration of the larger disarmament problem.

Indeed, seeing the disarmament challenge in regional as well as global terms is illuminating. India and Pakistan, with their history of enmity, opacity, and distrust, would have to elaborate conditions and procedures that would render them confident enough to dismantle their last weapon. The Middle East, with its multiple conflicts, is even more problematic, as states in that region possess not only nuclear weapons but also chemical and perhaps biological weapons. Nor do most of these states offer the levels of transparency and whistle-blower protection that would build the confidence of neighbors and the international community that cheating on disarmament agreements would be exposed in time for them to take countermeasures.

The point here is that the international community—principally the states possessing nuclear weapons—has not begun to explore issues relating to the disarmament challenge seriously, even at the expert level. No state in possession of nuclear weapons has even a single employee or interagency group tasked with specifying how nuclear arsenals could be eliminated nationally and globally: no one responsible for identifying acceptable standards and methods of verification, standards and procedures to account for all fissile materials, adaptations necessary to securely manage the nuclear industry in a world without nuclear weapons, or whistle-blower protections necessary to deter or detect violations.

The modest recommendation in *Universal Compliance* that all states with nuclear weapons should prepare studies detailing steps they think necessary to verifiably eliminate nuclear arsenals was

meant as a measure of intention to someday fulfill the nuclear disarmament part of the nonproliferation bargain. Instead of trying to avoid this issue, the United States, the United Kingdom, France, Russia, and China should engage it. In addition to exploring how to verifiably eliminate their own nuclear arsenals, the established nuclear weapon states—which are also the permanent members of the UN Security Council—could facilitate expert discussions of the conditions necessary to implement North Korea’s denuclearization and the establishment, some day, of a zone free of weapons of mass destruction (a “WMD-free zone”) in the Middle East, which has been endorsed as an objective by NPT parties and by Israel.

OBLIGATION THREE: Secure All Nuclear Materials. All states must maintain robust standards for securing, monitoring, and accounting for all fissile materials in any form. Such mechanisms are necessary both to prevent nuclear terrorism and to create the potential for secure nuclear disarmament.

GRADE: C-

“The United States should ... encourage formation of a high-level ‘Contact Group to Prevent Nuclear Terrorism’ to establish a new global standard for protecting weapons, materials, and facilities.”

Two modest efforts in this direction have begun. In July 2006, the United States and Russia launched the Global Initiative to Combat Nuclear Terrorism. The scope of this effort is broad, encompassing technical, legal, and political mechanisms, but it

is quite amorphous. It is not overseen by high-level emissaries, which deprives the initiative of the drive its objectives warrant. Thirty nations support the initiative. However, the activities it prescribes would cover neither nuclear weaponry nor facilities, installations, and materials used for military nuclear purposes.

The privately funded Nuclear Threat Initiative, the IAEA, and the Institute for Nuclear Materials Management are working together to create an institution that would help define and promulgate nuclear security “best practices” globally. The proposed “World Institute for Nuclear Security” would serve as a forum where government and industry nuclear policymakers and operators could share security strategies and best practices that went beyond current international standards to improve material security. Participation would be voluntary, reflecting the lack of international leadership and appetite needed to establish tougher binding standards. The World Institute for Nuclear Security likely would focus first on strengthening control over materials that could be used directly in nuclear weapons: HEU, separated plutonium, and mixed oxide fuel.

In parallel, the IAEA is developing “guidance documents” describing standards for nuclear material security that the agency would urge all states to meet. The product of a consensual process, these recommended standards will stop short of the state of the art. Adherence will be voluntary in any case.

“The United States, Russia, and their partners should vigorously identify, secure, and remove nuclear materials from all vulnerable sites within four years.”

Despite major tensions between the United States and Russia, the two countries continue to press hard to implement

commitments to complete nuclear material and warhead protection, control, and accounting work in Russia by 2008. American and Russian specialists continue to work together at some of the Russian Federation's most sensitive sites, and this progress is laudable. However, as we found in our 2005 assessment, Moscow and Washington still have not committed to consolidating all nuclear materials in highly secure central storage sites, and too much material remains dispersed in facilities throughout the weapons complex. The same is true for other nuclear weapon states.

OBLIGATION FOUR: Stop Illegal Transfers. States must establish enforceable prohibitions against efforts by individuals, corporations, and states to assist others in secretly acquiring the technology, material, and know-how needed to develop nuclear weapons.

GRADE: C–

“All states should now establish and enforce national legislation to secure nuclear materials, strengthen export controls, and criminalize illicit trade, as [UN Security Council Resolution 1540] requires.”

UN Security Council Resolution 1540, adopted in 2004, is the first resolution to impose binding nonproliferation obligations on all UN member states, regardless of their specific consent. It requires all states to establish effective domestic controls to prevent proliferation of WMD, their means of delivery, and related materials to and from *nonstate actors*, and to *criminalize* violations of these rules.

If effectively implemented, Resolution 1540 would make a huge difference. Yet three years after its adoption, implementation of 1540 is weak. While the vast majority of states support the obligations in principle, no state has as yet treated implementation as a priority. In particular, developing countries lack sufficient capacity and expertise to do so. States that cannot provide basic security or health care for their citizens are unlikely to divert scarce resources to preventing the operation of illicit proliferation networks. Many developed countries struggle with the tensions between Resolution 1540 obligations and the interests of their export industries and intelligence agencies. India, Pakistan, and other states object to the way the obligations came into being: through Security Council action rather than a treaty negotiation. Iran and other states criticize Resolution 1540 for not including disarmament obligations for the nuclear weapon states.

To address these challenges, the 1540 Committee—a tiny Security Council subcommittee mandated to oversee implementation—has teamed up with international organizations, regimes, individual states, and nongovernmental organizations (NGOs). Much of the assistance has been provided to key risk states.

Actual implementation of Resolution 1540 remains slow, however. To regain momentum, the Security Council should extend the mandate of the 1540 Committee and give it more substantial staffing. International organizations, individual states, and NGOs should make more assistance available, engage a greater number of key risk states, and cooperate more closely with the 1540 Committee. Finally, NGOs and regional organizations should exert pressure on states that have the capacity and expertise to give greater priority to domestic implementation of Resolution 1540.

“The IAEA’s Additional Protocol should be mandatory for all states, and the members of the Nuclear Suppliers Group should make it a condition of supply to all their transfers.”

As of March 22, 2007, 112 states had signed the Additional Protocol, but only 78 of those are enforcing it, the United States and Russia not among them. Iran signed the protocol, and observed it voluntarily from 2003 to January 2006. Key states that have not signed include Egypt and Saudi Arabia—both with new interest in nuclear power programs—as well as Argentina and Brazil, the latter of which has a uranium enrichment program.

The IAEA continues to place great emphasis on making the Additional Protocol a condition of cooperation, as do the United States and a few other countries. Other states on the IAEA Board of Governors resist. Within the NSG, no consensus exists either. The United States favors making the Additional Protocol a condition of supply, while France and Russia would insist on the protocol implementation as a condition of supply of only the most sensitive items—particularly those related to uranium enrichment or plutonium separation—but not of all transfers.

Egypt, Brazil, Argentina, and other leading non-nuclear weapon states wishing to expand their nuclear activities resist linking nuclear cooperation to adoption of the Additional Protocol. “You can’t create an additional obligation,” an Egyptian official said recently, “when non-nuclear weapon states are threatened each day with nuclear weapons and the nuclear weapon states have done nothing to disarm. How are you going to add an obligation on us when the other guy has no obligations?”

This resistance is genuinely framed as an issue of equity and protest against further limitations being imposed on non-nuclear

weapon states without corresponding “sacrifices” by the recognized nuclear weapon states along with Israel, India, and Pakistan. Some states also may resist because the Additional Protocol would impede their option in the future to conduct research and development that would hasten achievement of the capacity to produce nuclear weapons if they decided to withdraw from the NPT. If North Korea and Iran do not forgo nuclear weapon capabilities, states in Northeast Asia and the Middle East may decide not to accept any new international rules that would reduce their hedging options in the future. The Additional Protocol is a powerful nonproliferation tool precisely because it raises the risks of hedging.

The leadership and goodwill to persuade the NSG to make the Additional Protocol mandatory probably will not appear while the Indian civil nuclear cooperation deal, the Iran case, and deliberations on international fuel services are pending. Leadership will be required from the highest levels of the French, British, Russian, and U.S. governments, among others. This will have to await elections running through 2008.

“Members of the Nuclear Suppliers Group should expand their voluntary data sharing with the IAEA and make it obligatory for transfer of all controlled items.”

Despite widespread recognition that the A. Q. Khan proliferation network and others like it pose a grave threat to international security, little has been done to significantly raise transparency requirements among exporters and importers of sensitive nuclear technology and material.

The Additional Protocol requires that states notify the IAEA of the *export* of a long list of equipment listed in Annex II of

the Additional Protocol. But there are no binding obligations on importers of many of these items. Were the protocol—or analogous rules—mandatory, and were importers as well as exporters required to notify the IAEA of transfers, then participants in proliferation networks such as Khan’s would be at legal risk, unlike before. Partners would face no new restrictions on technology transfer. They would merely have to be transparent about it. The secrecy that covert networks depend on would be challenged, while the availability of technology and material to transparent actors would not be affected. Whereas A. Q. Khan, as a resident of a state that was not a party to the NPT, did not have to declare exports, his network’s activities would have been more precarious if his network partners and buyers in other states had been obligated to report imports. Still, there is strong resistance to making the Additional Protocol mandatory, and, if it were made mandatory, to adding notification requirements for importers.

A less ambitious step would be for the director-general of the IAEA to invoke Article VIII.A of the IAEA Statute and send a guideline to all member states specifying that the agency would be supported in its mission if each state would provide information about exports and imports of specified equipment and non-nuclear material that could help it detect possible undeclared nuclear activities. The Board of Governors could be asked to approve this request, and if it did so, member states would be pressed to comply.

“Corporations should [adopt] voluntary actions to block trade, loan, and investment activity with those illegally seeking nuclear capabilities.”

Over the years, businesses have been motivated to exert their influence on behalf of international norms from environmental protection to the abolition of apartheid. This has often occurred in response to moral campaigns by mass-based nongovernmental movements. However, there is no such movement advocating corporate vigilance in withholding economic cooperation from entities suspected of being involved in nuclear proliferation.

In the absence of public pressure, the Bush administration deserves credit for using national legislation and Security Council Resolutions 1373 and 1540 to block financial flows into North Korea and Iran—Resolution 1373 obligates all states to criminalize the provision or collection of funds for terrorist purposes. Legitimate financial institutions know that their reputations could be harmed severely if it turned out that entities with which they were trading were directly or indirectly benefiting actors involved in illicit proliferation. The United States has made clear that it will ban businesses tainted by such trading from the American market. Because the U.S. market and the dollar as a currency are so important, many international businesses prefer to disinvest from Iran or other states sanctioned by the United Nations. Thus, Chinese entities have withdrawn from North Korea, and European banks from Iran, significantly raising the costs of the two countries' nuclear activities.

Private financial leverage would become still more useful if governments shared information with each other and their corporate and financial institutions regarding entities that evidence suggested were involved in activities related to terrorism or proliferation.

“The Proliferation Security Initiative should be grounded in international law and widened.”

The Proliferation Security Initiative (PSI) is a sound innovation of the Bush administration to mobilize states on a voluntary basis to enhance national legislation and international law to ensure that shipments of controlled items can be searched and seized under national authority, to share intelligence, and to strengthen training and cooperation in actual intercepts in nationally controlled areas on the seas, in the air, and on land. Since the PSI is a “set of activities” and not a formal organization, there is no official list of member countries. However, according to the U.S. State Department website, more than eighty states had participated in the PSI as of November 2006. About twenty states have formally committed to the PSI, and a handful have signed ship-boarding agreements with the United States. The remaining countries have provided mainly rhetorical support.

Many states—in particular China, South Korea, India, and Indonesia—were originally reluctant to endorse the PSI. They viewed it as a manifestation of U.S. aggressiveness and a threat to the principle of national sovereignty. There were also concerns that the PSI would violate international law, interfere with legal trade, and provoke North Korea. These concerns have lessened with time, as fears of irresponsible interdiction activities have not materialized. China and other states now participate in PSI-related activities on an informal, low-profile basis.

The United States has made efforts to strengthen the legal basis of interdictions. It lobbied for Resolution 1540, the Security Council requirement that every state criminalize WMD proliferation to

nonstate actors in its national legislation. It concluded bilateral ship-boarding agreements with flag-of-convenience states and supported amendments to the Convention for the Suppression of Unlawful Acts. Finally, the United States ceased invoking the right of self-defense under Article 51 of the UN Charter as justification for high-seas interdictions. The actual impact of the PSI at present is difficult to gauge. Though the initiative has helped strengthen the legal and technical frameworks for interdictions, it is unclear how many interdictions have actually occurred over the past four years, given the dearth of unclassified information. It is also unclear how many interdictions would have taken place anyway and whether the PSI has deterred proliferation. Yet the PSI is an important complement to other nonproliferation instruments and fills an enforcement gap in the nonproliferation regime. Efforts to strengthen its legal basis should therefore be continued. Mechanisms to share intelligence and cooperate in interdiction activities should be advanced.

OBLIGATION 5: Commit to Conflict Resolution. States that possess nuclear weapons must use their leadership to resolve regional conflicts that compel or excuse some states' pursuit of security by means of nuclear, biological, or chemical weapons.

GRADE: C+

“The major powers must concentrate their diplomatic influence on diffusing the conflicts that underlie [states’] determination to possess nuclear weapons, particularly in Iran, the Middle East, Northeast Asia, and South Asia.”

Iran

In March 2005 we wrote that “the challenge before the international community today is to clarify Iran’s intentions and give it every incentive—positive and negative—to meet its energy, political, and security needs without technologies that pose inherent threats of nuclear weapon proliferation.” In negotiations with France, Germany, and the United Kingdom, Iran had earlier agreed to offer “objective guarantees” that its nuclear program was exclusively for peaceful purposes. We believed then, as we do now, that the only objective guarantee that would restore lost confidence would be that Iran forgo technologies to enrich uranium or separate plutonium. How long Iran would need to do this before its bona fides were restored would depend on how rapidly and thoroughly it cooperated with the IAEA to answer key unresolved questions and on how fully it reassured its neighbors and the UN Security Council that any resumption of fuel cycle activity would not pose a threat.

From August 2005 through April 2007, the IAEA issued nine reports on Iran. These reports noted Iranian cooperation where it occurred, and highlighted outstanding issues that remained to be resolved. Each of these unresolved matters raises doubts that all of Iran’s nuclear activities have been for peaceful purposes:

- ▶ The source(s) of LEU and HEU particles found at Iranian locations “remains unresolved.”
- ▶ Natural uranium and LEU particles found at a Tehran university have not been satisfactorily explained.
- ▶ Iran has not responded to longstanding questions whose answers are necessary to ensuring that its P-1 and P-2 uranium

enrichment centrifuge programs did not involve military-related actors or purposes.

- ▶ Iran still has not enabled the IAEA to resolve questions about a document describing how to cast and machine uranium metal into hemispheres, an operation whose only known purpose is nuclear weapon manufacturing.
- ▶ Iran still has not provided information necessary to resolve “outstanding inconsistencies relating to ... plutonium experiments.”

The IAEA continues to report that “Iran has not agreed to any of the required transparency measures, which are essential for the clarification of certain aspects of the scope and nature of its nuclear program.” In essence, the evidence that Iran still has not satisfactorily explained indicates the involvement of military-related actors and purposes that contravene Iran’s core NPT obligation to conduct nuclear activities exclusively for peaceful purposes.

The international community has not mobilized sufficiently strong negative or positive incentives to motivate Iran’s decision makers to comply with all of the IAEA’s demands or with three successive legally binding UN Security Council resolutions that stem from Iran’s breaches of its nonproliferation obligations. Perhaps mobilization of such incentives is impossible.

Iran’s fractious leadership finds it difficult to make strategic decisions, and for now insists that it will never agree to cease activities related to uranium enrichment. Even when some Iranian emissaries hint at a possible suspension of enrichment to allow negotiations to resume, they insist that it would be only for a few months, and only in return for the suspension of UN sanctions.

This impasse tempts some to urge a “compromise”—to accept, *now*, Iran’s enrichment of uranium limited to a specific number of centrifuges or quantity of material containing no more than 4.5 percent uranium 235. This, it is suggested, would end the Iranian nuclear crisis.

Unfortunately, this is not likely the case. Iran could seek military gains from limited-scale activities in declared facilities because such experience and know-how could be directly useful in operating clandestine facilities. Moreover, legitimate limited-scale activities could provide a cover for illicit purposes. When no enrichment-related activity is allowed, then any solid intelligence is evidence of violations; when some activity is allowed, it becomes an explanation for all suspicious activity. Moreover, limited-scale enrichment would allow Iran to stockpile fuel to the point where it could then withdraw from the NPT and quickly increase the enrichment level of the stockpiled fuel to produce weapons. Nor does a deal on limited-scale enrichment actually represent a major concession or tempering of ambitions by Iran. Iran’s capabilities would be limited to what they are now, but there is no reason, on the basis of past experience, to believe that Tehran would not break the limits once its technological capability grew.

In *Universal Compliance* before the Iranian case had been reported to the UN Security Council, as we urged—we suggested that the Security Council convey on paper a model draft of a *positive* resolution that would endorse nuclear, economic, and political benefits if Iran would suspend its fuel cycle–related activities and enable the IAEA to certify that it was in full compliance with its obligations.

Security Council Resolution 1747, adopted March 24, 2007, moves in that direction. Sanctions block international cooperation with Iran on activities related to the nuclear fuel cycle and

delivery systems, bar travel of specific Iranian individuals involved in these programs, and freeze financial assets of designated entities and individuals. Perhaps more important, the UN sanctions authority gives states political cover with their own populations and with Iran to take additional steps to withhold investment, export credits, and other forms of commerce with Iran. This has given more impetus to the U.S.-led effort to induce private financial institutions to withdraw from projects in Iran in order to avoid legal or reputational costs in light of Security Council Resolutions 1373 and 1540. These direct and indirect economic sanctions, with the prospect of more to follow, have prompted renewed debate in Iran over the costs and benefits of defying the United Nations and the IAEA. Without such a debate, there is no chance of persuading Iranian leaders to end their march of defiance and comply with UN and IAEA demands.

Economic and political pressure can and should continue to be exerted on Iran's vulnerabilities. Iran cannot grow and enjoy its natural potential as the major economic and political power in the Persian Gulf without significant international investment and access to technology. The majority of Iranians also want political acceptance of their country as a state that will not threaten the stability and security of its neighbors. Iran's most talented citizens and entrepreneurs do not want to be treated as pariahs, even if the Revolutionary Guards, President Mahmoud Ahmadinejad, and other powerful elements in the polity dismiss the value of international acceptance.

Besides authorizing tighter sanctions, Resolution 1747 contains an annex that, for the first time, specifies the Security Council's backing of *positive* elements of a "comprehensive agreement with Iran." This annex deserves much greater attention than

it has received. It offers a starting point for U.S. participation in international negotiations with Iran. Indeed, U.S. support for the positive elements in Resolution 1747 reflects a genuine shift in the Bush administration's policy along the lines we urged in early 2005.

The annex declares the Security Council's goal to be a "comprehensive agreement" with Iran. Under such an agreement, the council would "reaffirm Iran's right to develop nuclear energy for peaceful purposes ... and commit to support actively the building of new light water reactors in Iran through international joint projects" with "legally binding, multilayered fuel assurances to Iran." All of this, of course, depends on resolution of the crisis, and that in turn cannot be achieved unless Iran stops activities related to producing fissile materials. By means of the annex to Resolution 1747, the members of the Security Council, including the United States, offer the prospect that Iran could be welcomed to resume fuel cycle-related activities *after* "confirmation by the IAEA that all outstanding issues and concerns ... have been resolved." Unlike proponents of a deal to endorse limited-scale Iranian enrichment now, the Security Council properly understands that Iran must first rectify its noncompliance with its IAEA obligations and build confidence in its nuclear intentions.

This is a vital, often missed point. Iran cannot come into compliance with its IAEA safeguard agreement and UN Security Council resolutions as long as core questions about its past nuclear activities are unresolved. It is highly possible that Iran cannot resolve these issues without admitting that the highlighted activities were in fact related to nonpeaceful applications of nuclear energy or were conducted by military organizations. Such activities would be a violation of Article II of the NPT.

Iranian leaders would not be paranoid to fear that such an admission would invite severe reprisals by the United States, if not others. Therefore, U.S. officials and Iran's P-5 and IAEA interlocutors should do more, in public and private, to reassure the Iranians that they will not be penalized further for coming clean about the past.

The Security Council did this in the case of Libya. In February 2004, the IAEA reported to the Security Council that Libya was "in breach of its obligation to comply with the provisions of its Safeguards Agreement." Two months later, the president of the Security Council welcomed Libya's decision "to abandon its programs for developing weapons of mass destruction and their means of delivery" and "its active cooperation with the IAEA." Libya was commended for coming into compliance, and the matter was closed. The United States, the United Kingdom, and others subsequently normalized relations with Libya.

Libya is not Iran, of course. Among other things, Iran, unlike Libya, will want to continue a major nuclear energy program. This significantly complicates the task of assuring the world that the program is exclusively for peaceful purposes. Still, the mechanism for recording a past violation of the NPT and closing the books without penalty is relevant to Iran. So, too, is the fact that the United States normalized relations with Libya as part of the nonproliferation deal, even though the regime of Muammar al-Qaddafi continues to violate human rights and belligerently oppose Arab League rapprochement with Israel.

As we urged in 2005, a Security Council resolution including positive elements should also include a guarantee that Iranian sovereignty and territorial integrity will be respected as long as Iran does not attack others. Such a guarantee would be stronger

than a unilateral declaration by the United States. The annex to Resolution 1747 moves in this direction, but does not go far enough. The Security Council supports a new conference to promote dialogue and cooperation on regional security issues, as Iranian officials have urged. It proposes a range of cooperative efforts in trade, investment, civil aviation, telecommunications, high technology, and agriculture. All of this could be further specified and improved through negotiation, of course.

Finally, prudence warrants taking measures now to head off the most undesirable consequences if Iran does proceed to acquire nuclear weapon capabilities. Iran's neighbors, especially, must prepare strategies, political understandings, and capabilities to contain Iran and deter it from using nuclear weapons, either physically or politically. The aim must be to reinforce the overall political message that Iran's power can be accommodated if it does not seek to destabilize its neighbors, foment violence, or coercively influence energy flows and markets.

The Middle East

The Middle East has not become less turbulent since March 2005. War in Lebanon, intra-Palestinian conflict, weakened Israeli leadership, an emboldened Iran, fear of broad Sunni-Shia competition, heavier authoritarianism in Egypt, Saudi assertiveness—these developments all portend regional instability.

Yet we find nothing to change in the strategy and specific policy steps *Universal Compliance* prescribes to deal with the proliferation challenge in the Middle East. The first imperative is to recognize explicitly that while others in the region would not cease WMD activities if Israel were to unilaterally disarm, nonetheless, “Israel’s possession of nuclear weapons [is] central to the problem of improving regional security.”

Inequality in nuclear weapon capability is unsustainable in the Middle East. Israel cannot forever maintain its monopoly; Iran will not be allowed by its neighbors to have a monopoly among Muslims in the greater Middle East. The only long-term basis for stability and security in the region is equality in which no state possesses nuclear weapons or a nationally controlled source of bomb fuel. This is recognized in calls to create a WMD-free zone in the region, which Israel, Egypt, and other regional states have endorsed. The policy imperative, as we explained in *Universal Compliance*, is for the United States, Israel and other key states to stop “defensively trying to ignore Israel’s nuclear status,” and instead to “proactively call for regional dialogue to specify conditions necessary to achieve a zone free of nuclear, chemical, and biological weapons.”

Numerous extremely difficult issues need to be addressed. Among them are recognition of each other’s existence by all parties, the establishment of security-related confidence-building measures, national transparency, and intrusive verification protocols. Yet the states in the region, including Iran, lack the confidence to begin exploring these issues on their own, a deficiency that is key not only to Israel’s threat perception but also to the perceptions of Egypt, Jordan, Saudi Arabia, and other states in the area. The United States lacks the domestic political interest or regional legitimacy to initiate such dialogue. This may be an area where some combination of European states, working with UN leadership, could invite key regional states to gather to develop a research and dialogue agenda on the conditions necessary to implement a verifiable WMD-free zone in the Middle East.

Two new developments underline the need for such discussions.

In the past year, Egypt, the Gulf Cooperation Council states, Jordan, Saudi Arabia, and Turkey have announced plans to launch significant civilian nuclear programs. Each says that growing domestic demand for electricity and its finite oil and gas reserves make nuclear energy production necessary. In private, leaders of each country also acknowledge that Iran's nuclear program stimulates their interest in developing a potential countercapability. For now they do not seek nuclear weapons, but rather a human and technical infrastructure that is advanced, prestigious, and economically promising enough to allow these countries to stand proud before their own people and their neighbors, including Iran. And if these programs become controversial among nonproliferation watchmen, Egypt will lead a chorus of states charging that Israel's nuclear weapon program faces no outside pressure and that any effort to impede Arab nuclear programs is rank hypocrisy and prejudice.

An international forum to address conditions necessary for a WMD-free zone can provide a useful context for states to assess the intentions behind these budding nuclear programs and to devise procedures and policies for mutual reassurance. Beyond regional dialogue, the United States and other outside powers should be guided by four principles in their efforts to stop proliferation in the Middle East:

- ▶ Avoid transforming any bid for a nuclear energy program by a large state such as Egypt or Turkey into a nationalist campaign to defy the United States. Washington made a grave mistake in the 1990s by opposing Iran's nuclear program (including the Bushehr power reactor so publicly that the issue became a symbol of Iranian nationalism and defiance. This mistake must not be repeated. Quiet, professional diplomacy that makes a

clear distinction between nuclear power programs and nuclear weapon programs must be pursued in close coordination with the IAEA.

- ▶ Rather than oppose civil nuclear programs, move quickly to cooperate with responsible authorities to define the elements of the most economically and environmentally beneficial program. Serious high-level efforts should be made to propose attractive international fuel service arrangements that would make indigenous enrichment and reprocessing obviously uneconomical by comparison.
- ▶ Make sure Iran does not get away with violating its safeguard obligations and the mandates of the UN Security Council. Iranian enrichment activities should be accepted only after the IAEA file is closed and Iran has built confidence that its nuclear activities are entirely and exclusively for peaceful purposes. If Iran continues to defy the IAEA and the Security Council, ensure that it experiences costs sufficient to deter other states from following suit.
- ▶ Recognize that progress on the Israeli-Palestinian agenda is vital to mobilizing efforts to contain nuclear competition in the region. Without such progress, and as long as Israel's nuclear status remains unaddressed, Arab populations will oppose stronger nonproliferation rules and enforcement as tactics intended, above all, to serve what they perceive as Israel's unjust interests.

The second new development is the NPT Review Conference scheduled for 2010. Many international observers feel that the nonproliferation regime is near collapse and that the 2010

meeting will indicate whether it can be saved. The 2005 Review Conference was a debacle in part because Egypt used procedural power to prevent the conference from advancing on any front as long as its demands regarding a WMD-free zone and nuclear disarmament were not addressed satisfactorily.

The matter of the WMD-free zone will be more crucial than ever if current trends continue. If the United States and other friends of Israel try to ignore or deflect this issue, they will only intensify perceptions that the nonproliferation regime is not based on the objectives of universality and equity, but, rather, follows the whims of Washington: America bends the rules for its friend India, ignores the rules for its friend Israel, and does everything to punish its enemies Iran (and Iraq in 2003). Rather than allow this corrosive perception to spread, the United States and others should urge the Conference on Disarmament in advance to convene an expert group to explore whether and how a regional zone free of WMD could be verified. This exploration would not be meaningful—and should not be initiated—if all states in the proposed zone did not send emissaries, including Israel, Syria, Iran, Saudi Arabia, and Iraq. If, with Washington's support, Egypt could not persuade these other states to participate, perhaps the core political-security challenges of the region would be better understood, and the NPT review process would be less prone to derailment.

Northeast Asia

In October 2006, North Korea tested a nuclear weapon. In 2005, the United States had tightened financial pressure on North Korea by designating the Macao-based Banco Delta Asia as a money-laundering culprit. This started a run on the bank, which prompted the Macao government to take it over and freeze

US\$25 million in North Korean assets. These sanctions incensed the North Korean leadership, which escalated the confrontation. The nuclear test followed in part to compel a lifting of sanctions and also to draw the United States into direct negotiations to normalize relations. But North Korea's volatile overreaction turned China, Japan, Russia, South Korea, and the United States more intently against it, inviting tougher international sanctions.

In subsequent months, the Bush administration moved away from the strategy of pure confrontation it had pursued under the direction of longtime undersecretary of state John Bolton and Vice President Dick Cheney. The administration, under the direction of the State Department, became prepared to negotiate directly with North Korea in addition to participating in the six-party talks. The frozen bank accounts and the regional outrage over the nuclear tests provided new leverage against Pyongyang.

In February 2007, following bilateral U.S.–North Korean negotiations, North Korea agreed in the six-party talks “to achieve early denuclearization of the Korean Peninsula,” as part of an “action for action” process. The reciprocal actions to be taken include shutting down and sealing “for the purpose of eventual abandonment” the Youngbyon nuclear facility. North Korea and the United States will start bilateral talks “aimed at resolving pending bilateral issues and moving toward full diplomatic relations.” The United States has pledged to begin the process of removing North Korea from its list of state sponsors of terrorism and removing barriers to trade. Working groups are to be established to address a range of issues crucial to denuclearization of the peninsula, normalize bilateral relations, foster economic and energy cooperation, and establish a “northeast Asia peace and security mechanism.”

There is plenty of reason to doubt whether North Korea will ever eliminate all of its nuclear weapon–related capabilities. Still, if the February 2007 deal keeps North Korea from producing more bomb material and conducting more nuclear tests, it will be a major accomplishment.

Further progress will not be made, however, without recognizing that North Korea wants above all to normalize relations with the United States. North Korea is poorer and weaker than any of its neighbors, and is mindful of ancient Korean tensions with China and Japan. The desire for normal relations with the United States as a distant and powerful balancer is understandable in this light, even if North Korea has pursued them in a sometimes incomprehensible way.

Finally, Northeast Asia lacks institutions and other forums to manage relations among North Korea, South Korea, Japan, China, Russia, and the United States. This region is so important to global security and economics that high priority should be attached to sustaining the interactions begun through the six-party talks, whether or not these talks can lead to more formal mechanisms for regional diplomacy. The breadth of issues to be addressed pursuant to the February 2007 agreement offers plenty of work to be done in this format.

South Asia

Pakistan and India have made significant progress toward resolving the Kashmir dispute, since March 2005. While the politics involved in resolving the Kashmir dispute remain daunting, the leaders of Pakistan and India seem to have internalized the existential imperative of nuclear deterrence. State-to-state warfare is no longer seen as a reasonable policy option.

In *Universal Compliance*, we highlighted seven key policy objectives. The common thread was to encourage and facilitate developments within and between Pakistan and India to stabilize their relationship and reduce the risk that conflict could escalate into nuclear war. Fortunately, the two states have made significant progress since March 2005.

We urged the United States to offer—and India and Pakistan to accept—cooperative threat reduction programs that would provide equipment, briefings, and training to improve control and accounting of nuclear materials, as well as their physical protection, especially against theft by terrorists. We acknowledged that such cooperation would be an extremely sensitive matter for all sides. We are unable to say from public sources whether progress has been made in this area. However, the highest levels of leadership in Pakistan and India have given serious attention to securing their nuclear arsenals.

Given the ongoing development and testing of missiles by India and Pakistan, and exercises by their mobile missile forces, we urged the two antagonists to negotiate and implement risk reduction measures such as missile test flight protocols, advanced notification of the movement of missiles for training purposes, and exchanges of missile test schedules on an annual basis. As a means of defusing potential crises, India and Pakistan have upgraded the hotlines between the two states' ranking officials.

In *Universal Compliance*, we wrote that “the army’s dominant role in Pakistan is a systemic problem.... Pakistan cannot be stable over the long term under military rule.... The capacity of civilian political parties and institutions must be strengthened.” The United States and other governments have been slow to recognize and act on the strategic imperative of political reform in Pakistan.

The Pakistani military has increased its penetration and control of all facets of Pakistani politics and economics. The North Atlantic Treaty Organization and, finally, U.S. leaders have recognized that Pakistani military intelligence services have played at best a double game in Afghanistan, and have heightened rather than moderated instability in Balochistan. The military government of President Pervez Musharraf has cultivated and manipulated Islamist parties and jihadi groups for both external and internal purposes, in part to stymie competition from more modern political parties. Only in early 2007 did Washington begin to take seriously the imperatives of genuine political reform in Pakistan.

OBLIGATION SIX: Persuade India, Israel, and Pakistan to accept the same nonproliferation obligations accepted by the weapon state signatories [to the NPT].

GRADE D-

The U.S.-Indian civilian nuclear deal announced in July 2005 strongly affects the global nonproliferation regime. India is central to what we referred to as the “Three-State Problem.” India, Israel, and Pakistan never signed the NPT and therefore are not formally bound to key nonproliferation rules. They possess nuclear weapons and are not going to give them up for the foreseeable future.

We noted that “for many years supporters of nonproliferation have been suspended between the unrealistic hope that these countries will reverse their nuclear status and the unappetizing prospect of accepting them as new full-fledged nuclear weapon states in order to bring them into the nonproliferation regime. The result has been little movement in either direction.”

To end this state of suspension, we recommended “dropping the demand that India, Israel, and Pakistan give up their nuclear weapons absent durable peace in their respective regions and progress toward global disarmament.” Pakistan will not give up nuclear weapons if India does not, and India will not if China does not, and China will not if the United States and Russia do not.

Recognizing this, diplomacy should be focused on “*persuading the three states to accept all of the nonproliferation obligations accepted by the five original nuclear weapon states.*” We suggested that these commitments could be recorded in a new Security Council resolution superseding Resolution 1172, which was adopted shortly after the 1998 nuclear tests. Resolution 1172 is overly ambitious and repugnant to India and Pakistan in its refusal to recognize their nuclear status and its insistence that they eliminate their nuclear arsenals independent of the disarmament efforts of others.

Responsible stewards of nuclear weapon capabilities should adopt these policies as a matter of international security in any case. Still, as a further inducement, we proposed that the NSG remove restrictions on transferring equipment that India, Pakistan, and Israel need to bring safeguarded nuclear plants up to the highest safety standards, including even “trigger list” technology. We knew that this relaxation of international restrictions would be controversial, but we argued that the three states’ explicit adoption of nonproliferation and arms control policies practiced by the earlier nuclear weapon states warranted such cooperation. Cooperation to prevent nuclear accidents is as much a moral-political obligation as nonproliferation.

In a note, we went further and suggested that “were these states to dismantle uranium enrichment and plutonium reprocessing facilities, and place all nuclear reactors under international

safeguards, international cooperation in supplying power reactors and fuel cycle services would make sense from a global security standpoint.”

The nuclear deal announced by President Bush and Indian prime minister Manmohan Singh in July 2005 falls significantly short of our proposal. Under the deal, the United States and India would begin a series of national and bilateral steps that would end restrictions on nuclear cooperation with India that have been in place since 1978 because India does not have international safeguards on all of its nuclear facilities and materials. Once U.S. domestic restrictions were lifted, India and the United States (joined by Russia, France, and the United Kingdom) would try to persuade the NSG to change its rules to allow full nuclear cooperation with India. India would also have to negotiate a safeguard agreement and Additional Protocol with the IAEA. If and when all these steps were taken, India would gain long-sought acceptance as a state possessing nuclear weapons and access to long-denied nuclear cooperation.

As of May 2007, doubts remain that all the necessary steps will be taken. Nevertheless, it is worthwhile to explore the implications of the deal’s completion.

First, by focusing only on India and ignoring Pakistan and Israel, the agreement did not address the structural problem of the three states’ exclusion from the formal nonproliferation regime.

Second, and more important, the U.S. and Indian governments claimed that under the deal India would assume the same responsibilities and practices accepted by other leading countries with advanced nuclear technology (read nuclear weapon states). But in fact, India did not agree to cease production of fissile materials for military purposes, as the United States, Russia, France,

the United Kingdom, and China have (although China has not declared this). Nor did India sign the CTBT, as the others have.

Third, in agreeing to allow India a safeguard exemption for fast breeder and power reactors that had heretofore been presented as civilian, the deal put an American stamp of approval on what many observers see as an expansion of India's military nuclear capabilities beyond what they were perceived to be before.

Fourth, the United States proposed to remove *all* restrictions on nuclear cooperation with India, whereas we called for a more modest lowering of trade barriers unless India (and, as relevant, Pakistan and Israel) dismantled its uranium enrichment and plutonium reprocessing facilities and placed all of its reactors under safeguards. The proposed deal could allow India to reprocess spent fuel originally supplied by the United States and could even lead to cooperation in enrichment and reprocessing, which would seriously undermine efforts to dissuade other states from engaging in such activities.

In short, the United States—soon joined by France, Russia, and the United Kingdom—spearheaded a deal that obtained significantly less nonproliferation benefit than we thought necessary, and rewarded India with significantly more nuclear cooperation.

The deal erodes the legitimacy and therefore the strength of a rule-based nonproliferation regime. U.S. leadership is further tarnished in the eyes of China and many non-nuclear weapon states: Washington appears to be changing nonproliferation rules to benefit a friend—India—and gain riches for its nuclear and defense corporations, while containing an adversary, China. Such advantage seeking and selectivity regarding rules heightens perceptions of U.S. hypocrisy. The fact that France, Russia, and the United Kingdom eagerly joined with the United States to

boost their own nuclear industries exacerbates widely felt resentment against a nuclear club that piously makes rules in the name of international security, but in reality is locking in its own advantages while holding back those states that are not its friends.

The NSG operates by consensus. Any one of its forty-five member states could block the change of rules that is being sought for India. Officials from many of these states say privately that they oppose the deal—Germans, Danes, Irish, Chinese, Swedes—but none have stepped forward to block it. Each fears retribution from the U.S. in other areas or retribution from India in the field of trade.

In many ways, the behavior of all actors involved in the India deal illustrates the great extent to which cooperative security depends on the leadership of major powers. When that leadership undermines a rule-based system, others do not fill the gap, but instead follow. The result is a slide to pure power competition in the nuclear domain. It was precisely the exceptionally destructive nature of nuclear technology that made world leaders conclude four decades ago that a universal, rule-based system had to be created to manage it.

If it proceeds, the India deal will make less favored non-nuclear weapon states such as Egypt, Iran, and South Africa more bitterly oppose NSG efforts to strengthen nonproliferation rules. “Why loosen rules for India and tighten them on us?” they ask.

If the deal is concluded, international security requires redressing its effects, not compounding them.

The main challenge perhaps falls most heavily on China. The principal flaw in the India deal is the failure to constrain India’s production of fissile materials for weapons, in line with the practices followed by the original nuclear weapon states. Were China

to join the United States, Russia, France, and the United Kingdom in explicitly declaring a moratorium on such production, and to persuade its erstwhile friend Pakistan to declare that it would join such a moratorium if India did, the pressure on India would be enormous. The value of a fissile material production moratorium as a benchmark of progress toward nuclear disarmament would be enormous.

Conclusion: The Final Grade: D+

The world needs better than near-failing performance if it is to be spared a nuclear disaster. Even a relatively small nuclear detonation in a city anywhere in the world would profoundly change the way we live. Beyond the direct casualties, grave damage would be done to the mobility of people, international commerce, and basic liberties. The material and psychological well-being of societies everywhere would suffer.

Many people assume that the United States is the most likely target of terrorist nuclear attack and the most likely participant in a nuclear conflict between states. American presidents reinforce this assumption when they say more often and more intensely than other leaders that nuclear proliferation is the greatest threat to international security.

Other people, especially in the developing world, do not see things this way. For many Africans, AIDS and poverty and inter-necine conflict are immediate dangers. Nuclear proliferation and war are distant abstractions. In South America, stalled economic growth, inequality, corruption, and perceived U.S. arrogance are much bigger problems than nuclear proliferation. And so on.

It is tempting to see proliferation as a problem that the United States must deal with, perhaps along with Russia and a few other

states. Yet this misses the reality that, however unfairly, the consequences of a nuclear detonation will be in direct proportion to the international power of the state being attacked. If the United States or its closest allies are attacked with nuclear weapons, the reaction will affect everyone. The shock waves will ripple through the global economy. Depending on who is involved in such attacks, whole regions could become embroiled in conflict, which would then ripple further along economic and cultural lines of communication.

Just as the consequences of a nuclear attack would affect everyone, so too everyone must contribute to preventing proliferation. Rules are necessary to prevent nuclear technology, material, and know-how from being misused, and to make and enforce such rules, states have to cooperate.

Rule-based systems, however, do not spontaneously emerge and enforce themselves. Leaders must build them and hold them together. Historically, the United States has been an indispensable leader in this area. That leadership became more difficult when the United States became the sole global superpower. Predominance tends to produce resistance and balancing by others who prefer multipolarity. The Bush administration has exacerbated disaffection with U.S. power through a range of activities and behaviors, most significantly the Iraq War. Its greatest failing, as we argued in 2005, was to underappreciate the international teamwork necessary to stop the spread of nuclear weapons. By rejecting the give-and-take of diplomacy and the legitimacy of other peoples' need for security—including the demand for greater equity in the international system—the United States lost power to achieve what it wants other than through brute force, whose limits became clear in Iraq.

Therefore, the United States bears great responsibility for the world's poor nonproliferation performance. In many areas, such as the tightening of limits or criteria for the spread of fissile material production capabilities, the problem is not a lack of good ideas, but rather a failure to attend to the equity interests of others. And in cases in which resistance to updated and better-enforced rules stems from non-nuclear weapon states' undeclared intentions to preserve options for military activities, those states deserve the opprobrium.

The D+ is an overall average of six component grades. Here, the grading metaphor is quite telling: The sole F was earned because of the failure of the states that now possess nuclear weapons to devalue their political and military currency. This failure weakened the whole enterprise and diminished its effectiveness in areas where real effort was actually being made, as in stopping illegal transfers. Time and again we see that the policies and postures of the states with nuclear weapons, especially the United States, weaken the willingness of others to establish and enforce rules limiting the spread of sensitive technologies or enforcing rules against underdogs who break them.

The D+ is a better average than we would have awarded in 2005. Some progress vis-à-vis North Korea, Iran, and India and Pakistan has been made. Indian-Pakistani relations show the ultimate importance of local leadership and resolve. Leading circles in New Delhi and Islamabad realized the intolerable risks of conflict that could escalate to nuclear weapon use, and have engaged in sustained diplomacy on Kashmir and other sources of risk. In regard to North Korea and Iran, the most obvious changes occurred within the Bush administration: It dropped its refusal to participate in direct diplomacy with the governments

in Pyongyang and Tehran, and thereby strengthened multilateral pressure on both countries. China, for this and other reasons, then exerted more determined leadership, as did France and the United Kingdom, in particular, regarding Iran. The six-party talks with North Korea and the P-5+1 diplomacy with Iran (the United States, Russia, China, France, and the United Kingdom, plus Germany) flowed into UN Security Council resolutions and sanctions that could keep these threats from worsening and might eventually resolve them. North Korea may not ultimately relinquish all of its nuclear weapon capabilities, and Iran may not cease developing capabilities that could lead to development of nuclear weapons, but the prospects for success have improved as the United States has abandoned the counterproductive strategy of counterproliferation via regime change.

By February 2009, new leaders will be running the governments of the United States, Russia, France, and the United Kingdom, among the permanent members of the Security Council. New leaders will govern other key states with and without nuclear weapons. They will do much better than their predecessors if they understand that international security requires sound rules strongly enforced, and that the only way to achieve this is through the equity of universal compliance.